

D R A F T

The Limitations of Reductive Explanations of Human Reality

Gerald Filson, November 2020

Among reductive efforts to explain human reality, there are currently three popular attempts to describe, by the findings of natural science, human reality and the values, norms, and nature of the human mind. There are good reasons to be doubtful.

Reductive attempts to explain human beings were attempted in the nineteenth century but failed. In the middle years of the twentieth century behaviorism was another effort. It aimed to explain the human mind by way of an empirical accounting of response and reaction mechanisms. It failed, too, with only a few observations retaining any merit.

A few decades ago, sociobiological genealogies of human evolution claimed that social values, including moral and religious, were merely adaptations by a survival of the fittest explanation of human groups that had developed such values. Drawing on population biology and evolutionary theory, more by analogy than sound argument, this approach ignores sound historical reflection on the nature of human reasoning and action.

A second version of reductive explanations places the human being and higher animals on the same level with respect to intelligence. The human being may be more evolved, but animal rationality resembles, and is of the same kind as human rationality.

The third reductive project aims to explain consciousness and the human mind by description and explanation of the physical brain. This involves precise mapping of brain features and happenings in the brain correlated with thought and consciousness, along with close study of patterns among the billions of neuron cells in the brain. There is also now reference to the role of microtubules in neuron cells and quantum features that may lead to possible explanations of human freedom.

I will provide reasons why these projects don't capture well the nature of consciousness and our rational faculty. In the case of sociobiological theories of human development, a difficulty is a suitable description of human action by both intention and consequence of action. This confounds simple evolutionary explanations which fail to take into account

intention and normativity in human agency, relying solely on an external analysis of apparent consequences over millennia.

In the case of the placement of human beings in the animal kingdom, I draw on philosophical understandings of the human mind, self-consciousness and our rational capacity for knowledge as both conceptual and normative. Humans have sapient qualities unlike the remarkable sentience of animal intelligence.

With regard to the project that aims to explain the mind and consciousness by explanation of brain mechanisms, I draw on these ideas of intentionality and normativity, and the conceptual and self-consciousness of our rational capacity for judgment, knowledge and action. This view of the nature of the human mind begins where it must, with our first-person understanding of who we are as human beings. Our self-understanding as the kind of creatures we are provides a first order sense of consciousness and how we know that we do know, and that precedes our second-order knowledge of the empirical. Though it has become commonplace to think of people as objects, we each know ourselves, and each other, first by way of our own self-conscious awareness, recognizing in others a similar power of agency and thought, learning through social practices with others the standards that we then use in perceiving, judging and acting in the world. We come to know the object world by complex processes of triangulation among these three ways of knowing the world, our minds, others' minds, and the object world. The human mind, in its self-conscious judgments and power of rational capacity, by way of its own agency, is a power that lies at a logical level above descriptions and explanations of the physical. I aim to make this clear.

Sociobiological Accounts of Human Genealogy

I start by addressing the issue of sociobiological accounts of human genealogy that attempt to explain human developments in ways that resemble evolutionary science. In such evolutionary explanations the attempt is made to think of adaptations at the physical level among small groups of human beings. Such explanations borrow ideas from plant and animal reaction-and-response relationships that evolve within evolving environments. Such simple sociobiological explanations by genealogy provide accounts of human social qualities, such as the willingness to cooperate and work together with

civility and mutual care, arising (we don't know how, but not by any analysis of processes of human reasoning or conscious beliefs) among some groups of human beings who developed such characteristics and survived, while other human groups did not. These are one-factor explanations that don't have the weight of evidence nor the complexity that exists in genuine scientific theories of natural evolution, and little understanding of genuine historical science that tracks the mindful narratives of human history.

The gap in such explanations is the absence of any analysis of the nature of human action that one expects to find at the centre of any reasonable explanation of human evolution. Action, as the philosophy of mind understands it, can be described in different ways. This is another instance of the principle in science that evidence underdetermines theory, a feature of the advance of science that is multiplied in the human sciences. Evidence underdetermines theory and explanation, a well-established feature we know from work in the history and philosophy of science. Evidence often provides grounds for alternative and competing theories that are, themselves, never complete and consistent at the same time.ⁱ Progress in science is measured by the endless publications of ever more documentation of evidence regarding any domain of phenomena – evidence which then allows adjustments to theory or clear choice of one theory over another. If you don't want to spend your life documenting evidence, science is not for you.ⁱⁱ

Genuine sciences of the human mind and human action, where there is always entanglement of minds and actions, pose serious problems regarding the determination of evidence. An example: The husband is weeding his wife's flower garden this morning with the intention and purpose of pleasing his wife by this action. The wife sees him out enjoying the sunshine and realizes he has forgotten (as he so often does) his promise to clean the basement this morning. Is the action best described by a husband wanted to please his wife, or by the wife's assessment that husband dear is avoiding the messy basement? A lot of philosophy articles have addressed the challenge of understanding "action under a description."

The point is that intentions and purposes matter, probably as the most important issue in arriving at a good description of human action. The challenge is in knowing the

purpose or intention that best explains an action. Intentions are born from first-person reflections, often by way of first and second-person exchanges of reasons going this way and that. It involves an understanding and assessment of an array of human sensibilities and capacities, just for the person who is about to take some action: beliefs, feelings, attitudes, desires and wants, memories of past actions and their consequences, imaginations or projections of possibilities ahead, norms, others' expectations, and one's values, including our "strong evaluations". Our intentions and purposes set in motion processes or chains of actions that then may or may not be coordinated with others' actions. As Hannah Arendt remarked, all actions are social,ⁱⁱⁱ and from our reflections and mutual reasoning, we determine the purposes and intentions for our actions. And yet our actions can also be described and understood by others in different ways, by misinterpreting our intentions, or by the consequences of an action. We may also doubt our own intentions. Acting out of empathy and kindness, we suddenly feel conflicted and ask ourselves, maybe I'm doing this only to impress my friend. Human action is not easy to understand from the outside, nor necessarily from the inside either.

The problem with genealogical explanations of human history is the lack of effort to determine the purposes and intentions, least of all values and norms, desires and hopes, that human beings had across the many levels of human community, from leaders to those they influenced, and that resulted in self-conscious decisions across a range of actions by way of a range of human sensibilities across the centuries and millennia. But the superficial nature of one or two-factor genealogical explanations are highly suspect, and not sound historical science. The best historians make imaginative efforts to understand by interpretation, and knowing the evidence is thin, the kinds of worldviews, norms, values and social practices that different eras of human history had in mind. It involves understanding attitudes, beliefs, feelings, attitudes, norms, values, and ways of life that inclined humans in different eras and cultures to coordinate and pursue human action. As the great anthropologist Margaret Mead famously replied to the question of whether it was fire or tools that launched human civilization: she replied, no, it was the discovery of a healed thigh fracture in prehistoric times that meant, unlike animals facing imminent survival threats, that a group of human beings took extraordinary efforts over several months to care, transport, feed, and tend to the needs of one youth

until she recovered. What prompted such human care goes to the consciousness of human mind. Thus it is that Robert Bellah's explanation of cognitive advance among human beings by way of early myths, cosmologies, and early religions doubtless gives better insight into how values and beliefs arose among the earliest impulses of human civilization.^{iv}

Added to the nature of actions, of course, are their consequences rippling out in a light cone with multiple interference patterns from the moment of the action. Descriptions from that angle are also important but it then relies on looking at human community processes of reasoning together, relating action-originating intentions to later outcomes, and revising purposes according to how an action had predictable as well as unintended consequences. There is, no doubt, as Canada's foremost Indigenous scholar, John Borrows answered me at a lecture of his, yes, Indigenous myths and cosmologies were self-correcting over time by way of the reflections of Indigenous elders, though it still meant that the world remained for the Indigenous a world that was alive where even the rocks and land, as well as the trees and animals spoke directly to the Indigenous chief tracking deer or looking for shelter - a way of understanding the world as a living creature that meant for an acuity of perceptual knowledge well outside the world in mind of a European settler who always needed help in the early years after first contact.

Human "reason is the faculty of justification and the faculty of justification is what makes us normative beings. Reason, in other words, is the ability and the power that normatively binds us – it connects us with others in the light of principles and values that it examines with a view to their justification."^v Because of the range of human sensibilities and attributes, beliefs, feelings, attitudes, norms and values, added to memories and imagined world, there is always a normative "knot" as Rainer Forst puts it, that we have to resolve by reasoning within ourselves, and sometimes with others, before taking action.

And, of course, in considering intentions and consequences both, this brings together two of the major, often competing, moral theories of our times: the Kantians who make decisions based on a principle of moral action that they feel all human beings should hold to in the particular situation of the moment, then undertaking an action that corresponds to that principle brought to the level of intention; and the moral

consequentialists (like utilitarians) who feel we have to know and look ahead to the consequences of our actions to make sound moral judgments. In the Baha'i process that cycles through study, action, reflection and consultation, we bring together these two moral theories adjusting intention to more suitable consequence. And perhaps some of us, when we look back at our day, may weigh our intentions against their actual consequences.

Human Beings and Animals

I turn now to the second reductive argument that sees human beings as beings on the same level as animals. In responding to this John McDowell develops a view of the human mind as conceptual, and our human nature as a “second nature” rather than a nature simply reductive to bald naturalism.^{vi}

McDowell argues that the conceptual way by which we know the world of objects and of other minds is unique to the human species. His understanding is most easily understood in his contrast of human conceptuality with animal intelligence, a contrast also used by ‘Abdu’l-Baha in a similar manner.^{vii} For McDowell, animals may appear to reason in a manner that might compare to human reasoning, but they actually respond directly to an environment, not to a world they have in mind, doing so by a range of remarkable differential response habits and instincts to which they are acutely sensitive and well-endowed by their evolved instincts and their acute memory of that environment by its sights, sounds and often smells.^{viii} That is animal ‘rationality’. While the animal is engaged with an environment, due to the kind of creatures human beings are, we engage with a world of far greater conceptual detail, of a nature an animal does not imagine – a world that human beings have in mind even in our perception of the world.

Human beings engage and respond not to an environment, but to a world that is shaped conceptually. We take in the deliverances of our experience by way of our senses but in a manner that is mediated by the conceptual in order for us to have any experience at all. There is a cooperation of sensibility and conceptuality that cannot be separated in

perception. For our minds to be receptive to the world we rely on a conceptual idea of a world that is already ‘there’ in mind, in some background sense. A perceptual state is always conceptual in so far as we recognize features of the world by their being available for possible placement within that world, or close enough to allow relative adjustments to a world that shapeshifts in small ways as we gain knowledge of it. Human perception is not merely an occasion of sentient capacity at work, but a sapient capacity, while the animal’s responsiveness is to that of an environment and only sentient.

This resembles the way ‘Abdu’l-Baha explains our human conceptual nature, in the often precise and philosophical manner of the Master’s explanations. It is one that is distinct from animal functioning.^{ix} He writes that ‘the animal perceives sensible things but cannot perceive conceptual realities.’^x ‘Of this power of discovery which belongeth to the human mind, this power which can grasp abstract and universal ideas, the animal remaineth totally ignorant ...’^{xi} ‘The animal cannot conceive of intellect. Of these powers it is bereft. Therefore, these powers are peculiar to man ...’^{xii} Human beings have this extraordinary capacity, involving of course our faculties of sense, but also imagination, understanding, comprehension and memory, while of these animals have only sensory powers and memory.^{xiii}

... in man there is present this supernatural force or faculty which discovers the realities of things and which possesses the power of idealization or intellection.
...The mind itself, reason itself, is an ideal reality and not tangible.^{xiv}

‘Abdu’l-Baha’s comments give a possible explanation of what is apparent in contemporary animal studies. Remarkable ‘animal intelligence’ is by way of the animals’ heightened sensory acuity, added to which is an animal memory of the sensate that, ‘Abdu’l-Baha also notes, is often superior to human memory.^{xv} Those two powers working together can exhibit an impressive ‘reasoning’ ability by way of differential response repertoires that are developed over either repeated trials in animal training or repeated occasions of responsiveness to its own kind and to its survival needs. However impressive that capacity, in the absence of the conceptual, and the abstract language of human conceptuality, it remains a different kind of rationality than the human.

McDowell writes of the 'world' shaped conceptually by the human mind,

... we could not recognize capacities operative in experience as conceptual at all were it not for the way they are integrated into a rationally organized network of capacities for active adjustment of one's thinking to the deliverances of experience. That is what a repertoire of empirical concepts is. The integration serves to place even the most immediate judgements of experience as possible elements in a worldview.^{xvi}

That is also one way of understanding the following passage of Baha'u'llah:

To whatever heights the mind of the most exalted of men may soar, however great the depths which the detached and understanding heart can penetrate, such mind and heart can never transcend that which is the creature of their own conceptions and the product of their own thoughts.^{xvii}

Our understanding of the conceptual should not be confused with an excessive intellectualism. Our conceptual nature includes feelings and sensibilities. That we are self-conscious about our feelings and sensibility, come to understand them, and give them expression and communicate with others about them by way of language, provides evidence of that. Feelings and sensibilities are evaluations in their own way, typically of paradigmatic situations to which we have learned to respond, often in one-sided and incorrect ways, but which also inform us of the world by evaluations of feelings that we have in mind as we engage with that world. McDowell writes,

... we make sense of rational relations between experience and judgement only in the context of an equation between the space of concepts and the space of reasons. Thought can bear on empirical reality only because to be a thinker at all is to be at home in the space of reasons.^{xviii}

Facts about the world are judgements, thoughts, or statements. They are basic to our conceptual view of the world, and 'primitive' or fundamental elements in the structure of how we think of the world. As a proposition or sentence, a fact is a composite, and not a singular term or object term. Singular terms (nouns and predicates) take their meaning from their function and place in the sentence by how we actually learn language and how to think. The inter-related facts we hold to be true provide the

framework for our understanding of that world. If there was no ‘world’ constituted by facts we know, we would be unable to know any single fact about that ‘world’.

In taking account of the world, and how our perception and experience of the world depends on the conceptualization of the world, it is not merely at the level of the perception of objects, but there is also a perception of moral facts and situations that are included in McDowell’s considerations.^{xix} It is a matter of learning to ‘see’, to perceive by way of culture, language acquisition and experiences with others in life and where language is present, serving as a guiding rail in the engine of our learning to see a world rich in qualities – physical, social, moral and spiritual. Feelings, emotions, the exercise of spiritual and moral sensibilities, are not merely interpreted conceptually as a second-stage in understanding, but they are lived and felt and perceived at the level of the self-conscious deliverance of such feelings and sensibilities to conscious awareness as situations in life are encountered, and learning advances. ‘The reliably kind behavior’ has to do with a learned and reliable sensitivity to occasions for kindness - and that is ‘a sort of perceptual capacity.’^{xx}

We learn how to perceive by way of our language coupled with experience in situations calling for kindness, generosity, love and so forth through our upbringing, and by way of accompaniment (which is our consciousness and mind coming into ever closer relationship to the consciousness of others, and an understanding from the inside of our own self-consciousness with that of the other),^{xxi} how to perceive moral situations and also how to respond to such realities of the world.^{xxii} If that kind of learning, just at the level of perception and action in the light of perception, seems overly demanding and complicated, it seems hardly more difficult than language learning (to which it is surely associated) by infants who from eighteen months to six year-olds are learning the meaning of a new word every few hours, an astonishing learning rate, along with intricate syntax and creative complexity for language use,^{xxiii} just as they are learning complex patterns of norms and conventions in the consciousness of significant others as signaled by discursive and non-discursive interactions.

That infants learn language on sparse exposure to experience is evidence for the general ability to learn very rapidly and accurately from limited and incomplete input. Infants enter quickly into the realm of speech and thought, and gain mastery of vocabulary,

syntax and a network of concepts that generates propositional facts about the world; 'language is not an ordinary learned skill; it is, or has become [for human beings] a mode of perception... essential to the other senses if they are to yield propositional knowledge. Language is the organ of propositional perception... Perception, once we have propositional thought, is direct... in the sense that there are no epistemic intermediaries on which perceptual beliefs are based...'xxiv

To summarize, then, the quality of human mind and consciousness that we need to understand here is again a normative quality. We take actions and make judgments by relying on standards for which we take responsibility. We rely on standards that include standards of basic logic (inconsistencies and contradictions), and standards of truth that we've learned in multiple social practices, often as infants learning to perceive the world and the minds of our significant others, developing vocabularies of some 10,000 words by the age of six along with a capacity to form sentences, the gold standard of our conceptual understanding. We have also learned to make judgments by standards of what is good, standards of what is right, and standards of what is appropriate in the multitude of social practices we have participated in, and in so many different contexts. The concept of a rational capacity for knowledge is constitutive of several dimensions at one and the same time, (1) that of belief, (2) truth standards and (3) the grounds for belief. That capacity for knowledge is a fundamental faculty of our being human as it works at once and immediately without a necessary analysis in mind that separates belief, truth and grounds for belief. Such ability to judge comes of course by learning to judge situations either as true and correct, or incorrect by the person so judging, and it is always a self-conscious judgment as our knowing something is also always being conscious of knowing something, manifested by the use of concepts and explanations that are dependent on that very capacity.^{xxv} Judging is the consciousness of judging; it is the self-consciousness of knowing that we judge truly. In knowing, a normative act, it cannot be reduced to a merely physical description and explanation of mechanisms in the brain. Knowledge has in this way a teleological nature in so far as the grounds, the beliefs and the standards used in our rational capacity are at once the cause of the knowledge that results, or the judgment that this or that is not true by way of processes of our mind's logic of identity, non-identity, inconsistency or incompatibility, and

inference to other beliefs. It is somewhat similar to how we learn to use language by rules we don't need to articulate. That rational capacity leads to new knowledge that develops out of the world we had in mind going into experiences of learning new knowledge and that is further articulated and refined of what we now may know further of the world.^{xxvi}

The normative capacity that characterizes our rational capacity learns by practice from infancy as it is exercised. As Aristotle famously commented, "For the things we have to learn before we can do, we learn by doing..."^{xxvii} And so we learn to judge by social practices in the standards of truth, the good, the right, or the appropriate depending on the context.

This action of the power of knowledge lies at a logical level above the physical. It is an action with agency behind it, with attendant responsibility and commitment to the judgment of what we perceive and what we know. It involves the self-understanding that is self-consciousness of grounds for beliefs according to standards.

'Abdu'l-Baha writes of that capacity in this way:

The human spirit, which distinguishes man from the animal, is the rational soul, and these two terms—the human spirit and the rational soul—designate one and the same thing. This spirit, which in the terminology of the philosophers is called the rational soul, encompasses all things and as far as human capacity permits, discovers their realities and becomes aware of the properties and effects, the characteristics and conditions of earthly things.^{xxviii}

Or as Baha'u'llah describes the rational faculty in a two-page passage from *The Gleanings*, it is a fundamental entity whose operations can be understood, though its nature as fundamental to human beings cannot be. Baha'u'llah begins the passage:

Consider the rational faculty with which God hath endowed the essence of man. Examine thine own self, and behold how thy motion and stillness, thy will and purpose, thy sight and hearing, thy sense of smell and power of speech, and whatever else is related to, or transcendeth, thy physical senses or spiritual perceptions, all proceed from, and owe their existence to, this same faculty.^{xxix}

The Brain in Explanations of Consciousness

I turn now to the reductive attempts to describe consciousness in entirely physical terms. First, it is important to applaud the remarkable advances in neuroscience. We do need to advance our understanding of the physical brain for as the Guardian noted, the future of humanity will include “the sharpening and refinement of the human brain.”^{xxx} However, the reductive project claims the brain is all there is to mind and consciousness. That project doesn’t understand the nature of normativity and our rational evaluations. Understanding the physical brain is certainly necessary, but it is not sufficient to understand the mind. Physical science aims at explanations and theory of a closed-system of laws describing the causality or linkage of functions and mechanisms that operate in the brain entirely by reference to physical entities and physical forces, leaving out of the picture the evaluative, interpretive and reasoning processes that are always self-conscious reasoning that interacts with the self-conscious reasoning of others. Such a reductive project aims to understand people as objects without recognizing fundamental differences between the two.^{xxxi}

There are, of course, important interactions between the physical brain and the conscious mind. There are correlations between thoughts in the mind and what goes on in the brain – a scientific project that is sound. There is little doubt that much that goes on in the brain affects how we think. Too little sleep affects the physical functioning of the brain and impairs our thinking. The brain is like a rational constraint on our capacity to judge and act.

Going the other way, the mind also has a causal impact on the brain, even in the simple decision to go for a walk, returning to work with added clarity of mind having upped our intake of oxygen. How much more do we alter both the physical happenings in the brain, but also in our minds, if we decide today to spend time in conversation with someone than watching TV. There are causes that run both ways between the physical brain and the mental domain, but there are no strict psycho-physical laws as I try to explain later. While mind cannot be described by physical laws, the challenge here is to be persuasive in a society where the default position has it that people are treated more as objects than as minds with self-conscious awareness of a world that provides reasons for decisions made in mind with actions then taken in our free and spontaneous human agency. The

point I hope to make by the end of this section is that we cannot have a mindless explanation of our intentionality, our human agency and our self-conscious awareness described and explained solely by reference to extensional mechanisms of the brain.^{xxxii}

If one thinks that mental processes in the mind are nothing more than processes in the brain you would then believe that to understand the mind it is sufficient to understand the brain. However, while it is helpful and necessary to understand the rational constraints the brain puts on our minds, it is not at all a sufficient explanation of human mind. Consciousness presents itself to us differently than mere brain activity, however well described. The order of our self-understanding in our self-conscious exercise of our power of knowledge, our power of rational capacity, comes before the second-order power of knowledge we use in understanding a science, including the science of the brain. The reason goes this way, something we know of the physical and natural world by way of natural science is an understanding that is of something independent of us as knowers, but it is us as knowers, by the power of our own mind, that does the knowing. It is not the world, or the physical happenings in the brain that does the knowing.

A blind man will not understand color by finding out about brain processes in the visual cortex or about the electromagnetic spectrum. He has to experience color, a phenomenon in mind that is non-existent by any physical description. Someone who is deaf cannot appreciate the impact in the conscious mind on hearing the aria “Nessun Dorma” from Puccini’s opera Turandot no matter how refined an understanding of sound waves and the relationship of the nervous system of the ear to the auditory mechanisms of the brain.^{xxxiii}

We don’t refer to groups of neurons making decisions. People do. That is the “homunculus fallacy”. Just as we don’t say that wings fly, birds do, we also don’t say that neurons read and write and enjoy music, people do, doing so in their own minds by way of their conscious appreciations.^{xxxiv} These then are simpler ways of introducing the next few paragraphs that may be a bit more challenging to our understanding.

We can go back to a point that was made in Farzam Arbab’s paper regarding Thomas Nagel’s idea that the physical and objective reality that natural science captures should be broadened to include “such phenomena as consciousness, reasons and even values as parts of reality.” While Nagel’s point is how we should “be able to think of ourselves

from outside – but in mental, not physical terms,” a more important point in order of understanding is to look at how we think of ourselves, not from the outside, but from the inside, first-person perspective, in mental, not physical terms. That understanding begins, where all understanding begins, with awareness of our own conscious judgments.

The Arbab paper adds another important point, that of making “sense of the idea of other minds”. That, too, is important for we have relationships by way of sharing our thoughts, judgments, and our self-conscious feelings and the like with others, many others in whole communities of minds, by way of first-person and second-person exchanges. That is a first order way of our self-understanding, not a third-person standard of “neutrality” or objectivity in the sense that Nagel understands it, and which, it is important to add, does serve an important role as a place-holder in the social practice of science. We do “think of ourselves as one point of view among others” and so we need to be able “to grasp the idea of all human perspectives, including [our] own, without depriving them of their character as perspectives”.^{xxxv} But that is a matter of our first-person engagement with others’ first-person engagement with us, a sharing of our conscious minds together by way of the best expressive language we can muster.

There is, in the way of Nagel’s expression a problem as other philosophers have noted.^{xxxvi} It is the idea of the thinking of the human being from a third-person perspective, skipping over the first-person perspective and her or his self-consciousness. That is the wrong order of understanding. The idea that human beings are only available for third-person or “neutral” study has taken hold in our secular society that embraces scientism and “objective” views of people without understanding that science and its ways of coming to knowledge always begins with the judgments and appraisals of a community of scientists, each with their own capacity of judgment according to standards of truth they have learned arduously in practicing science, and by way of peer reviewed assessments, and endless conversations among scientists in the lab, the office and at conferences, that lead them to shared understanding. Adrift as we are from belief in the rational soul, explanations are seen as removed from first-person awareness (consciousness or mindfulness) of what we, and scientists too, judge to be true by the standards we, and they, have learned in the practice of science.

Nagel wishes to explain our self-consciousness from the outside, without adequate reflection on how our minds judge standards of truth, always from a first-person perspective, then shared with others in the community of scientists; or, in our more pedestrian life, as we share with the community how to best coordinate our understanding of truth, of the good, of the right, with whom we are trying to coordinate our actions towards some purpose.

Nagel's project is, of course, an important one to pursue on its own terms, but to have a science of human rationality, thought and judgment, it would have to be a science that starts from the perspective of self-consciousness, a self-understanding and self-knowledge that we know to be true in our own minds about ourselves, our judgments, our nature, and our actions, before moving to a third-person way of knowing which is necessary for science to document its advance. The nature of human understanding and its power of knowledge must be understood as the primary point of departure in the first-person if we are to be clear about the nature of human understanding of the world, including of the object world and the world of other minds. Natural science is essential, but then we cannot understand the nature of human mind and consciousness from the right perspective as a rational capacity for knowledge.

Science provides an enormous amount of knowledge, and we gain by that, but it is driven to work from a necessary third-person perspective of objectivity through ever more explicit detail of description of evidence along with its inferences to the best explanations. That is what science is. However, we cannot escape the fact that in knowing something, scientists themselves are thinking and undertaking actions of judgment about the world in a state of self-conscious awareness of the standards that need to be imposed in their practice of science. That self-consciousness of judgment is the starting point of what they also know to be necessary and sufficient to be able to pursue any science, whether in the natural or physical sciences or human sciences that attempt to discern regularities in the normative and conceptual world of human consciousness. Human beings do science because they are creatures with the freedom to judge the nature of the world, whether of objects or of people, by using their power of rational capacity to know the world.

We are self-conscious, and our consciousness is the platform or space by which we make judgments and take actions. That is an internal understanding unto itself, and while it can be explained by an external explanation, such explanation already is less than the reality that we know, and know that we know by knowing ourselves in our judgments of what our life consists of, from the inside, from our self-conscious perspective.

That idea flips the order of explanation from the reductive to where it ought to start at the level of mind, or, if you will allow, at the level of human spirit and power of knowledge - at the level of self-conscious judgment – in knowing ourselves, and who we are, and then in knowing the world, recognizing all the while the nature of the rational constraints that we push up against in a world of stubborn objects and of other minds. We learn the falseness of vain thoughts and idle imaginings, but also the practicality and utility of imaginings of counterfactuals (possibilities yet to be realized).

One can say, as some do, that the exercise of first-person reflection is philosophy, but it is also akin to the kind of self-consciousness we have in prayer or meditation, and the power of knowing ourselves in conversation with God by way of our rational soul that we know, too, we cannot understand in its reality, and in conversation with God whom we also know we cannot understand at all, except by way of His Manifestation who provided us with a window into His consciousness. It is a mindfulness that aims to transcend itself, recalling the first commandment of Moses, to have no other gods but God before you. As one very secular philosopher has noted, that is the commandment that frees us from ideology and fixed views, and may well have set the stage for the emergence of natural science.^{xxxvii} It is a thinking, or dwelling in mindfulness on what we know of ourselves. And it requires to some extent a detachment from the concept that would equate ourselves to objects to be described. We can describe ourselves first by knowing ourselves from within, and we do that also in loving someone else, in coming to know their conscious sense of themselves, and who they are, doing so by expressive language and actions we interpret. It is not done by way of a description or explanation that might go into a variety of so-called psychological explanations about the contingencies of their upbringing, their material identity, the consequences of their life's traumas and so forth – all that is somewhat valuable – it is never as valuable as an understanding of others in the here and now and what they are expressing that is on

their minds at this moment in their judgments or actions that they have determined by their standards of truth, the good and the right, as best they know how to judge, and so we need be careful to judge outside their way of judging to contingent circumstances and accidents of their lives. Of course, we have also learned, and believe at least, that we can judge sincerity and truthfulness, which, in most of what people say, is assumed as sincere, by them and by us. It is only the false facts that inundate us that lead us astray, and that is not at the core of our first-person, second-person relationship.

Another way of trying to understand what I am getting at here with a language that is not used to being put to this torturous way of speaking, is by recognizing that in the mental domain, unlike the domain of physical description and explanation, we reason by way of interpretation of our beliefs, feelings, memories, attitudes, imagining of counterfactual possibilities, norms and values, and by interpretation of others who, we assume, have the same challenging processes in their minds. Interpretation, thus, always has a measure of indeterminacy that evidently is important to the kind of creatures we are as human beings. We learn by approximation and iteration, relying on thin evidence but building shared worlds of feelings, norms, values, beliefs, and so on from a position that leads out from the first-person to the second-person perspectives, and only as a final step to a third-person perspective where we capture objectivity.

But many today cannot understand the grip on us of a concept that, as objective-like people, we have properties by the accidents and contingencies of life, and try to understand us only that way. But if we understand ourselves from the inside, by the “principle of charity” as philosopher Donald Davidson puts it, we should be more inclined to trust each other’s judgments and actions as they present themselves, than not. As he argues persuasively, that is how we learn of the object world, of other minds, and then in reciprocal interactions, learn more about our own minds, too. Explaining others’ consciousness, and the way human beings know by way of external assessments may have its place, but it also neglects coming to terms with others’ own self-understanding, and self-consciousness regarding this particular judgment or this particular action right now at this time and at this place.

There is, as Davidson states, an enormous overlap of shared concepts regarding both our perceptual deliverance of the object or physical world, and an overlap of shared

concepts that involve each of us recognizing the kind of creatures we are by all of our attitudes, feelings, beliefs, qualities, memories, imaginations, norms and values. There develops among human beings an enormously complex set of concepts about the world we together have in mind by the power of knowledge, the power of our rational capacity, and that we share a world in mind that surpasses in its complexity by a very large degree the norms and values about which we may have disagreements and incompatibilities. If we are to have any sense of mutual reasoning with understanding, since we use the language of intentionality with respect to how we determine why we undertake this action or that action, why we make this judgment about situations, there is only so much that we can disagree on at any one moment if we are to coordinate our lives together. Yes, there are ruptures and disagreements, but then those disagreements become our focus, and we work to bring our minds together, or we can enlarge the disagreements and take oppositional positions. We have freedom to make that choice.

What we do claim here is that there are two kinds of languages, a language and set of concepts that describe the physical and permit our true perception of that world, and a language and set of concepts regarding the human mind and the normative. The difference between the more descriptive and explanatory language regarding the physical world, and the language that involves the judgments and actions that are normative and in consciousness, and which we rely on when we reason with ourselves and with others, are different. That difference is despite the fact that we have learned to weave into our thinking both the physical and the normative dimensions of life without pause, and without a great deal of reflection.

The nature of freedom and spontaneity, and intentionality, captures the nature of the language of mind while the language of the physical, object world, especially that of science, are not open to translation from the one to the other. A reduction of the mental language to the language of the physical is not possible.^{xxxviii} Philosophers have tried to do that, by first taking self-knowledge and consciousness as basic, then attempting to generate a basis for knowledge of the object world, or by taking the knowledge of the object world as basic in order to generate the way we talk about intentionality, norms, values and so forth. These efforts have generally failed, though the first has more promise by the order of explanation of knowledge as I've discussed above.

The language of reasoning is interpretive and involves meanings we share with each other, but where each of us have different perspectives and somewhat different worlds in mind. This helps each of us, in our exchanges, transcend earlier meanings and shapeshift the world we have in mind towards that which we aim to have tomorrow. The language of the physical has the aim of describing in ever more explicit and determinate language what we think of as a deterministic and closed-system of laws, different than our mental language with its open-ended, somewhat indeterminate, and highly complex array of intentions, attitudes, feelings, qualities, beliefs, values, norms, memories, imagined futures, and so forth that bears on our free acts of human agency that intends to do this or that, or the other thing. Davidson compares the physical as a language that focuses on syntax while the mental language is all about semantics, an analogy, but one way of thinking about the difference.

And at a higher level of insight, we know, of course, from Baha'u'llah, that He refers to “the power of speech and utterance”, and how He has “instilled into every word a fresh potency”^{xxxix}. The Revelation is expressed in a language of multiple meanings. That gives an idea of perhaps the wisdom behind the indeterminacy of language that is used when we consider the nature of learning as we move to more explicit understandings of ever so many concepts that are in the Revelation of the sort that when encountered in different sentences and passages, different meanings come to life (recall the sentence as the true indicator of facts and perceptions, not the nouns and verbs alone). Yet, at the same time the uniqueness of Revelation language with regard to the precise and explicit wording in each sentence is also one we have to keep in mind, for it is only by an accurate recollection of the way, the manner, the emphasis of Revelation language that we also can appreciate the sense of intention behind each authoritative passage, despite its openness to multiple interpretations.^{xl} One can speculate on the reason, but the idea of further transcendence always of our current understanding may represent a partial explanation. The world of understanding each others' consciousness is, too, an understanding that, unlike the explanations of physical science, is always a matter of interpretation and variable meanings. Hence, the need for conversation, dialogue, consultation, as a way of getting closer to each others' consciousness across the multiple levels of human sensibility, attitudes, qualities, feelings, beliefs, imaginations, memories

and comprehension, a conceptual complexity that is indeed vast and open-ended, not a closed system of description and inference to the best explanation regarding strict laws that ought properly to drive physical science forward.

Language that is of a spiritual nature, with spiritual concepts, is the way by which perception itself becomes spiritual, and though not turning away from the material (for our language is also always full of that kind of conceptual content), but by providing the necessary language in the context of experience with others regarding morality and spirituality. In the same way, ‘spiritual perception’ operates in complex ways, differing from mere perception of objects or colors by the compounding of concepts and that, as we learn a more spiritual language, and one shared with other minds, a world of experience and fellow-feeling with others, becomes ever more actual. We come thereby to understand a practice and way of life in which ‘spiritual perception’ is developed.^{xli} This idea then leads to a final question in this paper.

What is the Relationship Between Divine Revelation and the Normative?

How is divine Revelation related to the normative and conceptual nature of human mind?

To answer, we need to first understand the nature of normativity in the modern era in contrast to earlier eras in human history. Led by thinkers like Kant and Hegel, and now widely accepted in contemporary philosophy, normativity today is considered to be a matter of self-constitution that relies on the freedom and autonomy of individuals and our human reasoning together in society in order to constitute our norms and values through a world of shared actions and conversations that should be open to justification of those norms, values, and actions.^{xlii} In previous ages normativity in all its many aspects was largely a default position derived from a near automatic belief in God and in the clerical and ruling authorities of the day. Hegel’s effort to understand what a modern religion would look like reflected his particular understanding of how norms, in this new age, would come about, throwing off the rigidity of forms of thought that had become superstitious and dogmatic. Alas, in some of his views, he was very much held in the grip of the kind of state and the kind of patriarchy that comes through in some of his views, but his way of thinking was remarkable.

Hegel was among the early critics of the way in which the individual attitude and liberty of self-generated norms were usually attitudinally-based and not genuine norms of status that would be acknowledged by genuine reciprocal relations of mutual authority and responsibility of each of us.^{xliii} Modernity was thus burdened with a weakness, by way of autonomy and freedom, that would lead to alienation, anomie and, if not managed well, a decline in the coordination and reciprocity of a sound system of norms and values amongst human beings. Modern normativity, he held, as a good many contemporary philosophers also do, involves a mutuality of human reasoning based on valid justifications and a recognition and respect for each other that upholds our dignity, responsibility and obedience to appropriately based norms and values.^{xliv} Constituted by human beings, sometimes by holding on to previous or traditional norms and values, sometimes by developing new and well justified norms, brought together in our mutual wisdom by a balance of reasoning that addressed that array of attitudes, desires, beliefs, feelings, and norms and values that allow for reasonable advance of society. The failure to attain to a level of justice, flourishing and peace, is an indication that something remains missing, of course.

As Baha'is we have a standard or conceptual framework in the Revelation that provides norms of judgment and action which we understand, not merely as a lens through which we see the world as it really is, but a conceptual framework that is itself constitutive of reality. It is the reality, at least as well as we can begin to understand it by way of our own self-conscious reflection that draws on study of the Revelation, action, consultation and reflection with others, carried out in a process that takes in adequate reference to the moments and events that trace the narrative of our lives and the narrative of our communities. In this exercise we come to shape our conceptual take on the world in ways that reflect more and more the attitudes, beliefs, feelings, qualities, norms, values and purposes that we come to understand in the Revelation, and also by our recollecting in memory our own individual and collective narratives on the shifting shape of a world we have in mind and one we can imagine or project in the future. We can make the kinds of decisions about intentions, purposes and plans, that look to outcomes of a better world, knowing that as we advance, we also reflect and consult on consequences, and learn to make better judgments and take better actions. Of course, we still have to

work hard at taking divine guidance, whether of the Manifestations, and authorized Interpreters, or by way of the elucidations of the infallible House of Justice, and determining by our own reflections on our situations, feelings, understandings, capacities and qualities, how – at this point in time – I can make reliable judgments about the world, both physically and spiritually, and take actions available to me.

While it is not a conceptual framework we have constituted ourselves, but one that comes from the Revelation, there yet remains considerable work in also coming to unity about the lesser norms and ways of living and working together, that are not explicitly spelled out in the Revelation. Much is elucidated by the Universal House of Justice in an ever advancing and, therefore, timely way, but there always remains the requirement for a kind of mutual recognition and respect by way of love and engagement with each other, by being genuinely concerned with the mind and consciousness of each other, not mere external attention to the accidents and even circumstances of each other, though that cannot be ignored either, but by sharing in mind our mental appraisals that determine our own and others' reasons for our judgments, knowledge and actions, in coordination and cooperation, that then constitutes a normative basis that keeps us in unity – of both thought and of action. There is then a difference between the spiritual and the normative, but the normative remains important. The spiritual framework is not self-constituted but given by the Revelation though we must make efforts to constitute it in the reality of our lives (again, by study, action, reflection, consultation).

Our understanding of the Revelation is, of course, always a matter of our own interpretation of meanings and involvement in social practices by which we learn to make judgments by direct perception and by indirect knowledge via language and action relative to standards of truth (as in science and in our learning to perceive the world correctly, and by those standards of seeing justice and knowing of our own knowledge, not of others or our neighbours', as stated in the second Hidden Word. We do have to rely on our self-conscious judgments, our own knowledge, our own standards of the good, of the right, and of the appropriate, and then move out from there to find agreement with others' evaluations, perceptions and knowledge.

In all of this, far and away the most important factor is having a language that is able to inform how we take in and see the world.

Just as we know that the greatest novelist and writers not only had gifts of language, but as a great writer has said, it is the ‘observational ability’, ‘the God-given attitude of perception and articulacy’ that takes good writers and lifts them to a higher plane. It is the ability not to just use language well but to observe and perceive the world, people, human situations, that, by combining good language with discriminating perception of human reality, help the rest of us see the world in different ways.^{xlv} The non-discursive arts, visual and musical, help us to see the world in different ways as well.

Religion has long generated the arts and shaped the language of cultures. It can again, in a new form and expression appropriate to an age where humanity is now coming to know itself in all its diversity of cultures, an age too, of science and technology. The language of the Baha’i Revelation offers that measure of spirituality and reason, sound counsel and elevated ideals, in a language that marries concept with action, the transcendent with the practical. And Baha’u’llah, the Founder-Prophet of the Baha’i Faith, recognized that words alone are not enough. ‘How great the multitude of truths which the garment of words can never contain’,^{xlvi} although religion has always had language, the Word of God, at the centre of its approach to the education of humanity. Genuine religious language is about unity, love and understanding, and moral qualities, and living a life that moves a person closer to God. Having drawn the linkage between language and conceptual capacities, more precisely between language and perception, it is surely neither a great leap of faith or of argument to make the claim that the sort of language we try our best to learn from, to draw on, to live with and share with others, is a language that deals with those features of the world that guide our perceptual attention to see the world in the light of qualities of love, mutual understanding, care, kindness, and justice. In doing so we might learn to see with our ‘own eyes and not through the eyes of others,’ and where we see that ‘justice is My [God’s] gift to thee and the sign of My loving-kindness. Set it then before thine eyes.’^{xlvii}

These are the expressions of our mental reality, not of the physical. The faculty of perception does, of course, operate with concepts related to the material realm of our existence, too. Yet it is to some degree by the indeterminacy of the mental language of meanings and interpretation that we also gain the capacity to perceive through and beyond the material.

The bestowals of God which are manifest in all phenomenal life are sometimes hidden by intervening veils of mental and mortal vision which render man spiritually blind and incapable, but when these scales are removed and the veils rent asunder, then the great signs of God will become visible, and he will witness eternal light filling the world.^{xlviii}

So, we must somehow always look to escape the concepts that hold us in their grasp and keep us from transcending our earlier insights and ways of seeing the world. ‘Abdu’l-Baha writes ‘let them open wide their eyes and uncover the inner realities of all things,...’

Our spiritual perception, our inward sight must be opened, so that we can see the signs and traces of God’s spirit in everything. Everything can reflect to us the light of the Spirit.^{xlix}

And as Baha’u’llah puts it:

‘... by the light of the name of the All-Seeing God, make your escape from the darkness that surroundeth you. Let your vision be world-embracing, rather than confined to your own self.’¹

The Following Endnotes Have Not Been Completed in this DRAFT

ⁱ Here, one can refer to Gödel's theory that no axiomatic theory can be complete and consistent. If consistent, it is always complete; if complete, it is always inconsistent. And natural scientific theory aims at strict laws based on ontologies of entities, always, but never finishing a theory that is both complete and consistent. But that is an argument only by analogy. Still worth thinking about as Roger Penrose has in *Shadows of the Mind: A Search for the Missing Science of Consciousness*.

ⁱⁱ See Michael Strevens, *The Knowledge Machine: How Irrationality Created Modern Science*

ⁱⁱⁱ Hannah Arendt explains this in her book *Revolution*.

^{iv} See his book, *Religion in Human Evolution*.

^v Forst, Rainer. Normativity and Power, p. 22.

^{vi} In the following sections I have used a number of paragraphs of my own, for the sake of this particular paper, that I have taken from my article "The Conceptual in Human Nature: Learning to Perceive the World", published in *Baha'i Studies Review*, Volume 21, 2015 (though published in fall of 2018), pp. 123-149. Available on request from me. gfilson@bahai.ca.

^{vii} 'Abdu'l-Baha, *Some Answered Questions*, Haifa, Israel, Baha'i World Centre, 2014, 213-219. See McDowell's discussion of human rationality's contrast with animals', *Mind and World*, especially 114-119.

^{viii} That phrase is used by Robert Brandom, a colleague of McDowell, in *Articulating Reasons*, Cambridge, Mass, Harvard University Press, 2000.

^{ix} 'Abdu'l-Baha, *Some Answered Questions*, Haifa, Israel, Baha'i World Centre, 2014, 213-219.

^x 'Abdu'l-Baha, *Some Answered Questions*, Haifa, Israel, Baha'i World Centre, 2014, 216.

^{xi} 'Abdu'l-Baha, *Writings of 'Abdu'l-Baha*, Haifa, Israel, Baha'i World Centre, 1978, 194.

^{xii} 'Abdu'l-Baha, *The Promulgation of Universal Peace*, Wilmette, Illinois, Baha'i Publishing Trust, 1982, 258.

^{xiii} 'Abdu'l-Baha, *Some Answered Questions*, 213-219.

^{xiv} from 'Abdu'l-Baha, *Promulgation of Universal Peace*, Wilmette, Illinois, Baha'i Publishing Trust, 1982, 360.

^{xv} 'Abdu'l-Baha, *Questions*, 213-219.

^{xvi} McDowell, John, *Mind and World*, 29.

^{xvii} Baha'u'llah, *Gleanings from the Writings of Baha'u'llah*, Wilmette, Baha'i Publishing Trust, 1954, 317. There is an important and different sense, as Sona Farid-Arbab has explained, in *Moral Empowerment*, 75, that understanding is also infinite. Baha'u'llah refers to the 'limitless... favors... conferred upon man' with the 'gift of understanding' (*Gleanings*, 194), but that may mean in terms of the range of knowledge accessible to mind, yet still understood within the conceptions of the mind. The humility of human reason in this passage reflects an important spirit in modern philosophy which also emphasizes the finitude and limitations of even the kind of questions we can ask with language. See the work of Ludwig Wittgenstein, Richard Rorty and John Dewey especially. The finitude of human intelligence was a key feature of John Dewey's work throughout his 30 volumes of work.

^{xviii} McDowell, John, *Mind and World*, 125.

^{xix} Honneth, Axel, 'Between Hermeneutics and Hegelianism – John McDowell and the Challenge of Moral Realism', in Smith, Nicholas H., *Reading McDowell on Mind and World*, Abingdon, Oxon, UK, Routledge, 2002, 246.

^{xx} Farid-Arbab, *Moral Empowerment*, 309, citing McDowell from 'Virtues and Reason', Crisp, R. and Slote, M. (eds.) *Virtue Ethics*, Oxford, Oxford University Press, 1979, 142.

^{xxi} Or, as Aristotle said, by friendship we learn wisdom and virtue.

^{xxii} Space prevents a summary of McDowell's explanation of the action side, echoing the perception side, in a similarly conceptual manner with commitments and facts, and where the conceptual is inseparable from action. Lecture V, *Mind and World*.

^{xxiii} Pinker, Steven, *The Language Instinct, How the Mind Creates Language*, New York, HarperCollins, 1994, 267-268. Though by other estimates, since a six year old has a vocabulary of 13,000 words, my calculation is that a new word is learned every 45 minutes from two to six years of age. See Davidson, Donald, *Truth, Language, and History*, 131, and Davidson also refers to Locke, John L. *The Child's Path to Spoken Language*, Cambridge, Mass., Harvard University Press, 1993.

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- xxiv Davidson, Donald, *Truth*, 135.
- xxv As summarized by Kern herself, p. 182.
- xxvi See Andrea Kern, *Sources of Knowledge*, regarding a proper and complete development of this idea.
- xxvii Aristotle, cited by Kern, *Sources of Knowledge*, p. 258.
- xxviii ‘Abdu’l-Baha. *Some Answered Questions*, 55.
- xxix Baha’u’llah, *Gleanings*, p. 164.
- xxxx From the *World Order* letters, page
- xxxi See Peter Strawson on objects and individuals as the fundamental entities of his understanding of ontology.
- xxxii I take this from Donald Davidson, including the double-entendre “mindless”.
- xxxiii These are Colin McGinn’s examples from the *New York Review of Books* in the 2005-2015 period.
- xxxiv I take this from a couple of Colin McGinn’s responses to Churchland in the *New York Review of Books*.
- xxxv All quotes from Farzam Arbab’s paper, page 6.
- xxxvi McDowell, in *Mind and World*, pp. 120-1, Sebastian Rodl in chapter five of *Self-Consciousness and Objectivity*.
- xxxvii This is from an observation of Jurgen Habermas.
- xxxviii I take this from Donald Davidson’s essays in his several volumes of published work.
- xxxix That particular expression is from the *Tablet of the World*, but the “power of speech” is throughout the *Writings*, and the causal power of the Word of God is at a higher level which I leave aside here.
- xl In this regard an observation of Chomsky, the linguist is of interest: “Almost every sentence uttered by an adult native speaker is a novel sentence. It is new...in the sense that no one in the history of the world has ever heard exactly that string of words before... This is an observation that has been empirically verified over and over again by examining large corpora, transcribing actual conversations, and so on.” Brandom in *A Spirit of Trust* p. 520. Thus, almost everything you say is novel, and this comes about when one considers the 20,000 words available to each of us in our working vocabulary and the syntactic ways of a near infinity of word order possibilities, especially as one approaches 25 word sentences. Thus, not only the novel nature of Revelation language, which has its uniqueness, but also the novel nature of our own expressions. This fact is astonishing, and shows the power of language.
- xli I have written of emotions here as there is an existing and well argued literature on the rationality of emotions. Emotions is a term which covers a wide range of heterogeneous passions, attitudes, behaviours, impulses and responses, and the treatment here is inadequate as a sufficient philosophical analysis, but by the Baha’i terms with which spirituality is understood, there is important work to be done in this area in the years ahead.
- xliv This is, for instance, the hope of Habermas and Rainer Forst, and of most liberals.
- xlvi I take these views from Robert Brandom’s *A Spirit of Trust – A Reading of Hegel’s Phenomenology*.
- xlvii This is the view, approximately, of Habermas and Rainer Forst, for instance. And Rawls to some extent.
- xlviii In an article about Martin Amis by Rich, Nathaniel, ‘Downhill Racing’, *The New York Review of Books*, September 27, 2018, 40-42
- xlvi Baha’u’llah, *Gleanings*, 176.
- xlvii Baha’u’llah, *The Hidden Words*, Wilmette, Illinois, Baha’i Publishing Trust, 1970 ed., 4.
- xlviii ‘Abdu’l-Baha, *The Promulgation of Universal Peace*, 90.
- xlix ‘Abdu’l-Baha, cited in Ruhi Institute, *Ruhi Book 5, Unit 3*, 9.
- l Baha’u’llah, *Gleanings from the Writings of Baha’u’llah*, Wilmette, Illinois, Baha’i Publishing Trust, 1969, 94.