AQAL Topology
AN INTRODUCTION TO INTEGRAL GEOGRAPHY AND SPATIALITY

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This article introduces some of the basic elements of Integral Geography as both theory and practice for applying the AQAL framework to the study of the world. A historical overview elaborates what geography is, how it evolved as a discipline, and how geographers frame a number of key dimensions of inquiry in studying both the human and natural world. These key dimensions are then situated in relation to the AQAL framework and are used to reveal how space, spatiality, and topology are intrinsic to the AQAL map and Integral Theory in general. A number of research questions are raised for exploring the further development of Integral Geography and its potential use in other areas of Integral theory and practice.

Introduction

This article introduces the concept of Integral Geography as a theory and practice of applying the AQAL framework towards the study of geographical aspects of the world. Integral Geography focuses on the role that *space* and *place* play in any aspect of inquiry that uses the Integral framework. Integral Geography is introduced by first presenting an overview on what geography is and why it matters in studying affairs of the world and builds upon some initial ideas I have developed in the past.[1] First, a brief overview of the historical development of the field of geography is presented, along with a discussion on some of the main dimensions of geographical inquiry that emerged from this historical development. Second, these dimensions are then related to the AQAL framework as a means for interfacing some of the terminology used in geography to elements of Integral Theory. What is revealed by this analysis is that *space* and *topology* are intrinsic to the AQAL framework and Integral Theory in general, and that both the AQAL model and its application involve *doing geography* in some respect, whether theorists and practitioners are or have been aware of it as *geography*. Third, a number of potential research questions are raised where Integral Geography can contribute both to the further development of Integral Theory and in practice for any Integral domain that seeks to explore and make use of space and place more fully in their respective work.

A Brief History of Geography

As an academic discipline, geography can be formally traced back to Greek and Roman scholars when they first began to develop rational understandings of the world around them. It is paradoxical that although it is one of the oldest fields of formal knowledge, debates continue with respect to how geography defines itself in relation to other disciplines of the modern academy. There are several reasons for this that are necessary to elaborate an Integral understanding of what geography is (and is not), and it is therefore worth reviewing a brief overview of its historical development.[2]

When raised in public or colloquial discourse, the subject of geography conjures up notions of place finding, knowing the capital cities of countries and states, or reading reference maps. First

year students in most geography programs learn that geography is *not* only about memorizing basic locational facts about the world. Instead, they are introduced to concepts pertaining to space and spatiality, location, place, identity, regional dynamics, and local-global interaction and interdependencies, including the intricate and complex relations between humans and the environment. They are also taught how these aspects of geographical inquiry can be applied to nearly any other field of knowledge.

The pervasiveness of geography in many fields—such as anthropology, sociology, medicine, ecology, geology, cultural studies, politics, and commerce—places it in a somewhat precarious position in the modern academy. On one hand, it has relatively clearly defined boundaries insofar as it aims to study locations and regions, or global level systems; on the other hand, it arguably interfaces with more disciplines than any other, positioning it as a nexus for multidisciplinary inquiry. In broadest of terms, geography is a body of theory and practice used for *studying the world* in all of its complexity and scope, and uses space, place, location, and local-global relations as frameworks for situating the *context* for our study and understanding of phenomenon. In doing so, it necessarily provides the space for multiple disciplines to interact. Its intrinsic multidisciplinarity and interdisciplinarity has been its defining feature for academic geographers for more than a century. For example, figure 1 shows a model of geography presented by Fenneman in the early part of the 20th century. Although details of such models continue to be debated, there is a general agreement that the field does serve as a nexus among multiple fields of knowledge in studying the world, and even some scholars outside of the field of geography have considered this approach as a model for interdisciplinarity.[3]

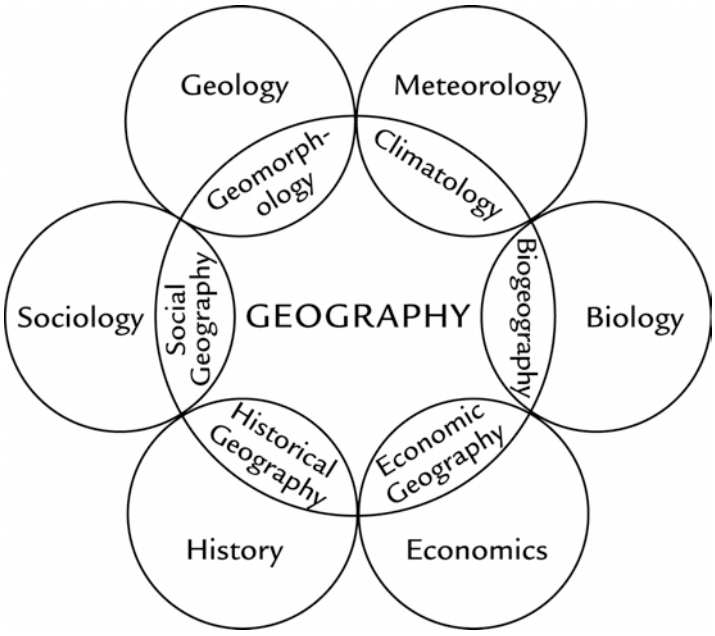

Figure 1. The Circumference of Geography[4]

Presenting geography as a multidisciplinary or interdisciplinary nexus in this form may run counter-intuitive to mainstream conventional perceptions on what geography is all about. A

conventional understanding of geography tends to regard it as the practice of describing phenomena—both human and natural—on the surface of the earth. In this interpretation, the prefix *geo*, meaning *the world* or *planet*, and *graphy*, meaning *to describe* are often taken as the more conventional approach to what geography is. That is, to simply locate and describe phenomena on the surface of the earth. But as both modern and postmodern epistemologies reveal, the mere act of describing is contingent upon epistemological and ontological frameworks within which descriptions are placed.

First, the root *geo* pertains not only to what we see at the surface of the earth but can also pertain to abstract notions of *form*, such as used in the word geometry (implying *measurement or metrics of form*). These aspects appear in two main streams of cartography wherein the former pertains to maps referencing exterior world objects (e.g., reference and thematic maps), and the latter pertains to maps of the interior, abstract, or conceptual world (e.g., using map metaphors or mental maps). Second, *graphy* (or *graphos*) can also mean *to write about* and implies a scope that can include detailed analyses, predictions, theories as well as asserting general truth statements about the world or even highlighting uncertainties and mysteries. Taking these interpretations of geography in combination illustrates how it can be both a more general practice of describing and also explaining processes and events in both real (concrete) and imaginary (abstract and aesthetic) worlds.

Geography's development throughout early, modern, and postmodern eras reveals prominent contributions from individuals such as Ptolemy, Eratosthenes, Idrisi, Varenius, Kant, Kropotkin, Darwin, Foucault, and Deleuze. It is worth noting that Kant, although not commonly regarded as a geographer, made significant contributions to the field while developing his epistemological treatises wherein he developed some fundamental principles of geography as the basis for his empirical research and taught a course in geography over forty times.[5] During these early and modern periods, scholars used a variety of terms to describe the type of knowledge yielded by the practice of geography, including chorography (*choros=area, region*), topography, cartography, cosmography, and spatial science, to name a few. Perhaps the most noteable was Kant's use of two overarching aspects that set the context for comprehensive knowledge about the world: *chorography* (space, geography) and *chronology* (time, history).

As the discipline matured and diversified in the 19th and 20th centuries, there have been numerous debates about not only what is particularly unique about geography but also what the discipline contributes to the ongoing field of epistemology in general. Debates often focused on problems associated with particular versus systematic approaches to geography; quantitative and qualitative methods; notions of absolute, relative, and comparative spaces; and, in particular, the need to maintain important methodological differences in the study of humans versus nature. Today, the pedagogical structure of many departments of geography generally has a division between human and physical geography. Reasons for this differentiation are similar to those offered by Wilber's analysis of modernity's positivistic science (the type of science necessary in the study of the physical world), with the epistemologies and ideologies of the social sciences and humanities (those necessary for studying the human world).[6]

This brief overview provides a context from which we can begin to re-contextualize how space, spatiality, place, and location are important aspects to consider in many fields of knowledge. As

Wilber points out, while the benefits of modern science and formal systems of knowledge are well known, the contributions made by postmodernism highlight the need to navigate the *constructivism* and *contextualization* of knowledge.[7] Drawing from the benefits provided by both modernism and postmodernism (however contentious their interface may be at times) is one of the key challenges that an Integral approach aims to address in order to prevent committing fallacies of absolutism, reductionism, or cultural relativism (among others). It is toward these means for any field of application of Integral Theory that geography, and specifically, Integral Geography, can make a key contribution by providing a means for *contextualization* of human knowledge when applied against real world scenarios. To elucidate how geography provides this utility, it is worth reviewing some of the key dimensions of geographical inquiry and how they may be related to epistemological and methodological aspects of other fields of knowledge.

Dimensions of Geographical Inquiry

Although many geographers advocate a pluralistic approach to defining geography and its many sub-fields, there tends to be a common understanding that there are currently four key dimensions to any mode of geographical inquiry.[8] These include:

- Ontological Dimension: dealing with what aspects of the world are under study (e.g., humans vs. nature)[9]
- Epistemological Dimension: pertaining to what kind of knowledge is acquired from studying different aspects of the world (e.g., idiographic vs nomothetic)
- Methodological Dimension: what methodological principles or families (e.g., qualitative and quantitative methods)
- Spatial Dimension: what are the locational and spatial extents of phenomena, and what scale or distance lies between the observer and the observed (ranging from local to global scales)

Within each dimension, there are generally two poles or sub-dimensions that are used to frame approaches for studying the world. The ontological distinction between humans and nature is an important one from both conventional and postconventional perspectives, as is reflected in the modern demarcation between the pure and natural sciences from the social sciences and humanities and their respective epistemologies, ideologies, and methods.[10] The terms *idiographic* and *nomothetic* pertain to the *type* of knowledge acquired about the world. The former pertains to the particular, or highly contextual knowledge, which does not easily lend itself to reproducibility over time. The latter pertains to knowledge about the more universal, systemic, patterned, or rule-based aspects of the world, which are more reproducible over time and are more amenable with the modern scientific process. *Qualitative* and *quantitative* are terms used to describe to broad families of methods that are used to acquire either idiographic or nomothetic knowledge. In general, qualitative methods are often used in cases where idiographic knowledge is most relevant (e.g., personal case histories) and quantitative methods where universal or systemic patterns are more relevant (e.g., monitoring socio-demographic trends or mapping bioregions and wildlife habitat).[11]

Framing the dimensions of geographical inquiry in these terms interfaces closely with what Esbjörn-Hargens outlines as the principles of Integral Ecology.[12] He argues that the AQAL framework, when applied to the study of ecology, can be used to answer questions pertaining to the "Who," "How," and "What" of environmental phenomena. The type of knowledge created through any particular mode of inquiry depends on the three part relationship among "who" is doing the looking (and the perspectives they take), "how" they are studying it (what methods are being used), and "what" it is they are studying (an ontological aspect). I extend this approach by also asking "where" and "when" questions to address geographical dimensions of environmental phenomena, or any aspect of the human realm.[13]

The utility in adding questions of "where" and "when" (space-time coupling) is an essential aspect for the *contextualization* of knowledge, and is essentially where geographical inquiry offers its main contribution. All human and environmental phenomena are (in part) bound within a space-time coupling; and although some phenomena can be seen to be more "persistent" at particular scales in space and time (described as *endurants* by Galton), other phenomena are more transient (an *occurant* in Galton's taxonomy).[14] The former tends to gravitate toward nomothetic aspects of the world, whereas the latter tends to gravitate toward idiographic aspects.

It is important to note that idiographic and nomothetic are not necessarily separate aspects of phenomenon. Rather, it is more correct to say that there are idiographic and nomothetic aspects to all phenomena—that is, they intersect to give rise to complexity in the world. (This is discussed in more detail below in relation to the AQAL framework.) Here, the terms *local* and *global* become important frames of reference. The local is often used to situate idiographic aspects of the world (e.g., specific life conditions at a particular location, framed within a particular scale), and the global often pertains to more nomothetic aspects (e.g., systemic, enduring processes). The two are intrinsically inter-connected through nested contexts of *scale* and *locational reference*, both in terms of how global forces operate on the local and how local processes respond to and feedback upon the global. This means of contextualization of human and environmental phenomena in terms of space-time scaling is captured in the concept of *geo-ontological contingency*, which basically argues that any knowledge statement about the world, whether specific or general, is contingent upon how these four main dimensions of geographical inquiry (ontological, epistemological, methodological, and spatial) are treated in the process of generating such statements.[15] This is to say that changing any one of these dimensions will yield different perspectives. In particular, the emphasis is on how space-time boundaries and local-global nesting are contextualized within the epistemological (Who), methodological (How), and ontological (What) dimensions. It requires researchers to also ask questions of the type: *"To what geographic scales and locations does this knowledge apply?"* or *"Is this knowledge true for all time and all locations, or does it hold only under specific geographical conditions?*"

A key aspect of this argument parallels insights made by Frodeman who critically examines the role that scale, place, and the perspective of the observer play in generating knowledge about the world, and how these aspects bear on philosophies of science.[16] Frodeman argues that many debates about science are often framed around either the purely universal (e.g., as in cosmology, what he calls "sky science") or those that are controlled under laboratory conditions (e.g., lab science). The real world does not often allow the opportunity for control and experimentation (and therefore, reproducibility); and in addition, the physical position of the observer relative to

the subject or object of investigation plays a key factor in discerning what objects or phenomena are captured or observed in the first place. Real world phenomena often show up as some mix of idiographic and nomothetic patterns, and depending on the scale of space-time reference, it may sometimes be difficult to discern whether one has uncovered idiographic or nomothetic information. It is from an examination of these contingencies in human knowledge that Frodeman argues for the concept of *field science*.

Elsewhere, I have argued that the contingencies of space-time coupling, place and scale in human knowledge, framed in terms of *field science*, can be extended from the study of earth-systems and the environment (as argued in Frodeman) to the human realm if other definitions of the word *field* are permitted.[17] Field work in the natural sciences (e.g., geology, ecology) invokes an image of scientists observing and collecting data in the natural world. But the word *field* can apply to more than the conventional notions of nature, such as its metaphorical use in *fields of knowledge*. Galton's taxonomy of geo-ontological phenomena proposes an important distinction between *objects* and *fields*, whereby *fields* constitute the domain wherein objects interact and behave, or the spaces within which objects have their behaviour.[18] Such spaces can range from the sub-atomic to the universal, and on the geographical scale of the surface of the earth, it typically pertains to the range of scales between the local and the global. In making this allowance, the term *field* can also pertain to *fields of intersubjectivity* in the human realm, where, for example, a researcher employing a participant-action research method in the study of a community is conducting a type of *field science* through direct immersion in the field she is studying (e.g., the culture, values, language, and aspirations of a particular community).

The argument presented here highlights not only how these terms are used in the field of geography for studying the world (i.e., internal to geographical inquiry, specifically), but to also emphasize their importance in contextualizing other forms of knowledge when applied to the real world—be it psychology, sociology, medicine, ecology, physics, etc. A simpler term than geo-ontological contingency might be *geographical contextualization* of human knowledge about any aspect of the world, and this is proposed as one of the key utilities of Integral Geography as an important component of an overall Integral framework. This introduction now turns to interfacing these dimensions of geographical inquiry with the AQAL framework.

Geography: An AQAL Analysis

As with many other applications of Integral Theory to particular domains (e.g., medicine, ecology, psychology), the concepts central to the discipline of geography also find a reasonable fit with the basic elements of the AQAL framework. This section highlights how the key dimensions of geographical inquiry relate to the AQAL map in terms of quadrants and levels (an examination of how they relate to lines, states, and types will be explored in subsequent articles).

Starting with quadrants, figure 2 illustrates the four types of *spaces* that are intrinsic to the AQAL framework. In the upper quadrants, there is the intentional or inner space (in the Upper Left) coupled with the behavioural or performative space (in the Upper-Right quadrant). By extension, the lower quadrants point to how communal or cultural space (in the Lower-Left quadrant) is coupled with social or systemic space (in the Lower-Right quadrant).

Identifying these four spaces highlights an important distinction between conventional and postconventional approaches to geographical inquiry. Conventional geography is commonly regarded as generating knowledge about the world from the perspective of the Lower-Right quadrant, from local to global scales (e.g., basic reference mapping and descriptive geography from local communities to global maps and atlases). Postconventional geography looks at how space and other aspects of spatiality, place, and location influence the contents and characteristics of phenomena within each of the four quadrants, in terms of how the four intrinsic spaces are differentiated and also in terms of their quadratic interaction.

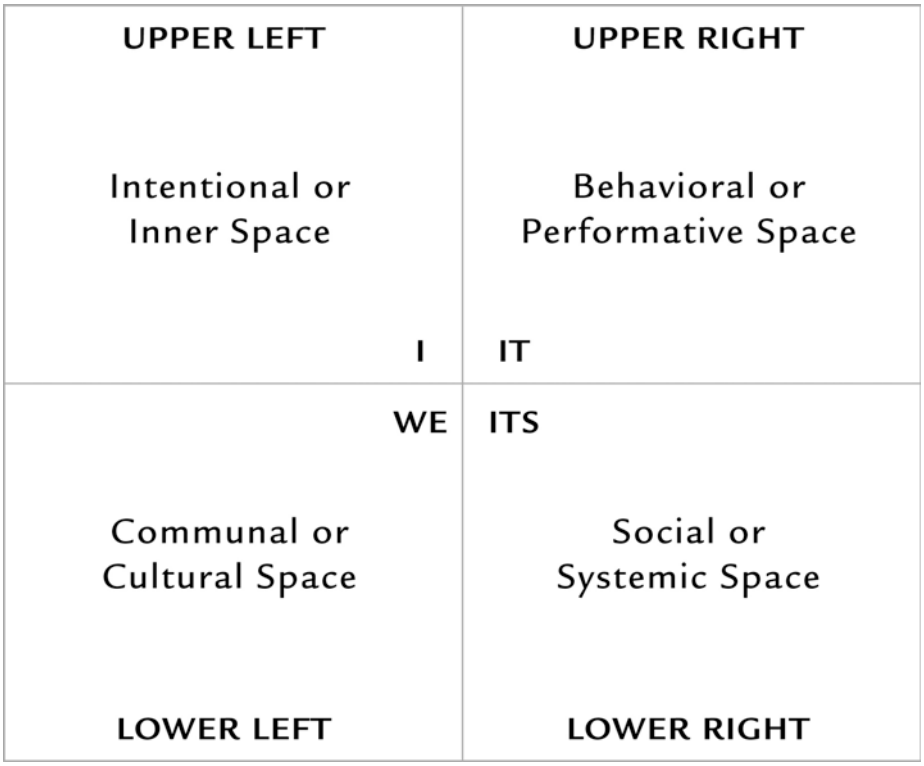

Figure 2. Four Types of "Space" in the AQAL Framework

This mapping of the four intrinsic spaces also highlights why the word *space* is used so pervasively in many disciplines and languages outside the field of geography. For example, psychologists often refers to ones *inner space*, and community practitioners refer to ideas such as *safe space*, a concept that applies not only to the physical safety of individuals in the Lower-Right quadrant but also their emotional safety among people of shared intersubjective affinity in the Lower-Left quadrant (e.g., a women's shelter).

Integral Geography examines not only qualitative and quantitative differences and characteristics among the four intrinsic spaces but also the quadratic interaction and inter-dependencies across local to global scales. Figure 3 illustrates how the four key dimensions of geographical inquiry presented above can be situated in relation to the AQAL framework. In this particular model, the A, B, and C spheres refer to Anthropospheric, Biospheric, and Cosmospheric levels, respectively, as I developed in a previous publication.[19] This is a variation on the use of the terms

noosphere, *biosphere*, and *physiosphere* by Wilber and is referred to as an A-B-C/1-2-3 model, where the 1-2-3 is in reference to first-, second-, and third-person perspectives that may be taken on any combination of (A) Anthropospheric, (B) Biospheric, and (C) Cosmospheric phenomena and their interaction.[20]

This framework highlights how idiographic knowledge more often tends to be associated primarily with individual phenomena in terms of their unique characteristics, while nomothetic knowledge is more often associated with perpetual patterns that occur in the collective dimensions.[21] Quantitative methods are most often applied in studying aspects of the exterior (Right-Hand) quadrants, and qualitative methods, as commonly used in geography, provide access to phenomena occupying the interior (Left-Hand) quadrants.[22] The L_n and G_n symbols reference the local-global holonic nesting in the respective spheres in each of the four quadrants, where the numeric subscripts pertain to first-person (1), second-person (2), and third-person singular (3a) and plural (3b) perspectives.

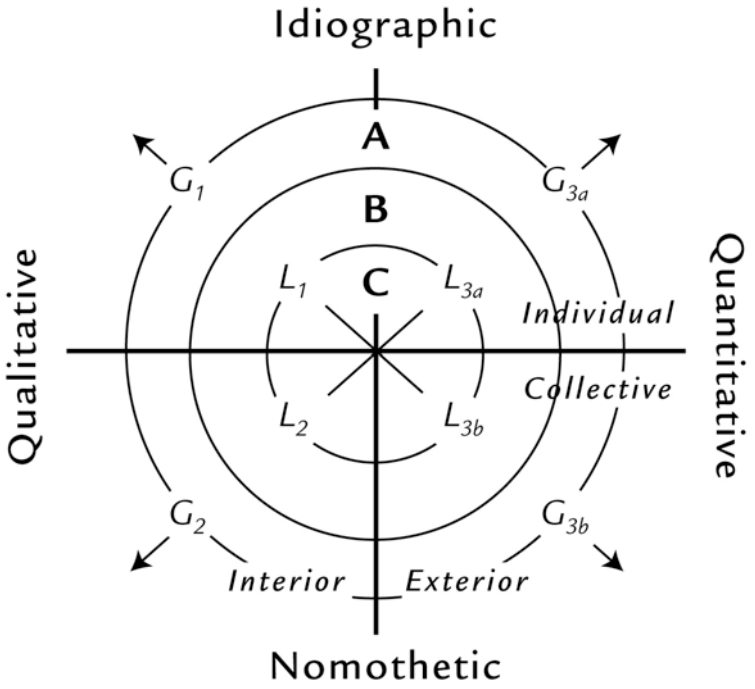

Figure 3. Key Dimensions of Geographical Inquiry within Quadrants and Levels

To elaborate how the local-global nesting operates within the four intrinsic spaces of the AQAL framework, we first look at the more conventional use in the Lower-Right (social-systemic) quadrant.[23] A-B-C phenomena may be studied and mapped at a local scale (e.g., a neighborhood or an ecological unit at 1:5,000), which can be nested within regional depictions (e.g., 1:50,000–1:500,000), and in turn be set within analyses that span national, continental, or global scales (1:1,000,000–1:60,000,000). Local scale studies provide significantly more detail (greater depth) than regional and global scales that typically cover wider geographic areas (greater span).

The local-global scale in the Upper-Right quadrant pertains to individual samples or observations of phenomena (e.g., soil or flora samples, species observations, individual behaviour) that are used as primary data to describe idiographic aspects of the world. *Individuals*, in this sense, represent the primary units of observation, whether pertaining to individual rock samples, species, or people in a social survey. At the level of the anthroposphere, we situate individual human behaviour in terms of the physical extent to which behaviour may affect and be influenced by local to global processes. With adequate spatial-statistical representation, individual data may be used for spatial inference of corresponding nomothetic patterns in the Lower-Right quadrant.[24]

The geographic extent to which inferences can be made about collectives occupying a particular physical geographic realm would need to follow conventional spatial analytical protocols. For example, a social survey conducted in a few towns in eastern Europe can not be used to infer social patterns outside of the geographic extent of those towns. Scientific protocols pertaining to rules for *interpolation* and *extrapolation* need to be followed. What this highlights is the mutual relationship between individual measures and observations (of individual phenomenon) and inferences made about the *fields* they occupy in the collective quadrants.

Similar protocols apply to the Upper-Left and Lower-Left quadrants in terms of interior qualitative dimensions. With communal or cultural space, the local-global nesting may pertain to the corresponding *geographic extent* to which some form of intersubjective communication and mutual understanding manifests (which may or may not have a direct correlation to socioeconomic modes of production in the Lower-Right quadrant). For example, a local indigenous language may not have as wide a global reach as the English language, but values shared by that same local culture (e.g., taking care of the elderly members of the community) may be shared by many cultures of the world (in which case, their values would register on a global level). Local-global nesting applies to individuals in the Upper-Left quadrant in the manner by which their level of consciousness along some line of development (e.g., cognition, or moral span) has the capacity to conceptualize, understand, or empathize with phenomena at various levels from the local to the global.

Stages of human development have inner spaces in the Upper-Left quadrant that have corresponding correlates in the other three quadrants. For example, using one of the simplified stages of moral span, from egocentric to ethnocentric to worldcentric, there are correlates to these levels in each of the four quadrants whereby the egocentric is limited to the space of the individual, the ethnocentric to the space of the individual's community or culture, and worldcentric necessarily encompasses the entire planet.[25] Global level awareness or consciousness (in the Upper Left) has a direct correlation in all quadrants in both physical geographic space (in the Lower Right), how people behave (in the Upper Right), and the extent to which they share affinity for various fields of intersubjectivity (in the Lower Left).

It is worth mentioning at this stage that the four intrinsic spaces and their corresponding local-global nesting are embedded within the eight indigenous perspectives and corresponding methodologies of Integral Methodological Pluralism (IMP). Their interface is not elaborated here as this will require further research in terms of translating terminology used in geographical inquiry into IMP terms.[26]

Summary and Further Research

This introduction to Integral Geography and spatiality emphasizes that geography is more than just mapping and describing the world from the perspective of the Lower-Right quadrant (the conventional understanding of geography). Historically, geography has come to be known as a discipline that *studies the world* in all of its complexity drawing from multiple disciplines. Given the comprehensiveness and inclusiveness of Integral Theory, it is not surprising to see how some of the key dimensions of geographical inquiry align with the basic elements of the AQAL framework. In interfacing geography with Integral Theory, this introduction uses the AQAL framework to locate four intrinsic spaces to which various combinations of methods of inquiry may be used for research. Each of the four intrinsic spaces has local-global holonic nesting, and these levels have correlates across the four quadrants. It can also be said that each quadrant has its own geography to be studied and actualized through the process of integrating the four intrinsic spaces through the use of different methodological zones.

Because the terminology used by geographers differs from those used in Integral Theory, further examination of their potential interfaces will be needed.[27] In associating the four quadrants with idiographic and nomothetic forms of knowledge, derived from both quantitative and qualitative methodologies, and differentiating human and environmental dimensions, Integral Theory and the AQAL model provides geographers with a means for situating and reconciling how these dimensions of geographical inquiry relate to each other. An Integral/AQAL analysis reveals that these dimensions are not binary opposites, dichotomies, or polarities but might be better described as *orthogonal communalities* wherein there are intrinsic and mutual relations to each pair.

In viewing this relationship between Integral Theory and geography, a number of research questions are identified here that will be worth exploring further. First, the close relationship between Integral Theory and geography reveals itself in the manner in which Wilber has developed the AQAL framework as a *map* for navigating the basic dimensions of reality (the world and universe).[28] A key insight here is that formal cartographic theory would suggest that the AQAL framework is a *map metaphor* whereby the relationships of the five basic elements (quadrants, levels, lines, states, and types) function *topologically*. This is to say that Integral Theory is intrinsically *spatial*, and its language is intrinsically *topological*. When examining any aspect of the world, a comprehensive Integral approach necessarily requires an in-depth analysis of how phenomenon can be mapped using the five elements. In further research, it would be useful to examine how the five elements of the AQAL map may be looked at through the development of a sub-field of AQAL theory which is proposed here as the study of *AQAL Topology*.

By highlighting how geography is formally grounded in the AQAL framework, a number of other research questions are raised at this time. This research may build upon some initial ideas developed by Robert Sack in his description of *geo-psychodynamics* and *geo-sociodynamics*.[29] Sack's initial theoretical ideas interface closely with Wilber's use of *boundaries* and *contours* and how they imply a spaciousness intrinsic to reality, not only in a metaphorical sense but also to the extent that different types of boundaries in all four quadrants appear as both real and illusory. A sample of questions to be examined further are suggested here:

1. One of the first questions pertains to how an Integral Geography framework might be used to look more closely at the intrinsic relations among anthropospheric, biospheric, and cosmospheric phenomena, and in particular, how such a model may reveal intricate relations among different types of holons (e.g., sentient, non-sentient, artifact, heap). To date, there has not been a consensus on where the boundaries are between sentient and non-sentient holons, and how these may relate to the boundary between the biosphere and noosphere (which, in turn, implicate the definition of anthroposphere). Further examining such questions may have important contributions to an Integral perspective on environmental ethics, as well as identifying a minimum number of ecosystem components that need to be included in any comprehensive ecosystems analysis.

2. As an interface for Integral Ecology, Sustainability, and International Development, it would be useful to map indicators of sustainability and development at multiple geographic scales to facilitate assessments and implementation strategies on a locational basis. How might this mapping proceed? What key indicators would be most useful? And at what particular scales? Can inferences made about nation-states be applied equally to places *within* nation-state boundaries? Why or why not? And how might this aspect implicate foreign and international development policy?

3. It is often said that "everything is connected to everything else." However, one of the basic laws of geography, known as Tobler's Law, states: "Everything is related to everything else, but near things are more related than distant things."[30] Is physical proximity an important factor in human development? Why or why not? Has this question been thoroughly investigated? And if so, how do practitioners from various fields of Integral inquiry account for location and physical proximity?

4. To what extent are Integral theorists and practitioners drawing connections *between* individuals and collectives at various geographical scales of interaction? For example, how might the development of a particular individual, or group of individuals with similar affinity (e.g., a culture), relate to the life conditions (anthropospheric, biospheric, and cosmospheric) in the collective quadrants? And how do life conditions promote or constrain human development in individuals? In the early part of the 20th century, the French school of regional geography, lead by Vidal de Blache (1927-48), challenged the philosophy of environmental determinism with the concept of *environmental possibilism.* Through extensive research on both physical and human geographical patterns, their work examined the manner in which the physical environment both constrained and set the possibilities for patterns of human development and settlement. It may be worth re-examining this school of thought to see how it might interface with the holonic tenets of Integral Theory as it pertains to human-environment relations.

5. Do people who travel extensively progress faster in their development? This question might focus on people who have experienced a wider than normal range of life conditions in both developed and developing regions for extended periods of time. It may also be worth exploring how situating people in different life conditions (places) affects their development. For example, suppose we take an average, reasonably well-developed American urbanite, who has known safety and security and had the provisions of comfort for most of their life, and immerse them in an inner city neighbourhood, or an indigenous culture in the south Pacific, for a few years. Do they advance along some lines and regress along others? Why or why not? What affects could be observed in their AQAL Topology? How would it change, and what dynamics are at work?

6. How do the other three elements of the AQAL framework (lines, states, and types) relate spatially to the collective dimensions? Integral Theory most commonly regards lines, states, and types as applied to individuals (e.g., personality types, states of consciousness, lines of human development). How do these elements apply in the collective quadrants? For instance do these distinctions take on different meanings when understood in the Lower Right (e.g., as in a *state of weather*, *types of habitat*, or *lines of socio-economic development*)?

7. Finally, for an Integral Life Practice (ILP), would it benefit individuals to practice *walking meditation* in various spatial contexts? This might include both conventional walking meditation practices, and extended through the use of movement through various geographical settings. In addition how might the effectiveness of different ILP modules (e.g., 3-2-1 shadow work) be increased by their performance in a range of spaces (e.g., in an office, on a lawn).

These are just a few questions that will require further research in a more formal development of Integral Geography using multiple zones. Subsequent articles will begin to expand upon some of these questions by examining more closely the other three elements of the AQAL framework (lines, states, and types) as they apply to the four intrinsic spaces identified in this introductory article. Integral theorists and practitioners from other domains are invited to participate in this inquiry.

NOTES

[1] Eddy, "Integral geography: Space, place and perspective," 2005

[2]While it is tempting to conflate geography with geology, they are quite different (as different as, although not analogous with, biology and biography). Although geology and geography do interface (overlap) in the study of physical earth system processes, geology is mostly restricted to predominantly lithospheric processes, and the study of the history of earth system processes as recorded in the stratigraphic record. Geography is concerned with more recent time periods (i.e., most often the Holocene to the present) and includes the presently active systems operating on the surface of the earth, including humans and their influence on these processes. The relationship between the two, especially in terms of how some sub-fields of physical geography (e.g., geomorphology) interface closely with sub-fields of geology (e.g., sedimentology and stratigraphy), remains precarious in some respect and is still debated

within the discipline. The degree to which geography has a strong emphasis on studying humans, particularly our "mapping" of the world, is the primary reason most geography departments are situated in faculties of arts and social sciences, whereas geology is most often located within the faculty of science (along with chemistry, physics, and biology).

[3] Fenneman's model is often considered to be a simplified model of geography as the discipline has flourished substantially over the past several decades. The diversity of sub-disciplines in both human and physical geography preclude graphical illustrations of this type. For example, there is feminist geography, cultural geography, geopolitics, regional geography, existential geography, and so forth, all of which interface with and share significant overlap in terms of methodological and ideological characteristics. For more on this topic, see Dalrymple & Miller, "Interdisciplinarity: A key for real-world learning," 2006.

[4] Modified after Fenneman, "The circumference of geography," 1919.

[5] Holt-Jensen, *Geography: History and concepts*, 1999, p. 228

[6] Wilber, *A brief history of everything*, 1996

[7] Wilber, *The collected works of Ken Wilber* (Vol. 6), 2000, p. viii

[8] See Castree, Rogers & Sherman, *Questioning geography*, 2005, p. 314; Clifford & Valentine, *Key methods in geography*, 2003, p. 572. The dimensions presented here are generally regarded as the most common dimensions, taught at an introductory to intermediate level. The actual range of methods used in the field and the terminologies associated with them vary significantly; and certainly not all geographers use the terms provided here. However, the terms used here will suffice to illustrate how geography interfaces with Integral Theory and the AQAL map.

[9] "Humans" and "Nature" are the current conventional referents used in the field (and have been throughout the modern era) and reflect the current demarcation between human geography and physical geography as the two principal sub-fields of the discipline. A more advanced application of Integral Theory to geography will need address the existing human-nature/physical demarcation.

[10] Modernism's dichotomization of "humans" and "nature" remains reflected in the faculty and departmental structure of the modern academy (e.g., demarcating the pure and natural sciences separate from the arts, humanities, and social sciences). It is partly because of this modernist dichotomy that geography remains in a precarious position in that its scope includes the study of both humans and nature, and draws from the full range of epistemologies offered in all disciplines (arts/humanities, social sciences, and natural sciences).

[11] For other examples, see Tim Black's article, "Applying AQAL to the quantitative/qualitative debate in social sciences research," in this issue.

[12] Esbjörn-Hargens, "Integral ecology: The what, who and how of environmental phenomenon," 2005

[13] Eddy, "Integral geography: Space, place and perspective," 2005

[14] Galton, "Desiderata for a spatio-temporal geo-ontology," 2003

[15] Eddy, *The use of maps and map metaphors for integration in geography: A case study in mapping indicators of sustainability and wellbeing*, 2006

[16] Frodeman, *Geo-logic: Breaking ground between philosophy and the Earth sciences,* 2003, p. 184

[17] Eddy, *The use of maps and map metaphors for integration in geography: A case study in mapping indicators of sustainability and wellbeing*, 2006

[18] Galton, "Desiderata for a spatio-temporal geo-ontology," 2003

[19] Eddy, "Integral geography: Space, place and perspective," 2005

[20] Wilber, *The collected works of Ken Wilber* (Vol. 6), 2000, p. 853 and *A brief history of everything*, 1996, p. 339

[21] It is important to clarify that at this stage of interfacing geography with Integral Theory (and the AQAL map, in particular), no strong association should be inferred among the relations of the idiographic and the individual, and nomothetic and the collective as portrayed here. It is recognized that individuals possess nomothetic patterns and structures, and collectives can exhibit idiographic patterns. What is conveyed here is that individual holons often "express" nomothetic patterns in highly unique and individualized ways, and that the nomothetic patterns are often derived from the study of collectives. A more advanced development of how these terms interface with Integral Theory is in preparation, which further interfaces geographical methodology with Wilber's eight zones of the Integral Methodological Pluralism (IMP) approach, as well as the use of quadrivia on collectives.

[22] As with the terms idiographic and nomothetic, the association of qualitative and quantitative methods with the Left and Right quadrants is a very general one. There are a variety of mixed methods that may be employed in all quadrants, and in some cases, it is understood that the terms "quality/qualitative" and "quantity/quantitative" can take on different contexts. For example, there are quantitative methods that are numerically-based, but may be applied to qualitative aspects of phenomenon. Some human geographers and other social scientists emphasize that qualitative methods are designed to gain access to "qualitative" aspects of the world, such as people's feelings, values, aspirations, etc. There are a number of quantitative techniques used within the qualitative methodology

toolbox for this purpose. Conversely, in the study of physical phenomenon in the Right-Hand quadrants, while the methodological foundation is most often quantitative, there are often qualitative elements used. For example, delineating qualitative levels of toxicity in water based threshold values in chemical data.

[23] It is important to note that, just as the terms "part" and "whole" take on different meanings for individual and social holons, so too do the terms "local" and "global" in each of the four quadrants. Not only are local-global relations defined differently in each quadrant, but their relevance to "size" and spatiality, as it pertains to the four intrinsic spaces of the AQAL framework (see figure 2), are different. These aspects will be elaborated in subsequent research.

[24] It is worth mentioning that in the context of inferring patterns in the collective from individual samples, the terminology used in spatial analysis refers to these aspects as 1st Order (individual, singular, object-oriented) and 2nd Order (pertaining to the influential "field" within which individual objects interact).

[25] This is to say that there are co-relations among these levels of moral span in terms of a person's inner space (i.e., degree of contraction) with those of the other quadrants. These spaces will theoretically show up in behavioural space in the UR quadrant and in the intersubjective and interobjective spaces of the LL and LR quadrants, respectively. To say that they are co-related does not imply that they are uniformly symmetrical. In reality, it is reasonable to expect asymmetrical relations to occur in individuals and collectives.

[26] What we can tentatively say at this time, is that the four intrinsic spaces add a spatial dimension to the temporal aspects of the four major zones and their corresponding subject-object relations. For example, a subjective feeling that a person may have at a particular moment can be objectified at a later moment; or as Wilber puts it, a subject of one moment becomes an object in a later moment. These subject-object relations can have a spatial "fluidness," or they be fixed in particular locations. For example, the notion of being able to "locate" or situate a subjective experience in the psyche in the UL can be challenging for both the patient and the therapist depending on the spaciousness and fluidity of the experience. This is where terms such as "occurants" and "endurants" in Galton's taxonomy may interface with the AQAL elements of states and stages. Adding these dimensions to the AQAL map will be necessary and will complexify its topology. Hence, another reason for the need for further thought and study in AQAL topology.

[27] For example, the use of the word "structure" is used in a variety of ways by human geographers that can be located in a number of quadrants. Marx's modes of economic production and associated class relations, or similar LR structures, are one common example.

[28] It is worth mentioning that in formal cartographic theory, the term "map" may take a variety of meanings and contexts. Maps are commonly thought of in terms of the artifacts (objects) of spatial reference, such as street maps, or those referencing states and capitals. There are also formal uses of maps as "metaphors" and as a process (i.e., to map the territory). The AQAL map finds utility with all three: reference, metaphor, and process/actualization that enables the bringing together of first-, second-, and third-person perspectives. The AQAL map is a type of postconventional cartography in that whereas most conventional cartographic theories tend to view the theory and practice of maps and mapping limited to utilities of visualization and communication, I have argued elsewhere (Eddy, *The use of maps and map metaphors for integration in geography: A case study in mapping indicators of sustainability and wellbeing*, 2006), that they also support and reinforce "actualization" processes.

[29] Sack, *A geographical guide to the real and the good*, 2003, p. 302

[30] Tobler, "A computer movie simulating urban growth in the Detroit region," 1970

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