

Role of Principles in the Bahá'í Faith

Principles and Fashion

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Abstract

Are moral laws and values relative or absolute? Is living according to long-established moral values old-fashioned? How did past religions fall into ritualistic imitations? Should we be more conservative or progressive? And more generally, how do we identify and apply principles to questions of great import?

To explore these questions systematically, a hierarchical or tree-like model of the world is presented including two tree structures each having nodes and links defining multiple levels of organization: a system tree (specific to general) and a type tree (general to specific). Any entity at all, an object, a principle, a process, and the like may be represented as a node at some level in these two tree structures. This hierarchical model holds within itself and clearly manifests many important and inherent relationships between the entities it represents by virtue of the position of those entities on the trees. Examples of these inherent relationships are simultaneity and relativity.

The principles revealed by Bahá'u'lláh are shown to be general principles at the root of the type tree and while in their application variations exist, in their essence they are unchangeable truths. Thus, being principled has nothing to do with being old-fashioned or new-fashioned; or conservative or progressive because principles are timeless.

Introduction

Abdu'l-Bahá, the Son of the Author and Founder of the Bahá'í Faith, Bahá'u'lláh, has stated: “[n]ow concerning nature, it is but the essential properties and the necessary relations inherent in the realities of things. And though these infinite realities are diverse in their character yet they are in the utmost harmony and closely connected together” [TAF 20]. This is a very insightful and important statement. It signifies that diverse and different entities are connected together and have relations in their realities which are inherent. Here, a class of inherent relationships, concerning the inherent hierarchical structures of entities and information, is explored.

Of Fashion and Models

No discourse on fashion is complete without talking about models and supermodels. Context is our friend, however, and by identifying the proper context we need not stray too far from our objectives in this paper. One of the distinguishing qualities of the human mind is its ability to understand abstract relationships and think in terms of models of reality. Simply put, a model of an entity is a set of components with the interrelationships between them, all together representing the entity. Models of entities are not unique or complete. Various aspects of an entity may be modeled, possibly each aspect with a different model, for better focus and other practical purposes.

An entity can literally be anything: an object, a process, a relationship, an organization, or any other conceivable thing. Principles are no exception. They can be modeled. However, a model for one or a number of particular principles is not being proposed here. Rather, a meta model, a model of models, a supermodel is presented. This supermodel includes general and important aspects of every other model, as will be made clearer in the following passages.

The Runway in the Forest

Every supermodel needs a runway to demonstrate her talents. The runway for our supermodel is a forest full of trees. After all, what else would a forest be full of? But these are no ordinary trees. They hold the keys to clearly defining and understanding some of the most significant, puzzling, and sometimes contentious issues human kind has faced and continues to face.

Let's first start with the trees and we'll eventually get to the forest. Actually, we'll have to first start with the roots, branches, and leaves to create the tree. One aspect of a tree is that it represents a hierarchy, and a hierarchy is a very fundamental structure. We'll soon find out just how fundamental it is. However, the reader is cautioned that this walk in the forest at first may seem dry and feel like a walk in the desert, far from the subject at hand. But, this walk is necessary to build a foundation and will soon lead us back to the main path.

Any entity at all, an object, a principle, a process, and the like may be represented as a hierarchy. This is because any such entity inevitably has some components which constitute the entity. In turn, the entity itself is inevitably a component of a bigger entity. Perhaps viewing this entity as a system offers a more concrete and tangible perspective, because it is clear that a system has components and it is equally clear that the system is a component in a bigger system. This inclusion of components in bigger and bigger systems, or conversely, systems containing smaller and smaller components define a hierarchy. This concept is best illustrated with some examples to indicate at once its ubiquity and broadness across diverse areas, and its power and simplicity to represent important aspects of any system.

As a first example, consider the system of language. A book is a system of written language which includes chapters. Each chapter in turn includes pages, pages include paragraphs, paragraphs include sentences, sentences include words, words include letters, and so on. The book system itself is also a component of a library, which is a bigger system. The relationship between each part of the written language and its

constituent components can be clearly represented as a hierarchy.

As a second example, consider a physical system, such as a house. A house is a system which includes rooms, rooms include walls and doors, walls include bricks (and doors have their own components), and so on. The house system itself is also a component in a bigger system which is a neighborhood. The relationship between each part of the house and its constituent components can also be clearly represented as a hierarchy.

The Anatomy of a System Tree

The hierarchical relationship described above may now be cast in the mold of a tree, as depicted in Figure 1, to help us get back to our roots in this paper. A system tree, further described below with respect to Figure 2, represents no less than a whole system. Tree structures, when used for modeling, are generally depicted in an upside down orientation with the root at top and leaves at bottom. A system, as a whole, being modeled or represented by a system tree corresponds to the root. First level components of the system, those which together form the system, correspond to internal nodes (shown by small circles in these figures) or branches of the tree. The second level components, or subcomponents, those which together form the first level components, correspond to the next level of nodes or branches.

This correspondence between the system components and subcomponents with the nodes of the tree continues until the leaves of the tree are reached. The leaves of the tree represent the last set of subcomponents to be modeled. This point is arbitrary and depends on the purpose of the modeling. That is, the tree may have arbitrary depth and may be extended upwards from the root or downwards from the leaves to include an arbitrary number of levels. Hence, a given tree may also be viewed as a sub-tree in a bigger tree, making the root node of the sub-tree, an intermediate node in the bigger tree, which in turn will have a higher level root of its own.

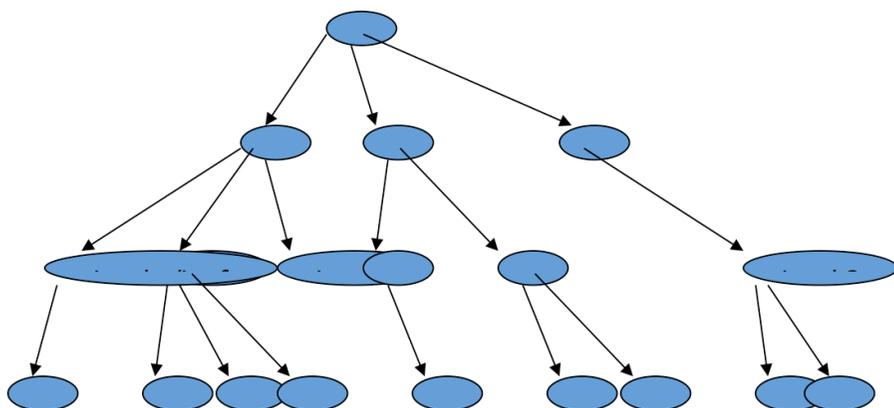


Figure 1: General (upside down) tree structure

As also indicated before, the specifics of the system tree are somewhat arbitrary, and thus flexible, in that the system being modeled may be decomposed into components along boundaries and based on parameters dictated by the purpose of modeling and the nature of the application at hand. That is, the model is not deterministic or unique. In other words, the same system may be modeled with many different system trees depending on the purpose of the modeling, amount of details desired, and the type of information needed, to name just a few factors considered in modeling.

The Physiology of a System Tree

If the structure of a tree is its anatomy, then the properties are its physiology. This hierarchical model has certain intrinsic properties, which are briefly described here. A few of these properties are described in more detail as they are more relevant to the modeling and analysis of principles. The system tree is firstly characterized as being a Specific To General (STG) tree when proceeding from the root to the leaves. This is so because the system as a whole, corresponding to the root, is the most specific entity being modeled. As the tree is traversed towards the leaves, each successive subcomponent becomes simpler and thus more general. To illustrate, going back to the example of the house, a house as a whole is a specific and particular building. The next level of components of the house, for

example, the rooms, are necessarily simpler and necessarily more general in nature. That is, the same room can be a component of many houses while the houses as a whole are specific and different from each other. Similarly, a room is made of walls which are still simpler and more general than rooms, and a wall is made of bricks, which are the most general and least specific or distinguished components in the building and thus may be used in any part of any building.

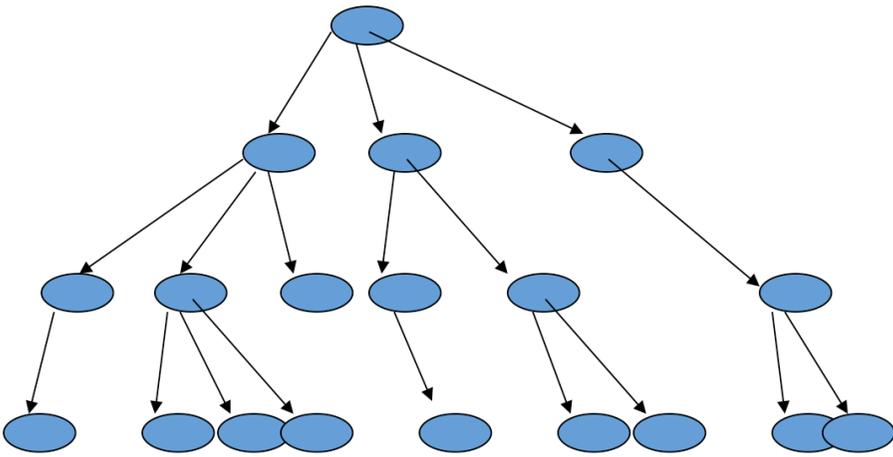


Figure 2: System tree – STG: Specific (root) To General (leaves)

A few words about the semantics of trees will help in describing their properties more clearly. The system tree is an upside down tree including successive layers of nodes going from a single root node to the leaf nodes. If the root node is viewed as a first generation, then the next level of nodes may be viewed as its children or the second generation. The third level of nodes are the children of the second generation or level, and so on down to the leaves. Thus, each node has both a single parent and one or more children. A node is a child with respect to its higher level nodes (closer to the root node) and a parent with respect to its lower level nodes (closest to the leaves).

But the attributes and characteristics of the hierarchical tree model does not end with generational analogy of parent and

children. There are many other important and interesting characteristics which are inherent in this fundamental structure. Some of the most important of these characteristics, briefly reviewed below, include containment/inclusion, scope, recursion, simultaneity, relativity, symmetry, emergent properties, system behavior, abstraction, dependency flow, and reductionism.

Containment or Inclusion

The containment or inclusion property of the system tree provides that a node includes, or is constituted by all its child nodes. So, a room node in a model of a house includes or contains all child nodes such as walls and doors. Conversely, when walls and doors are combined, they constitute a room.

Scope

The scope property provides that the scope of detail at every level of the tree is different from other levels. As the tree is traversed towards the root node, the scope becomes broader. This property is sometimes indicated with the semantics of high-level (less detailed; near the root) or low-level (more detailed; near leaves) in system tree, analogous to zooming out or in with a camera, when looking at a house, respectively.

Recursion

The recursion property provides that any arbitrary node in a system tree can itself be considered the root of the sub-tree under that node. That is, the tree structure is recursive and any sub-tree looks like the whole tree in structure.

Simultaneity

The simultaneity property is highly significant and has many important implications in various fields. This property provides that a system may operate differently at different levels of the system tree, at the same time without conflict or contradiction. For example, in the house model, a round wall may be made

with square bricks. A round wall can exist at one level simultaneously with square bricks at a lower level, without contradiction. As another example, consider the system tree of the process of walking. Walking is a process at one level and includes foot steps as its components at a lower level. A person may walk several times from a door to a window and back, which is a deterministic path, while the size and direction of each step taken is random. So, a deterministic process may exist simultaneously with a random process in the same overall process, at different levels and without contradiction.

Relativity

The relativity property provides that at high levels, which have less detail and thus fewer choices, the properties are more absolute. While at low levels, which have more detail and thus offer more choices, the node attributes are more variable and more relative. Something can be relative only if a choice of more than one option is available, while it is absolute when there is only one choice. Each child node is relative compared with its parent, while the parent node is absolute with respect to its children because there is only a single parent node for potentially multiple child nodes. As an example, consider entering a house. Entering a particular house, modeled as a root node in a system tree, is an absolute action in the sense that the house is either entered or not. But within the house, multiple different rooms may be entered, which is a relative action in the sense that there are multiple choices of rooms, which are child nodes.

Symmetry

The symmetry property is closely related to the relativity property and provides that symmetry or invariance in the system tree increases going towards the root.

Emergent Properties

The emergent properties attribute is an important concept, which provides that new properties or behaviors of the system

appear going towards the root of the system tree, which properties do not exist at lower levels. For example, in the three dimensional space, the concept of an angle comes into existence only after two dimensions are considered. Angles do not exist in one dimension. Another example is electronic memory, which appears at the level of several interconnected gates or flip-flops and does not exist at lower level of individual transistor switches.

Analytical Properties

Some useful analytical properties of system tree includes requirement and causation analysis. Briefly, the process of analyzing the requirements for achieving an end result may be modeled as a system tree by modeling the requirements in each level as child nodes and the result as their parent. Similarly, causation may be modeled as a system tree by modeling the causes at each level as child nodes and the effect as their parent. Many other analytical tools may be developed based on these basic models.

Level-Relativity

The level-relativity of system behavior is related to simultaneity and provides that system behavior cannot be merely specified as a whole and must be specified relative to a particular level.

Abstraction

The abstraction property is essential to intelligence and provides that moving towards the more general and common elements from specific elements may provide essential information needed in analysis without unnecessary details that clutter up the subject.

Dependency Flow

The dependency flow property provides that logical dependency is always from general to specific. This means the

general must exist before the specific can exist because the general is always embedded in the specific, but not vice versa.

Reductionism

Reductionism, which is the idea that the more complex can be described in terms of the more basic, is limited in part by emergent properties, because emergent properties cannot be entirely described in terms of simpler ones.

A Few Comments about Applicability of Tree-Based Models

While the system tree is not the main focus of this paper, it shares many properties in common with the type tree described below. Additionally, the system tree is equally applicable to principles and their components, same as it pertains to any entity, as elaborated above.

The system tree, together with the type tree, form a comprehensive model for important aspects of any entity in the physical world. This statement is not an overreach or a boast. The physical world is characterized by entities composed of components. Abdu'l-Bahá states:

This limitless universe is like the human body, all the members of which are connected and linked with one another with the greatest strength. How much the organs, the members and the parts of the body of man are intermingled and connected for mutual aid and help, and how much they influence one another! [SAQ 245]

He clearly confirms that the universe itself is composed of parts and members. He further states: “[t]he physical station is phenomenal; it is composed of elements, and necessarily everything that is composed is subject to decomposition” [SAQ 151]. Again, He confirms that the “physical station,” that is, anything that exists in the physical world, “is composed of elements.” Hence, the system tree may be used to represent important properties and relationships between components in

any entity. Thus, the applicability of the system tree to any entity is certain.

Similarly, the type tree, as further described below, is also generally applicable to any entity composed of various characteristics, since such characteristics may be added or removed from various entities represented by the tree nodes at different levels, corresponding to moving up and down the tree.

Some may recognize the similarity between the general-to-specific (type tree) and specific-to-general (system tree) with the deductive and inductive reasoning methods, respectively. However, although similar in some respects, these concepts are not the same. The deductive and inductive reasoning methods are logical techniques for arriving at a valid conclusion from valid premises. These techniques are not models for system components or attributes, as are system and type trees, respectively. They also do not have the same properties, some of which were enumerated above for the tree-based models.

But our forest has more than one type of tree, it has two types: the system tree described above, and a type tree (also known as an “inheritance” tree in computer science circles) described below. The type tree is opposite the system tree in the sense that it is General To Specific (GTS): the root is the most general and the leaves are the most specific. Figure 3 shows a type tree for a house. In a type tree, the root represents a general type of characteristic or attribute, which is “inherited” by each lower level moving towards the leaves. For example, a building is a more specific type of structure and inherits the attributes of the structure; a residential building is a more specific type of building and inherits the attributes of the structure and the building; and a house is a more specific type of residential building and inherits the attributes of the structure, the building, and the residential building. So, in this example model, the house is the most specific type while the structure is the most general. The inclusion property for type trees provides that each lower node inherits and includes all the attributes of the higher level nodes in its path. Each lower node in a lower level also adds new attributes not existing in the upper levels or nodes.

use of this methodology, the supermodel is actually simple to understand and apply in its essential aspects.

As an illustrative example, the biological principle that every living organism must consume food to survive can be instructive in understanding the application of the type tree. Let's call this the "food principle." This principle in its most general form, stated above, may be represented by the root node. At the next lower (more detailed) level, the nodes may represent principles which provide that plants, carnivores, and herbivores, as more specific types of living organisms, each require the appropriate food to survive. For example, at this level, the food principle requires carnivores to eat meat to survive. In the type tree, according to the property of inclusion, these nodes inherit the attributes of living organisms and foods from the root principle. Still, at the next lower level, a horse is a more specific type of a herbivore and consumes grass, a more specific type of food. At this level, the horse inherits the attributes of herbivores in turn in addition to the attributes of living organisms.

Applying the properties of simultaneity and relativity to the type tree representing the food principle provides valuable insights. The property of simultaneity provides that the different versions of the food principle, one at the root level applying to all living organisms and one at the lower level applying to horses, are simultaneously true without contradiction or conflict.

However, all principles are not created equal. The relativity property provides that the nodes, and the principles they represent, that are closer to the root are more general and hold true for the lower levels, while the reverse is not true. Conversely, the nodes farther away from the root are more relative and varied. As nodes get farther away from the root, the number of nodes increase at each level, signifying more inherited attributes, and creating more variations and options. For example, in the above model of the food principle, At the root, there is only one form of this principle, which states that "living organisms need food to survive." The same statement at a more specific level proliferates into more varied forms such as "horses need grass to survive," "wolves need meat to survive,"

“birds need seeds to survive,” and the like. The lower level principles only hold true at their own nodes (and lower ones, if any), but not for their siblings at the same level. So, there is no valid principle stating that “horses need seeds to survive.”

Applying these insights to social principles can be even more illuminating. Four seemingly self contradictory examples will be used for this purpose: unity in diversity, courtesy in different cultures, religious imitations, and the conservative-progressive dichotomy.

Unity in Diversity

Unity in diversity is the Bahá'í principle that states that the Bahá'í Faith “does not ignore, nor does it attempt to suppress, the diversity of ethnical origins, of climate, of history, of language and tradition, of *thought and habit*, that differentiate the peoples and nations of the world. It calls for a *wider loyalty*, for a larger aspiration than any that has animated the human race” [WOB 41]. But, how can such diversity, particularly of “*thought and habit*,” work with a “*wider loyalty*?” This concept precisely corresponds with the type tree and some of its properties, simultaneity and relativity, in particular. The property of relativity requires that “*wider loyalty*” increases as the type tree is traversed towards its single root node because of fewer nodes, while diversity of “*thought and habit*” increases as it is traversed towards the leaves because of more nodes and accumulated attributes. But, simultaneity property precludes contradiction despite differences between the nodes. Thus, the concept of unity in diversity, far from being a contradictory concept, is perfectly consistent and logical.

To take a specific example of unity in diversity, consider the diversity of teaching, or teachers for that matter. As a root principle, the purpose of teaching is the transfer of knowledge to the student with the help of the teacher. Thus, the type tree representing the principle of teaching starts. Moving down towards the leaves, the next level of nodes may represent more specific types of teaching. For example, one node at this level may represent teaching in a classroom, while another node may represent teaching by doing, and a third node may represent

teaching via independent study. Each method may be suitable and selected for a different type of subject, student, or teacher. And each method is still for the transfer of knowledge to the student, in compliance with the root principle.

The unity is at the root or towards the upper levels closer to the root, and the diversity is at the lower levels. In the above example, the unity aspect is that each type of teaching is united with others in that they are all a type of teaching and fulfill the purpose of teaching when appropriately selected. The diversity aspect is that there are diverse teaching methods at lower levels, each suitable for a different situation.

Therefore, the selection of a particular method (or node) depends not only on the attributes inherited from upper nodes, but also on attributes which differentiate the nodes at the level under consideration. And even though the nodes within a level are different and possibly in conflict, there are no conflicts across levels between parent and child nodes. This is simultaneity in action.

Cultural Courtesy

Courtesy appears in different, and sometimes contradictory forms in different cultures. For example, in some oriental countries burping after eating a meal is considered a sign of enjoyment of the meal and courtesy or complement to the host, while in many other cultures it is considered rude to do so. Bahá'u'lláh says: "*O people of God! I admonish you to observe courtesy, for above all else it is the prince of virtues. Well is it with him who is illumined with the light of courtesy and is attired with the vesture of uprightness*" [TB 88]. If we define courtesy as behavior patterns or statements that show respect to the receiving party, then the principle of courtesy so defined is modeled as the root of a type tree. According to the relativity property, behaviors at the lower levels on the type tree become more specific and each correspond to the various cultures and attributes associated with respect in those cultures. Further, according to the simultaneity property, the behaviors represented by the lower level nodes can be simultaneously

courteous without contradicting the higher levels or root courtesy principles.

However, sometimes people misinterpret a behavior as discourteous. There are two sources of errors in type tree that may cause such misinterpretation: a *type one error* results if it is mistakenly assumed that a lower level node is at a higher or root level, and a *type two error* results if it is assumed that a higher level or root node is at a lower level. In this example, a type one error occurs if courtesy in a particular culture is mistakenly assumed to be a root principle. Then, behavior from any other culture that contradicts this behavior is deemed discourteous because it does not fall under this mistaken root. So, if burping is considered rude as a matter of fundamental principle, then regardless of culture one may consider it rude behavior. Conversely, a type two error occurs if the root principle is mistakenly assumed to belong to a lower level. So, one may assume that showing respect is optional when showing courtesy; simply one of many alternatives. But, courtesy cannot be dissociated from respect. Respect is an inherent part of any courteous behavior regardless of other accompanying cultural rituals.

Religious Imitations

“This divinely-purposed delay in the revelation of the basic laws of God for this age, and the subsequent gradual implementation of their provisions, illustrate the principle of progressive revelation which applies, as Bahá'u'lláh Himself explained, even within the ministry of each Prophet” [SCKA 5]. In the context of type trees, the concept of progressive revelations, as revealed by Bahá'u'lláh, is an expansion of the type tree from the root upwards, that is, towards more general principles. This concept may be made clearer by revisiting the recursion property and the topology of the tree structure. More specifically, a root node in a tree, such as the type tree of Figure 3, may be placed at an intermediate node of a bigger tree, Thus, the old tree becomes a sub-tree. making the old root node an intermediate node. For example, if the type tree modeling a particular religion or revelation is attached at the intermediate root of a bigger tree, then the progressive revelation becomes the new root node in the bigger tree, with respect to the

particular revelation, which is now a sub-tree. Hence, the particular revelation is a more specific incarnation of the concept of progressive revelation, which is applicable to all revelations.

In religions past, various principles targeted specific needs of the society at the time. For example, in Judaism and Islam there are restrictions on types of food the faithful can consume. In contrast, in the Bahá'í Faith, there are substantially no food restrictions (except for alcoholic drinks) and decisions are left to the believers mostly based on health criterion, which is a higher level principle than a principle banning pork products, for example.

Thus, religions fall into dogmatic rituals and imitations by making a type one error: thinking the principles revealed in their religions for specific needs of the time belonged to a higher level in the type tree than the level to which they truly belonged. So, when they have to switch to other practices which are more suitable for later times, they fail and continue to adhere to outdated rituals of older times.

To Be Conservative or Progressive? That's the Question

A divisive subject, particularly in modern politics, but also in popular culture and society, the conservative-progressive dichotomy has convinced many that only one or the other can be right, never both. This is where we return to the issue of fashion: is it old-fashioned to be principled, particularly when the principles were known in some form since older times? To answer this question, the relativity property must be revisited. The relativity property provides that the closer to the root a principle is, the more absolute it is, and thus, the less dependent it is on various attributes, which attributes in turn define the situations to which the principle applies. As such, true root principles are timeless and do not change according to changing situations over time, or at least are broadly applicable to many situations. That is, they are not relative with respect to various situations, but absolute. In other words, principles are by definition conservative, namely, they are *conserved* over time and across different situations.

Moral relativity is sometimes associated with progressive positions. To explore this aspect, it is helpful to reiterate that

not all principles are created equal. That is, there are principles at the root of a tree which are absolute in the context of that tree, and then there are situational principles at lower levels in the same tree that are relative. Relativity, recall, exists because at lower levels alternatives exist one of which may be chosen according to a given situation. As an example, consider again the moral law of courtesy towards others as the root principle. This is an absolute principle and does not change relative to different cultures. However, culture-based manners are principles corresponding to intermediate or leaf nodes and are relative.

This conclusion precludes the notion of moral relativity when observing true root principles. Moral relativity is the embodiment of the type two error in the type tree in which a root principle is mistakenly assumed to be a lower level principle and thus relative to situation. When this error occurs, a root principle that is applicable to all situations is not observed or is only applied to some. Of course, moral relativity is a valid and essential concept to understand and apply for principles corresponding to intermediate or leaf nodes in the type tree.

Conversely, the application of principles, that is the more specific principles under the root principle, that are applicable in particular situations, are relative with respect to the situation or problem to which they are applied. In this sense, the application of principles is by definition progressive.

But, according to the simultaneity property, conservative and progressive incarnations of principles can be simultaneously true and valid, because they operate on different levels. Hence, the conservative-progressive dichotomy is a false dichotomy. One should be, and actually has no other choice than being conservative when observing root principles, and conversely, he should be, and has no other choice than being progressive when observing application of principles in new situations.

Putting It All Together

Employing system and type trees and their properties as models in the analysis of various problems, systems, concepts,

entities, and principles provides a general methodology for such analysis, rather than specifically modeling any particular problem domain. This general applicability creates a powerful framework for clearly defining problems and issues and devising approaches and solutions.

One of the most important and widely applicable results of understanding this methodology is that root principles are not relative and are thus timeless. There are no “old-fashioned” or “progressive” principles. Principles are eternal, even though our understanding of such principles are refined as we grow. Applications of root principles, however, are relative to situations and must be adapted accordingly. This relationship between root principles and their applications is nowhere more evident in modern life than in the relationship between science and technology. Scientific principles are timeless while their applications, namely technology, change with time, needs, and situations. Newton’s laws of motion propelled fish in prehistoric oceans, moved horse and buggy 200 years ago, and sets in motion jet planes and space craft today. The principles remain unchanged, but new applications are devised as understanding of the principles is refined.

At this point in human history, Bahá'u'lláh has revealed many social, moral, and philosophical principles and guidelines that may be considered as root principles due to their very general and high level natures. Abdu'l-Bahá, the appointed interpreter of His Writings, takes these general principles and defines lower level, more detailed principles for practical application in various situations. In effect, Abdu'l-Bahá traverses the type tree towards the leaves, providing more specific application of the root principles. In observing these principles, the two types of errors, substituting low level principles for higher level ones and substituting the higher level principles for lower level ones, are avoided by observing their relative levels of detail, context, and application. Making either of these errors may result in misunderstanding and misguided application of the principles.

For example, if a root principle enunciated by Bahá'u'lláh, such as leading a chaste life, is mistaken as a lower level principle applicable only in specific situations, such as within a culture or during a particular period, then when outside those

specific situations, one will mistakenly assume that this principle is not applicable any more.

Conversely, if a lower level principle or practice, such as adopting a particular type of food, attire, or marriage ceremonies at a particular locality, is taken as a root principle, then one will mistakenly assume that at all places and all times such practices must be observed, leading to empty and inapplicable imitations and rituals.

Conclusion

All analysis, explicitly or implicitly, depend on models, which represent various concepts and entities by defining elements of such entities and the inter-relationships between these elements. The hierarchical model, effectively represented by tree-like structures, have properties that encompass every entity by representing intrinsic structural relationships and properties of the entities, regardless of their specific natures or the fields in which the entities exist. The system tree has a Specific To General (STG) structure, while the type tree has a General To Specific (GTS) structure. The type and system trees provide a general methodology for the analysis of principles and entities, rather than providing a specific model for a particular system or problem. The properties of the type tree are especially important for principles and clarify the structure of many difficult and ill-defined problems.

An analysis of the properties of the type tree reveal that root principles are not relative and are thus timeless. The relativity and simultaneity properties of the type tree show that there are no “old-fashioned” or “progressive” principles. Principles are eternal, but their applications are relative to situations. These properties also reveal that principles can have different effects at different levels in the type tree without contradiction. These properties further show that type one and type two errors, namely, substituting low level principles for higher level ones and substituting the higher level principles for lower level ones, respectively, can cause misguided applications of principles at all levels.