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INTEGRATING THE MAJOR RESEARCH METHODOLOGIES  
USED IN SUSTAINABLE DEVELOPMENT

Barrett C. Brown

Integral University

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## Abstract

Eight major research methodologies for sustainable development are explained. An integration of the knowledge from each is claimed to provide the most comprehensive and inclusive understanding of sustainable development initiatives which is available to date. The eight major methodologies are: structuralism, phenomenology, empiricism, autopoiesis, ethnomethodology, hermeneutics, systems theory, and systems autopoiesis. The meta-methodology of using them all is called Integral Methodological Pluralism (IMP), and is part of Integral Theory, as developed by Ken Wilber. Seven other research methodologies are explained and contextualized within IMP. They are: quantitative and behavioral science research; ethnography; action research; evaluation research; comparative-historical inquiry; theoretical inquiry; and critical social science. The conclusion is that each of the eight methodologies of IMP provides unique, valid, and reliable data for sustainable development research and practice. To ignore any of them is to potentially risk overseeing forces or important dynamics that can support or thwart any sustainable development initiative. To include all of them is proposed as the next evolutionary step in sustainable development research and practice, one that is considered necessary if humanity is to achieve social, ecological, and economic sustainability worldwide.

## INTEGRATING THE MAJOR RESEARCH METHODOLOGIES USED IN SUSTAINABLE DEVELOPMENT

### An Introduction to Perspectives, Methodologies, and Integral Theory

In this paper I briefly review eight major methodologies to research, understand, and explain any phenomenon or occurrence. I do this within the context of sustainable development. My assertion is that as sustainable development practitioners we can use all of these methodologies to better understand and more comprehensively respond to our social, environmental, and economic challenges. By understanding and utilizing this integrated pallet of methodologies, we can develop extensive knowledge about the context in which we work, and therefore be more effective.

The eight major methodologies represent different ways to learn about and disclose the human and ecological environment which influences sustainable development initiatives. Yet in order to study any environment, we need to be able to see its general contours. Thus, before detailing the methodologies, I am going to delineate the unique perspectives that underlie them for understanding a phenomenon. Throughout the paper, I will explain the methodologies associated with each perspective, as they relate to sustainable development.

#### *Eight Fundamental Perspectives*

Each methodology is based upon an apparently irreducible perspective that can reveal important qualities, dynamics, and forces that influence the success or failure of sustainable development. Taken together, these perspectives are known as the *eight fundamental*

*perspectives.* (See Figure 1.) Wilber (2003c, p. 7) explains: “Far from being some sort of absti(ilbA.9d0.0005 To

systems for organizations). This initial acknowledgement creates the four quadrants in Figure 1, labeled as *intentional*, *behavioral*, *cultural*, and *social*.<sup>1</sup> Wilber (in press) summarizes the quadrants:

Taken together, this gives us the inside and the outside of the individual and the collective. These are often represented as I, you/we, it, and its (a variation on first-, second-, and third-person pronouns; another variation is the Good, the True, and the Beautiful; or art, morals, and science, and so on—namely, the objective truth of exterior science, or it/its; the subjective truth of

see the phenomenon in a certain way, and the methodology is how we gather the data for understanding and explaining that aspect of the phenomenon.

These eight major methodologies help us to understand and explain the intentional, behavioral, cultural, and social forces that affect sustainable development efforts. The more aware we are of all major forces at play, the greater chance we have of responding appropriately and succeeding in bringing about sustainable development. My thesis, then, is that by viewing a sustainable development initiative through the eight fundamental perspectives—and by using these eight major methodologies to comprehensively disclose knowledge about the initiative—researchers and practitioners can more effectively tailor their assessment, program design, and implementation. This, in turn, helps to ensure a greater chance of enduring success.

*Figure 2: Eight major methodologies.*

Source: Wilber (in press). Courtesy Integral Institute.

The eight methodologies represent the main families of research methods that one can utilize. Certainly there are other research approaches, but these are some of the more historically significant (Wilber, 2003a). Each is a unique culture of inquiry—based upon one of the eight fundamental perspectives—which reveals an aspect the others cannot. The practice of using all of these methodologies together to gain a comprehensive understanding of any phenomena is called *Integral Methodological Pluralism* (Wilber, 2003a).

The eight major methodologies are: *phenomenology*, *structuralism*, *autopoiesis*, *empiricism*, *hermeneutics*, *ethnomethodology*, *social autopoiesis*, and *systems theory* (Wilber, in press). The usage of these terms here differs slightly from their use in other contexts, but an explanation is provided below for each, with examples.<sup>2</sup>

### *Integral Theory*

Integral Methodological Pluralism (IMP) is a meta-methodology and is set within the larger framework of *Integral Theory*, as elucidated by the philosopher Ken Wilber. Integral Theory is the result of over 30 years of inter- and transdisciplinary scholarship in which Wilber and others have begun to integrate and synthesize knowledge and research from many domains of inquiry, including: biology, psychology, sociology, anthropology, philosophy, neuroscience, and Eastern and Western—as well as ancient and modern—spirituality (Wilber, 2000a). It is an effort to comprehensively map the interiors and exteriors of individuals and collectives.<sup>3</sup>

### *Overview of this Paper*

The first section of this paper provides an introduction to each of the eight major methodologies, within the context of sustainable development. I first give an overview and then

identify to which kinds of questions about sustainability each methodology is best suited. This is followed by some perceived strengths and weaknesses, and resources for further learning.

The second section reviews seven other common research methodologies and contextualizes them within the larger framework of IMP. The seven other approaches are: quantitative and behavioral science research; ethnography; action research; evaluation research; comparative-historical inquiry; theoretical inquiry; and critical social science. I explain each, show their relation to IMP, and offer resources for learning more.

I conclude that because each methodology reveals unique knowledge about a sustainable development initiative, none should be ignored and all should be utilized—as much as is practical. I assert that this practice allows practitioners to better understand the context in which we are working, and therefore more effectively implement sustainable development initiatives.

## Eight Major Methodologies for Explaining and Understanding Sustainable Development

*Phenomenology: Methodology for Understanding Intention from the Inside*

*What is the sense of place one has toward a particular environment? How do I feel about and what do I think about this social initiative? What does one experience upon walking into a building; what internal sensations, emotions, memories, inspirations, and thoughts arise? Why am I here, doing this sustainable development work?*

These are the types of questions around sustainable development which phenomenology can help answer. Phenomenology is a way to explore the direct interior experience of a person as seen through their eyes, felt through their body, thought through their mind, and lived through their being. In practicing phenomenology, one strives to create as pure an understanding of the subject's experience as is possible, attempting to filter out social and intellectual constructs (Bentz & Shapiro, 1998). Phenomenological inquiry unveils individual meaning and personal experience, such as: what someone thinks, perceives, is aware of, feels, dreams for, believes, and holds true. It maps out the contours of the first-person perspective—the “I”—from a first-person perspective (Wilber, 2003c). Whether it be the internal felt-experience of gross physical movement or that of subtle impulses and intentions, phenomenology helps a researcher to understand the view from within an individual (human or any organism).

There are two general approaches to phenomenology. One approach aims to reveal and delineate the scholar-practitioner's experience of her own reality. This requires that she become aware of an experience as it unfolds, and use practices such as introspection, reflection, and meditation to deepen her self-knowledge. This self-knowledge, in turn, consciously or unconsciously influences and informs her practice in the field of sustainability (Riedy, 2005).

For example, the greater my awareness of the rootedness and connection I have for a place, the more passionately I will strive to care for it. In another

how that person's mind crafts them. As such, it is useful for creating understanding between parties (Bentz & Shapiro, 1998) or deepening self-knowledge through intrapersonal dialogue.

*Weaknesses.* Phenomenology does not try to explain what is actually happening in someone's experience, it only describes it. This gives it limited capacity when trying to reveal how pervasive an attitude or behavior is, or when trying to predict or control a situation (Bentz & Shapiro, 1998). Thus, in order to help predict whether someone will act sustainably, we need to rely on data from other methodologies.

*Further Information.* The founder of phenomenological philosophy is Edmund Husserl (1859-1938); Heidegger, Sartre, and Merleau-Ponty were early contributors to discussions about it (Spiegelberg, 1982 as cited in Creswell, 1997). At the turn of the 20<sup>th</sup> century, William James gave one of the most rigorous treatments of the area in consciousness which phenomenology addresses (Wilber, in press). For a brief introduction, consider Don Ihde's (1986) *Experimental Phenomenology: An Introduction*. The State University of New York press has an entire series in environmental and architectural phenomenology.

### *Structuralism: Methodology for Understanding Intention from the Outside*

*How do the worldviews of employees influence their core motivation for engaging in sustainable behavior? How do we design and align our sustainability systems so that they are appropriate to cognitive developmental level of the stakeholders involved in those systems? In what ways is a sustainability leader becoming psychologically stuck, and how do we promote her healthy psychological development so that she can be even more effective?*

To answer questions like these, sustainability scholar-practitioners rely upon research acquired through structuralism. Whereas phenomenology looks at the contents of the mind or the

phenomena that arise in experience, structuralism explores the patterns—or structures—of direct experience and then attempts to identify the stages of their development. These structures in consciousness influence and direct the phenomena without ever being noticed by the mind (Wilber, in press).

Structuralism studies the behavior of someone’s subjective experience, but from an objective, third-person, “outsider’s” perspective.<sup>5</sup> It does so over long periods of time, to discern which patterns unfold, and in what sequence. Examples of patterns that structuralists have found include: Abraham Maslow’s hierarchy of needs, Lawrence Kohlberg’s stages of moral development, Carol Gilligan’s three stages of female moral development, Jean Piaget’s levels of cognition, Robert Kegan’s five orders of consciousness, Howard Gardner’s work with multiple intelligences and their development, Clare Grave’s eight levels of values, and Jane Loevinger’s path of ego-development (Wilber, 2003d). The practice of structuralism is as follows, as described by Wilber (in press):

Pose a series of **questions** to large groups of people. See if their **responses** fall into any **classes**. If so, follow those classes over time and see if they emerge in a sequential order of **stages**. If so, attempt to determine the **structure** or makeup of those stages. (p. 18)

In most cases sustainability scholar-practitioners won’t apply structural developmental methods, but rather draw upon the work of researchers such as those mentioned above. Together, phenomenology and structuralism are ways to understand the internal and external facets of the intentional—or “I”—aspects of a sustainable development initiative.

It is profoundly useful to understand and apply structuralism research for sustainable development issues. Piaget was the first to identify how different cognitive structures bring forth

different worlds—worlds which are assumed given by the subject, but are in reality created by structures of consciousness (Wilber, 2003d). Other researchers studied different lines of psychological development (morals, values, needs, ego, etc.). Taken together, this research reveals the psychological structures—the lenses or mental models—through which people create their understanding of social and ecological issues, whether it be energy use, resource efficiency, policy, education, or economic development (Riedy, 2005).

Different stakeholders, because of varying psychological makeup, literally see sustainable development issues differently. In order to create mutual understanding around—and movement toward—social, ecological, and economic goals we need to be aware of these different lenses and adjust accordingly. Using Jane Loevinger’s ego-development model, fundamentalist Christians at the conformist stage of ego-development will see a different world than an entrepreneurial business person at the conscientious stage. To encourage someone to move willingly toward a socio-economic or environmental goal requires, among other things, that one frame the goal so that it resonates with the way that person sees the world. These lenses, which reveal different worldviews, are invisible to the person himself. As such, phenomenological methods won’t identify them; structuralism is the method that will.

*Strengths.* None of the patterns of the psyche can be easily identified by the other major methodologies. This makes structuralism an invaluable research tool for not only creating the mutual understanding requisite for sustainable development, but also for mapping out the developmental trajectory and maturity of our own psychological development and that of stakeholders. Structuralism shows us where we have been with our consciousness, and where we might go. It does, therefore, offer some predictive capacity and can be used—with other

methodologies—to help forecast how someone will likely interpret and behave with respect to a social, economic, or ecological initiative.

*Weaknesses.* While structuralism allows us to see the interior development of individuals (and collectives) over time, it is blind to development in the exterior world, such as that of the physical body or ecosystems. Structuralism also faces the limitation that a person can only see aspects of reality which have been brought forth by the developmental levels through which that person has already passed. The worlds revealed by higher developmental levels remain invisible to those who haven't achieved that stage of interior development. Ecological awareness—such that one fundamentally cares for the environment for the sake of the environment itself—comes forth in later, worldcentric stages of psychological development. This depth of care for the environment (and humanity)—which would accelerate our development of a sustainable society—is invisible and not experienced by those who don't hold at least a worldcentric awareness (the vast majority of humanity). Thus structuralism, as a method, can only reveal that which we are capable of seeing. Consciousness itself obscures the developmental levels above us which potentially hold the capacities we need to respond to today's global complexities (Wilber, 2003d).

*Further Information.* James Mark Baldwin was the first psychological structuralist and a contemporary of William James. Baldwin taught courses to Jean Piaget, whose work on the cognitive development of children lay the groundwork for much of modern day structuralism. In premodern times, Plotinus was a classical structuralist in the West, and Nagarjuna and Shankara are salient representatives from East

*Psychology*, Wilber briefly delineates 100+ of the most important developmental models with a structural dimension (Wilber, 2000b).

*Autopoiesis: Methodology for Understanding Behavior from the Inside*

*What qualities of the physical environment are required for organisms to flourish in their capacity to self-organize, self-regulate, and self-develop? How do we best support the physical health and ability to physically self-renew of sustainability practitioners and the stakeholders in a sustainability initiative? How do environmental toxins disrupt the life force of organisms in an ecosystem?*

By studying autopoiesis, sustainability practitioners can better respond to these types of questions. From the perspective of IMP, autopoiesis strives to represent a third-person perspective on the interior view of an organism. It is sometimes called biological phenomenology because it attempts to objectively describe the experience—the inner choices—of an organism as it engages with and brings forth its environment (Wilber, 2003c). Autopoiesis literally means “self-making”. It describes the way any living system (such as a cell or organism) creates and re-creates itself, self-regulates, self-organizes, and develops itself by replacing or transforming its components (Capra, 1996; 2002). According to Capra (1996; 2002),

[Autopoiesis] is a network of production processes, in which the function of each component is to participate in the production or transformation of other components in the network. In this way the entire network continually “makes itself.” It is produced by its components and in turn produces those components...The defining characteristic of an autopoietic system is that it

undergoes continual structural changes while [maintaining] its overall identity, or pattern of organization. (p. 98 & pp. 34-5)

There are two types of structural changes that the components in the network undergo: self-renewal and novelty. Living organisms constantly renew themselves as cells break down within tissues and organs and are subsequently replaced (Capra, 2002). For example, in six months' time, all of the skin cells on my face will be completely new. Yet the pattern of my face remains the same due to the self-regulating aspect of my body, which acts as an autopoietic system.

Yet living systems also create novel structures—fresh connections in the autopoietic network. These are continuous developmental changes and occur as a result of either environmental influences or because of internal dynamics within the system (Capra, 2002). Thus, the skin on my face can become sunburned due to external conditions, or it can show signs of disease or aging if internal processes in my cells aren't healthy.

Sustainability practitioners are not likely to engage in autopoietic research, but rather draw upon its findings. It is vital to recognize and work with the capacity that organisms have for self-renewal, self-regulation, and even self-transformation. According to the theory of autopoiesis, living systems are structurally coupled to their environment. They are autonomous, but the environment can and does trigger structural changes. If the environmental influences upon an organism become too extreme, then the autopoietic system itself can permanently fail, causing death. An example of this is when cows are fed recycled animal tissue and can develop the degenerative brain disease known as Mad Cow Disease. Another example is toxic waste that causes rapid deterioration of organisms in an ecosystem.

Conversely, if the environment is optimally healthy, then the organism can flourish, adapt, and develop. Therefore, sustainability practitioners are well served by learning how

autopoietic systems work and what can be done to facilitate their operation. As an example of how autopoiesis is used for—and inspires design for—sustainability initiatives, consider the following. Part of the vision for sustainability is to create environments that promote the healthy development of organisms and discourage the buildup of waste that no one wants. Several schools of thought in sustainability promote agricultural and industrial design in which the waste of all production processes serve as the nutrients for other production processes.<sup>6</sup> A “design principles of Nature” cited by one of these schools—ZERI (Zero Emissions Research and Initiatives)—is that no kingdom in nature (animal, plant, bacteria, algae, fungi) eats its own waste. Rather, the waste of one kingdom should (and often do) serve as food for another kingdom (e.g., fungi which grow on dead biomass, or bacteria that breakdown human waste). ZERI is attempting to support the autopoietic process in organisms to help them flourish yet also create value by designing super-efficient, zero-waste production processes.<sup>7</sup> Additionally, ZERI uses the idea of autopoiesis as an inspiration, citing that sustainability is only the stepping stone toward global ecological and human social systems which are structurally coupled yet also self-organizing, self-regulating, self-renewing, and self-transforming.<sup>8</sup>

*Strengths.* Autopoiesis is the only family of methodologies which reveal the choices an organism makes in response to its environment, and which explores the entire process of its self-regulation, self-organization, and self-transformation. It’s the sole lens we have to see the objective experience of organisms, to try to understand its first-person nature, activity, and agency (Wilber, 2003c).

*Weaknesses.* Autopoiesis is a highly theoretical field and requires considerable training in biology, cognitive studies, and cybernetics to fully understand and engage in. While in some camps autopoiesis is claimed to represent the interior experience of organisms, it actually only

represents the objective experience of an organism in relation to its environment and self. It does not provide any evidence about the subjective experience of that organism, or the interobjective or intersubjective experience (Wilber, in press). To understand those areas requires different epistemological methodologies.

*Further Information.* Autopoiesis theory was developed by Chilean biologists Humberto Maturana and Francisco Varela. For an overview, see Fritjof Capra's (1996) *The Web of Life: A New Scientific Understanding of Living Systems*. A core text is *The Tree of Knowledge: The Biological Roots of Human Understanding* (Maturana & Varela, 1987). Serious scholar-practitioners should read *Autopoiesis and Cognition: The Realization of the Living* (Maturana & Varela, 1980).

*Empiricism: Methodology for Understanding Behavior from the Outside*

*What is the behavior required by all stakeholders to achieve maximum energy efficiency in this process? How physically healthy are children before we begin this immunization drive? What is the level of carbon dioxide in the atmosphere in this particular sample? How do I need to behave to demonstrate my sustainability leadership capabilities to the other stakeholders? How does my energy level affect my capacity to do my sustainable development work?*

The search for answers to these types of questions leads us to the empirical approach to understanding reality. Empiricism is shorthand for a family of methodologies that includes sensory empiricism, behaviorism, and positivism (Wilber, 2003a). Most of the natural sciences which focus on behavior fall into this category. These range from studies of the behavior of physical elements and forces (physics, chemistry), to those of living elements (biology, biochemistry), to studies in brain behavior (neurophysiology, neuroscience, cognitive science).

In the context of IMP, empiricism is focused on understanding the external reality of an individual phenomena and/or its behavior. Together, autopoiesis and empiricism are ways to understand the internal and external facets of the behavioral—or “it”—aspects of a sustainable development initiative.

The objective realities that empiricism looks at are best revealed through observation, such as measurement, laboratory observation, field research, and chemical testing. “Empiricism examines the outside of behavior and relies on the senses, especially sight, and their extensions (e.g., microscopes and telescopes) to record data” (Esbjörn-Hargens, in press, p. 25). Empirical methods use direct sensory experience to discover knowledge about an assumed, pre-given world. In psychology, behaviorism is an empirical method which is based upon measurable and observable data. Positivism is a traditional example of empiricism, as it contends that theory must be grounded in the data of experience, and that knowledge can only be obtained through experimentation and direct observation (Riedy, 2005).

This mode is often used and is valuable for understanding sustainable development initiatives and their context. For example, to identify the specific behaviors that are required by stakeholders at all stages of the process is an empirical approach. Most attempts at “hard” measurement that concern individual phenomena or behavior, such as identifying the levels of different greenhouse gases in the atmosphere or determining the degree of a child’s nutritional uptake, are empirical in nature. The empirical approach is one of the easiest approaches to use to understand sustainability initiatives, as it relies so much on what we can physically observe about individual aspects of the world. As such, sustainability practitioners are more likely to generate their own research results using this approach, while also drawing upon others’ empirical investigations.

*Strengths.* Empiricism allows for the best understanding of the exterior reality of individuals and individual phenomena. No other approach gives as much information about behavior or the physical aspects of an entity. Empiricism looks at reality through one of our most obvious lenses, so it is an easier approach to engage in than many others. Another advantage is that empirical results are independent of the interior developmental level of the individual or culture which is being studied. For example, a diamond will cut through glass whether it is being done in a premodern culture, a modern culture, or a postmodern culture (Wilber, 2003a).

*Weaknesses.* Because empiricism is such an obvious way to try to understand phenomena, and due to its heavy use in modern society, researchers may be tempted to stop inquiring into reality beyond the quantitative results empiricism delivers. Ironically, this strength of accessibility can become a liability because researchers may privilege the results from empirical research over the results from other modes of knowing. This can result in a lopsided and incomplete understanding of reality (Wilber, 2003a).

*Further Information.* To learn more about the practice of empiricism, consider starting with Bausell's (1986) *A Practical Guide to Conducting Empirical Research*. For a solid introduction to the behavioral-science, empirical-analytical approach to inquiry in the human sciences, refer to Kerlinger's (1979) *Behavioral Research: A Conceptual Approach* (as cited in Bentz & Shapiro, 1998).

### *Hermeneutics: Methodology for Understanding Culture from the Inside*

*How are environmental laws, the Constitution, or religious texts being interpreted so that they support or thwart this sustainability initiative? How do we maintain mutual understanding amongst the businesses, governance, civil society organizations, and faith-based groups that are*

*collaborating on the Millennium Development Goals? What does this social program mean to you; how do you interpret its impact on your life and how do you understand it to be important?*

Questions like these, which require understanding another person, a context, or a text, are best answered using hermeneutic inquiry. Whenever we need a deeper understanding of context, we draw upon hermeneutics—the art and science of interpretation (Bentz & Shapiro, 1998). In the parlance of IMP, hermeneutics is the study of the inside of a “we” (Wilber, 2003c). It takes a first-person plural perspective on the first-person plural realities of a collective. Hermeneutics considers what the insides of cultures look like and strives to understand the mutual resonance and shared meaning that arises between individuals (Esbjörn-Hargens, in press). In practice, these individuals striving to understand each other may be contemporaries, or one may no longer be alive and is represented by their written text or other expression.

Hermeneutics is often used as a principal way of interpreting texts, art, media, symbols, language, or other forms of human expression. Yet in its most common use, we use hermeneutics to understand each other (Bentz & Shapiro, 1998). When I ask, “what do you mean?”—and we dialogue until reaching mutual understanding—we have engaged in hermeneutic inquiry. By utilizing hermeneutics, we can uncover the cultural, religious, or philosophical meaning systems that guide people’s lives (Esbjörn-Hargens, in press).

The practice of hermeneutics is considerably different than that of objective empiricism, which calls for researchers to distance themselves as much as possible from that which is studied. Hermeneutics contends that the closer one can get to the object of study (a text, another person’s worldview, the context of a situation, etc.), the greater chance for accurate understanding and valid interpretation (Bentz & Shapiro, 1998). As a result of this intrinsic movement “toward” the object of study, hermeneutics itself is becoming an increasingly

comprehensive methodology. Johan Gustav Droysen, in the nineteenth-century, proposed that a complete hermeneutics must offer four levels of interpretation: (a) that of the immediate consequences; (b) psychological interpretation of motives; (c) social and cultural interpretations; and (d) moral and ethical interpretations (Bentz & Shapiro, 1998). Bentz and Shapiro (1998, p. 108) suggest adding “economic, anthropological, biological and other levels” to Droysen’s frame. IMP itself is a meta-methodology for generating as comprehensive an understanding as possible. This “Integral hermeneutics” suggests that we achieve a more accurate and complete interpretation by knowing an event through each of the epistemological methodologies of IMP: phenomenology, structuralism, autopoiesis, empiricism, hermeneutics, ethnomethodology, social autopoiesis, and systems theory.

The application of hermeneutic inquiry often consists of recording that which we are studying, so that we can return to it over and over to uncover new layers of meaning. Hermeneutics is an “openly dialogical” process, where we ask more questions of the subject or inquire into the object again and again; each new encounter offers the opportunity for a deeper understanding to come forth (Bentz & Shapiro, 1998). Hermeneuticists must develop mutual understanding and solidarity with the member(s) of the group being studied; this requires a degree of participation with the group, or some form of membership. Yet the researcher must also uncover the implicit contexts that undergird and inform the values and system of meaning-making (Riedy, 2005).

Hermeneutics is vital for sustainable social, ecological, and economic development. Our need to learn to understand each other and achieve mutual understanding toward common goals is far greater than our need for more scientific studies of our challenges. As Wilber (1996) notes,

Before we can even attempt an ecological healing, we must first reach a *mutual understanding* and mutual agreement amongst ourselves as to the best way to collectively proceed...“Saving the biosphere” depends first and foremost on human beings reaching mutual understanding and unforced agreement as to common ends. And that intersubjective accord occurs only in the noosphere. Anything short of that noospheric accord *will continue to destroy the biosphere...*

Gaia’s primary problems and threats are *not* pollution, industrialization, overcultivation, soil despoliation, overpopulation, ozone depletion or whatnot. Gaia’s major problem is lack of mutual understanding and mutual agreement *in the noosphere*. (p. 143 & p. 514)

Hermeneutics is crucial for communicating about ecological and socio-economic issues as well. As we come to understand the worldview of the stakeholders with whom we work toward sustainable development, we can better tailor our communications in a way that resonates with their value system and deepest motivational structures (Brown, in press).

Finally, hermeneutics is a tool for self-development, which in turn supports sustainable development. The developmental psychologist Susann Cook-Greuter (personal communication, 2004) notes that as our ego develops (expanding and complexifying our worldview), our capacity to take perspectives increases. I am going to propose the corollary, that as we learn to take more perspectives, it aids our ego development, and helps to expand our worldview. Through hermeneutics we learn to understand the perspective of the “other”; the greater facility with which we can do that, the wider our worldview will grow. An expanded worldview is required to understand and respond to the complexity of today’s—and tomorrow’s—social, ecological, and

economic challenges. Thus the practice of hermeneutics will help foster sustainable development.

*Strengths.* Hermeneutics is the master key to mutual understanding, which lies at the heart of all collective progress. It is the only perspective which reveals the inside of cultures, and it is in these depths that the seeds of all social expression are cultivated.

*Weaknesses.* As hermeneutics is focused on interpretation, it is not useful for prediction and immediate control. However, the mutual understanding that it can bring about is vital for a loose control over an initiative involving multiple stakeholders; if people don't understand each other, mutual goals are not likely to be achieved.

*Further Information.* Wilhelm Dilthey, Martin Heidegger, Hans-Georg Gadamer, Jürgen Habermas, and Paul Ricoeur (Howard, 1982; Wilber, 2003c) are the principal theorists in hermeneutics. Bentz and Shapiro (1998) provide a solid overview in *Mindful Inquiry in Social Research*. For a more comprehensive introduction, consider *Three Faces of Hermeneutics*, by Roy Howard (1982).

#### *Ethnomethodology: Methodology for Understanding Culture from the Outside*

*Why have some cultures historically invested in social development or consistently reused products? What is the transitional path to a new (organizational or societal) culture which would support an ecological worldview? What type of spokesperson for this sustainable development initiative will be most effective in this particular culture?*

Ethnomethodology is the key perspective required to uncover answers to these types of questions. Ethnomethodology is the name for a family of research methods that take a third-person perspective on the shared interiors of groups: their cultures. That is, they attempt to

understand the interior aspects of a “we” from an external, objective perspective, from outside the culture itself. Ethnomethodology is to hermeneutics what structuralism is to phenomenology. These approaches all look at the interiors of either collectives or individuals, but ethnomethodology and structuralism take an “outsider’s” (third-person) perspective on those interiors, while hermeneutics and phenomenology consider the “insider’s” (first-person plural and singular, respectively) viewpoint. Together, hermeneutics and ethnomethodology are ways to understand the internal and external facets of the cultural—or “we”—aspects of a sustainable development initiative.

Ethnomethodological approaches inquire into the structures that cultures are made of, their patterns of expression, and their paths of development. They aim to identify the interior rules and patterns (structures) followed by a group (Riedy, 2005). Wilber (2003d, p. 17) notes that the classic, and most influential, approach to looking at a “we” from the outside is structuralism (as traditionally defined).<sup>9</sup> Other approaches which take this perspective include archaeology, cultural anthropology, ethnography, genealogy, and discourse analysis (Riedy, 2005).<sup>10</sup>

The actual practice of ethnomethodology varies with each approach. Structuralism as applied to groups is similar to how it is applied to individuals, described above. A cultural anthropologist may live with a group she is studying for months or years. Through observation and interviews she may document exterior expression—such as how people produce food, engage in commerce, and develop institutions—as well as identify attitudes, beliefs, types of communication and the interior aspects of the culture (Bentz & Shapiro, 1998). A scholar-practitioner engaging in discourse analysis will analyze language—written and oral—to reveal

aspects of the cultural structure (Riedy, 2005). The intention is to understand how language brings about activities, perspectives, and identities (Gee, 1999 as cited in Riedy, 2005).

Examples of using some of these methods to better understand sustainable development issues follow. In the section on structuralism above I explain how structuralism can be used, for example, to identify the level of interior development of individuals (such as their cognitive, moral, or ego development). The discussion around a socio-economic or environmental initiative can therefore be framed in a way that is tailored to the stage of development of stakeholders. Structuralism can also be used to better understand the interiors of groups with respect to sustainable development. For example, it can unveil the rules by which a group operates, or the norms they follow. Thus, any new environmental initiative, in order for it to achieve an enduring acceptance by the group, must be introduced in a way that follows the group's rules and norms.

Consider another example. Sometimes the expression of the culture of an organization or community results in environmental damage. The leadership (at the "top" or grassroots leadership) may want to shift the culture so that its expression is more environmentally benign or even restorative. To do so requires first understanding the path of cultural evolution, so that the subsequent, appropriate, stage of cultural development can be introduced. Without knowing the stages of cultural development (which structuralism has identified), too radical a change may be suggested. This, in turn, may not gain the necessary traction and endure because it isn't appropriate to the current stage of cultural development.

A simple example of one way cultural anthropology can be used to support a social or environmental initiative is to look at the ideological culture of a group (their shared beliefs, values, ideals; their culturally unique ways of thinking). Do the people in that culture rely upon traditional religion to define their values? Do they practice secularism, in which their beliefs and

values come from observing the natural world? (Bodley, 2003) Or is it some combination of both? Education about a new social initiative has a greater chance of succeeding if it is tailored to the ideological cultu

writings have only been available on-line. Chris Riedy (2005), in his Ph.D. thesis on an Integral approach to sustainable development, does the most comprehensive overview of which I am aware of ethnomethodology and its application to social and environmental issues. Riedy, writing before Wilber introduced “ethnomethodology,” uses the term “cultural studies” for this family of methodologies. There is extensive scholarship on the approaches that are part of ethnomethodology, such as the various schools of structuralism, cultural anthropology, ethnography, and genealogy. A list of recommended readings for those approaches is beyond the scope of this document.

*Social Autopoiesis: Methodology for Understanding Society and Systems from the Inside*

*How can sustainability practitioners become more flexible in their roles, so that they lead when necessary, bring forth their creativity when appropriate, and follow when needed? How can we support the healthy development of communications networks among humans, animals, and within ecosystems? How do we understand the self-regulating capacity of the atmosphere as it responds to greenhouse gases?*

To answer these types of questions requires inquiry with social autopoietic methods. Social autopoiesis is the application of autopoiesis (described above) to social systems. The practice places the researcher inside a system to objectively understand the experience of the system itself as it responds to the outside environment. This “insider’s view” is contrasted with the methods of systems theory, which provide the external perspective on social systems (Wilber, 2003c).

In autopoiesis, the different components that make up the autopoietic network are physical objects, such as the organelles of a cell or the organs of a body. However, in social

autopoiesis, the components that make up social networks are communications between organisms (Wilber, in press). Capra (1996) highlights Luhmann's (1990) insights on this,

Social systems use communication as their particular mode of autopoietic reproduction. Their elements are communications that are recursively produced and reproduced by a network of communications and that cannot exist outside of such a network. (p.212 in Capra)

Each communication interacts with others and subsequently “creates” new communications. This leads to self-generating networks of communications. In time, as communications feedback loops arise, a common context of meaning develops (shared beliefs, values, explanations, etc.). In autopoiesis, a physical boundary forms—such as a cell membrane—around the components. Social autopoiesis leads to the creation of a boundary as well—as Capra (Capra, 2002) clarifies:

Through this shared context of meaning individuals acquire identities as members of the social network, and in this way the network generates its own boundary. It is not a physical boundary but a boundary of expectations, of confidentiality and loyalty, which is continually maintained and renegotiated by the network itself. (p. 83)

Consider, for example, the organizational system of a civil society organization (CSO) which is focused on sustainable development issues. The conversations that ensue will beget further conversations, forming self-amplifying feedback loops. As people further engage with each other, they “self-produce” the roles by which they define themselves and a shared understanding emerges of how they will interact—the boundary. With continued conversation, roles and the boundaries are renegotiated and maintained by the communication network (Capra, 1996).

Like autopoietic systems, social autopoietic systems are simultaneously autonomous from the environment, yet also totally dependent upon it (Bausch, 2001). They are thus structurally coupled. The boundary is permeable, and the system is influenced by environmental forces. Therefore, in the same way that we can create a physical/biological environment that supports the autopoietic systems of an organism, we can create a communications environment that ultimately serves the healthy development of the roles that people define for themselves within an organization.

Many sustainability issues are extremely complex and adequate response to them often requires that different leaders with relevant skills emerge for different contexts. Thus, a sustainability organization will be well served if its members are able to flexibly move into different roles, depending upon the situation, and come forth with their creative energy and leadership. The study of social autopoiesis can aid this organizational development effort. One example is to invite informal conversations to flourish by providing the requisite social space. The more networks of communications in which people are involved, the more roles they will identify with. These social spaces can include special areas or rooms for informal gatherings, internet chat rooms and discussion forums, retreats, after-hours social events, and the company publications (Capra, 2002).

Likewise, sustainability practitioners can also help the social autopoietic systems of ecosystems to flourish. Chemical fertilizers can disrupt the roles that microbes, bacteria, and fungi play in decomposing and revitalizing the soil—their relationships may shift profoundly if they find themselves in a toxic or overly fertilized area. Noise pollution can disrupt the communications network between birds—because they can't hear each other—and drive them to search out new areas to live. Human settlements that weave their way into wilderness can cause

confusion for migrating animals. These types of problems can be identified and better responded to if sustainability practitioners learn to use the lens of social autopoiesis.

Social autopoiesis is also useful for understanding the experience from within technological, institutional, or planetary life systems. Riedy (2005) identifies literature which uses a social autopoietic perspective to understand the self-regulation and self-maintenance of the technological and institutional systems that have arisen around the use of fossil fuels. The experience from within these systems is that of “carbon lock-in”, where the systems are structured in such a way that they support the consumption of and investment in fossil fuels despite the presence of viable options. Riedy also notes that Lovelock’s (1987; 1988) Gaia theory claims that the global system of living organisms and physical materials has self-regulatory properties. Anthropogenic emissions of greenhouse gases may be disrupting the self-regulative capacity of the atmosphere, thus damaging the social autopoietic system. Thus, by taking the role of the system itself as it is required to respond to environmental challenges, we can glean important insights into the design of ecological and social systems, and the implementation of sustainability initiatives.

*Strengths.* Social autopoiesis provides a unique and valuable perspective on reality—that of the “inside view” of a system. Without it we are unable to understand the objective experience of our ecosystems, atmosphere, social systems, even economic systems as they face continuous and dynamic pressures from all dimensions.

*Weaknesses.* Like the other methodologies identified in this document, social autopoiesis only relies upon one out of at least eight major perspectives on reality. Scholar-practitioners may be subject to “blindness” or perspectival absolutism if they predominantly see the world through social autopoiesis. This method of inquiry is also only available to people of a certain degree of

cognitive development—the capacity to be aware of systems of systems. Whereas everyone can do phenomenological inquiry by paying attention to what they feel, not everyone can hold systems of systems as a perspective.

*Further Information.* Social autopoiesis was pioneered by German sociologist Niklas Luhmann with the release of *Social Systems* (1984) and *Essays on Self-Reference* (1990). Practitioners should first become familiar with the autopoiesis literature (see above). Two of Fritjof Capra’s books (Capra 1996; 2002) provide a light overview of social autopoiesis and the latter has some applications. Medd (2000 as cited in Capra, 2002) delineates an in-depth review of Luhmann’s theory in his Ph.D. dissertation.

*Systems Theory: Methodology for Understanding Society and Systems from the Outside*

*What architectural style will be most conducive to teaching people about environmental issues? What structures are required to unleash the creativity of a community around their social and environmental sustainability challenges? What is the ecological carrying capacity of this watershed; at what point will it not be able to absorb pollutants and still function effectively?*

Sustainability practitioners require systems theory in order to formulate comprehensive responses to these types of questions. Systems theory studies the outside of systems, providing a third-person perspective on them. Together, social autopoiesis and systems theory are ways to understand the internal and external facets of the social—or “its”—aspects of a sustainable development initiative.

Instead of observing an individual thing and its behavior in response to other entities, this methodology considers differing, interacting entities and studies their behavior *as a whole*, under varying influences (Laszlo, 1972b). A system is “an interrelated, interactive grouping, structured

such that a change in one part of the group affects some or all of the others.” Systems theory looks at how systems are organized—their structure—and how they work—their function (Rohmann, 1999, p. 395). It studies the relationships between individual things; that is, how those relationships are formed and how they develop over time. As such, beyond being descriptive, systems theory can also be prescriptive in an attempt to correct dysfunctions in a system.

One of the unique qualities of systems is that they have irreducible properties that differ from those of its parts or members (Laszlo, 1972b). For example, salt has a taste which neither sodium nor chloride exhibit. A wetland cleanses toxins from the water and slows an incoming storm surge in ways that its individual elements cannot. A word has meaning far beyond that of each of its letters. If a system is broken apart—physically or theoretically—these properties are destroyed. As such, “the nature of the whole is always different from the mere sum of its parts” (Capra, 1996, p. 29).

The general method for working with systems theory is to 1) choose an aspect of the world to study, 2) identify a reasonably sized set of systems that occur in it (physical, biological, sociological, etc.), and then 3), study it for observable regularities (Laszlo, 1972a). Many disciplines have been built around applying the core ideas of systems theory. These include cybernetics (with its focus on feedback loops and positive and negative causal links), information theory (which studies how to get a coded message through a noisy channel), and game theory. Specific methodologies for working with systems have developed which include modeling, system dynamics, systems engineering, systems analysis, and systemic management (Capra, 1996).

Von Bertalanffy (1968) talks of systems as composed of a suprasystem which has many subsystems. Each subsystem is organized differently, and has its own unique purpose, thus the subsystems can both compete and cooperate. Organizations, families, and ecosystems are all interactive, open systems, which means that they 1) need input from the environment (such as energy) and 2) respond as it changes. Sustainability practitioners who use this lens will see the behavior of each member of the system (organization, ecosystem, etc.) as influencing the whole. By working to improve the energetic input and/or the communication and relationships amongst the members, the system will function better. This improves the chances for social and environmental sustainability. Systems theory is widely used for sustainability related issues: most approaches to ecology utilize it (Esbjörn-Hargens, in press), modern economics depends on it, and it is at the core of many sociological studies. Arguably the most famous environmental theory—the Gaia hypothesis—is grounded in systems theory (Lovelock, 1987; 1988).

*Strengths.* Systems theory is contextual, in that it requires an understanding that is beyond analysis. Analysis is the deconstruction of something in order to know it—a focus on the building blocks. Systems thinking requires a view of the larger whole, the context, in order to understand the basic principles of organization and the emergent properties (Capra, 1996). One of its greatest strengths is that systems theory reveals the structure and function of systems—and uncovers their emergent properties—a feat that no other epistemological methodology can claim.

*Weaknesses.* Systems theory seems to often be overextended—applied beyond the realm of studying the exterior of interobjectivity, and is even used to reduce all of reality to systems. This propagates the reductionist tendencies of atomism that systems theory itself emerged to counteract. Atomism is gross reductionism—it reduces reality to indivisible units; systems theory can be used for subtle reductionism, turning the beauty, diversity, and mystery of all of the other

aspects of reality into observable relationships amongst entities. Systems theory can also confuse individual holons with social holons, and treat them in a similar fashion.<sup>12</sup>

*Further information.* Systems theory was developed in large part in the 1920s and 30s by organismic biologists, Gestalt psychologists, and ecologists (Capra, 1996). As applied to psychology, it was pioneered by Ludwig von Bertalanffy—an Austrian-Canadian biologist—with his 1968 book, *General Systems Theory* (Rohmann, 1999). Erwin Laszlo has written extensively about this field, including his two classics, *Introduction to Systems Philosophy* (1972a) and *The Systems View of Nature* (1972b). A general overview of systems theory and the fields it spawned is found in Fritjof Capra's (1996) *The Web of Life*.

## Seven Other Methodologies for Understanding Sustainable Development

### *Overview*

There are many ways to “slice” reality to peer into who and what we are and how we have become as such. To create Integral Methodological Pluralism, Wilber (2003c) has identified the eight fundamental perspectives for understanding the interiors and exteriors of individuals and collectives. Each perspective has a family of research methodologies that are used to reveal the approximate truths available through that particular lens. Those eight major methodological families are what I have covered so far.

In this remaining section I intend to review some of the other principal approaches to research, and briefly relate them to IMP. An excellent overview of these approaches, plus some of those that we have covered already (i.e., phenomenology, hermeneutics) is available in Bentz and Shapiro’s *Mindful Inquiry in Social Research* (1998). I will not cover the following approaches in as much depth as I have addressed the eight major methodologies. As we will see, all of the approaches below draw upon some combination of the eight major methodologies. This general rule of thumb holds true for many other research traditions, such as inquiring through biography, case study, or clinical research.

In nearly all research, scholars ultimately choose which combination of the eight major methodologies they will utilize to understand and explain their subject. To choose a few of the IMP approaches may be sufficient for approximating some key truths about a subject. However we need to be aware that to not utilize all eight major methodologies is to not recognize and take into account reliable and verifiable knowledge which is available. Without at least checking in with all eight fundamental perspectives, we may be blind to forces that could sabotage our

efforts, or dynamics that could profoundly support them. The most comprehensive meta-methodology, of which we are aware to date, is to use each of the eight major methodologies to disclose approximate truths about a phenomenon. I recognize that there are practical limitations, to doing this type of intensive, multi-disciplinary, cross-disciplinary, and transdisciplinary research. One of our challenges, therefore, is to develop easier and more effective ways to consistently view our research and initiatives through the eight fundamental perspectives.

### *Quantitative and Behavioral Science Research*

In the parlance of IMP, quantitative research can be done on any aspect of reality which can be understood through a third-person perspective. This approach calls for an “objective” study of individual or collective entities and occurrences. To be objective, loosely defined, is to take a third-person perspective. Therefore, quantitative research can be done through any of the eight fundamental perspectives which study reality objectively. Six of the eight methodologies of IMP do this: structuralism, empiricism, autopoiesis, ethnomethodology, systems theory, and social autopoiesis. Aspects of phenomenological research and hermeneutic inquiry can also use a quantitative approach to analyze the data which has been revealed. However, the process of generating the data in these two cases arises out of a first-person perspective for phenomenology and a combination of first-person and first-person-plural (or what we are calling second-person) perspectives for hermeneutics.

Behavioral science research is closest to empiricism, as described above, if it looks at individual behavior; it is akin to systems theory if it inquires into collective behavior. In both cases it uses a third-person perspective to analyze and explain data. Nonetheless, one must go beyond solely using quantitative approaches in order to deeply understand the data, and how it

relates to the researcher, to the subjects of the research, or to one's culture at large. These truths require utilizing the first- and second-person perspectives revealed by phenomenology and hermeneutics.

The actual practice of quantitative and behavioral science research entails precisely measuring data which has been reduced to something which can be counted and mathematically manipulated. The overall intention is to identify facts about the research subject which are able to be verified by the community of researchers who also do similar inquiry, and to clarify relations between these facts (Bentz & Shapiro, 1998).

*Further Information.* In addition to Bentz and Shapiro (1998), readers might consider R. Barker Bausell's (1986) *A Practical Guide to Conducting Empirical Research*. This provides a thorough overview of empirical analysis.

### *Ethnography*

Ethnography is an overarching term for research which looks at the interiors and exteriors of collectives. It is an inquiry into the "complex world of social interaction...the art and science of describing a group or culture" (Fetterman, 1998, preface and p. 1). Ethnography focuses on identifying the patterns of human thought and behavior. It collects these from an insider's perspective by immersing oneself in the culture of study. Yet ethnography also draws upon an outsider's perspective—or social scientific perspective—to explain the data (Fetterman, 1998).

Within the context of IMP, ethnography generally uses the approaches of hermeneutics, ethnomethodology, and systems theory to understand collectives. Ethnography can also draw upon phenomenology in the process of interviewing people about what they think and believe. A research report may use verbatim quotations from those being studied to attempt to transfer this

first-person understanding from the interviewee to the reader of the report (Fetterman, 1998). Depending upon the ethnographer's preference or proclivity, she may also utilize a structuralist or empirical methodology to understand individuals and the collective.

The practice of ethnography typically includes recording, interpreting, and explaining how individuals in a collective (group, organization, community, or society) "live, experience, and makes sense out of their lives, their world, and their society or group" (Bentz & Shapiro, 1998, p. 117). This often entails interviewing members of a group and drawing upon previous field research, participant-observation research, and/or grounded theory to help understand the data (Bentz & Shapiro, 1998).

*Further Information.* David M. Fetterman (1998) offers a detailed yet easily accessible overview of ethnography in *Ethnography: Step by Step*.

### *Action Research*

Action research can draw upon any of the eight major methodologies identified by IMP. It is the intent of the research that changes in this case. Instead of a "neutral" approach to gathering and understanding data, action research is dedicated to effecting change in a system, improving its effectiveness. It attempts to do this by researching *with* subjects, rather than researching *on* subjects. It encourages the subjects to be aware of their own practices, critical of them and the system in which they are embedded, and to be active participants in identifying how to change the system and subsequently doing it (McNiff, 2002; Bentz & Shapiro, 1998).

The practice of action research involves a "self-reflective spiral of planning, acting, observing, reflecting and re-planning" (McNiff, 2002, p. 7), such as the following. First, identify the problem. Then, clarify the goal and requisite procedure for achieving the goal. Throughout

implementation, record the actions taken and any evidence to see if the goal has been attained. Finally, begin the cycle again, retesting the original generalizations of the situation (Bentz & Shapiro).

Three popular forms of action research are *participatory action research* (Whyte, 1991), *action science* (Argyris & Schön, 1974), and *action inquiry* (Torbert, 2004). Participatory action research “focuses more heavily on social structures and processes [whereas action science] focuses more heavily on interpersonal relations and intrapsychic processes” (Whyte, 1991, p. 97). Action inquiry integrates “first-person, second-person and third-person research/practice in real time” to help bring about change in oneself, others, and systems. (Torbert, 2004).

*Further Information. Participatory Action Research*, edited by William Foote Whyte (1991) gives a general overview of this field. I also highly recommend William Torbert’s (2004) *Action Inquiry: The Secret of Timely and Transformational Leadership*.

### *Evaluation Research*

“The main concern of the evaluation research methodology is obtaining objective empirical evidence regarding the actual effectiveness of social action programs” (Hoole, 1978, p.18). Evaluation research developed in the 1950s and early 1960s out of social-science research. It was created as an attempt to use the scientific method to demonstrate the effectiveness of social programs. Today, evaluation research falls into the domain of applied social science (Weilenmann, 1980). It draws upon multiple methodologies from social science, encompassing both quantitative and qualitative approaches. Within the context of IMP, evaluation research—like action research—might draw from any of the eight fundamental perspectives and their major methodologies to explain and understand.

Given the flexibility of evaluation research, there is no set practice for engaging in it, although Bentz & Shapiro (1998) cite a number of books which detail context-specific methodologies for it (Hoole, 1978; Rossi & Freeman, 1993; Quinn, 1997). The process generally consists of identifying the original specific and measurable goals for a project, documenting whether the outcome is being attained, and striving to explain the results by systematically doing empirical testing of hypotheses.

*Further Information.* A solid introduction to this approach is Weiss' (1972) *Evaluation Research: Methods of Assessing Program Effectiveness*. Sage Publications also has an entire series on evaluation research. (Both cited in Bentz & Shapiro, 1998.)

#### *Comparative-Historical Inquiry*

Comparative-historical inquiry is the practice of comparing one configuration or expression of individuals and collectives at a given place and time with another configuration or expression of individuals and collectives in a different place and/or time. The spectrum and scope of subjects is vast, and can range from analyzing the influence of one technological innovation to comparing multiple cultures. History can study anything, from the development of thought, experience, and interpretation, to the spread of socio-technical processes, religions, and ideologies. The temporal focus of this approach is not limited to the past, but can include the present and even the future, as future studies are a prediction of what the configuration or expression of individuals and collectives will be (Bentz & Shapiro, 1998).

Given the extensive reach of comparative-historical inquiry, it has been called the “queen of the human sciences” (Bentz & Shapiro, 1998, p. 136). Yet not all attempts at this research are created equal. As Edward Hallet Carr (1961) notes in *What is History?*,

Before you study history, study the historian. Before you study the historian, study his historical and social environment. The historian, being an individual, is also a product of history and of society; and it is in this twofold light that the student of history must learn to regard him. (p. 38)

Thus, one of the greatest factors in the outcome of comparative-historical research is the worldview of the historian himself. As humans have developed increasingly complex worldviews with which to understand reality, and therefore history, the study of history itself has changed. This can be seen with the recognition that the person writing the history consciously or unconsciously decides what the “facts” are, and which aspects of the context to acknowledge and represent. When religious power controlled society, history was framed around religious truths. As modernism emerged out of the Enlightenment, the scientific, positivistic worldview dominated and historical inquiry shifted to include the truths seen through that lens. With the emergence of postmodernism, hermeneutics and phenomenology became increasingly integrated into historical inquiry. Recently, the discipline of psychology has aided the understanding of history and the motivations behind the actions of historical figures (Bentz & Shapiro, 1998). This on-going development of worldviews is one of the reasons why history is continually being rewritten. Through the lens of IMP, the evolution of comparative-historical inquiry itself can be seen as the increasing integration of more and more perspectives. It initially started with third-person perspectives like empiricism, yet has developed to include second-person and first-person perspectives such as ethnomethodology and phenomenology.

The next developmental stage for that which we can loosely call “worldview”, beyond what is commonly known as “postmodern” [Kegan’s Fourth Order of Consciousness (1998), Loevinger’s Individualistic Self (1987); Graves’ Sixth Subsistence Level (2004)], has been

identified as “integral” [Kegan’s Fifth Order of Consciousness (1998), Loevinger’s Integrated Self (1987); Graves’ First Being Level (2004)] Therefore, I expect that over the next few decades we will see history rewritten in a way that acknowledges not only the interiors and exteriors of individuals and collectives in a particular configuration in time and space, but also the developmental telos of those interiors and exteriors. The most thorough comparative-historical inquiries will include the eight fundamental perspectives, until a more advanced framework comes along.

*Further Information.* Edward Carr’s *What is History?* (1961) gives an overview of the unique qualities of historical inquiry. David Fischer’s (1970) *Historian’s Fallacies: Toward a Logic of Historical Thought* is also recommended. (Both cited in Bentz & Shapiro, 1998.)

### *Theoretical Inquiry*

Theoretical inquiry strives to develop new knowledge by integrating, critiquing, extending, and analyzing empirical research and existing theories. This approach is generally used to create broad understandings of social, ecological, and human phenomena (Bentz & Shapiro, 1998). A solid theory serves as the ground for explanation and understanding of these phenomena. “Theory ought to create the *capacity to invent explanations*” (Stinchcombe, 1968, p. 3). Yet all epistemological approaches strive to enhance explanation and/or understanding. The unique aspect of theoretical inquiry is that it does so based upon theoretical grounds, through logical analysis, or by using empirical data arising from other theories. Simply stated, theory—not experience, interpretation, or observation—is generally the “raw material” of theoretical inquiry (Bentz & Shapiro, 1998).

The basic practice of theoretical inquiry is to keep trying theoretical strategies until one effectively explains the studied phenomenon. The key is to be deeply versed in the various approaches so as to always be able to develop an alternative explanation. There are numerous theoretical strategies which researchers can utilize when constructing theories (Stinchcombe, 1968). Social phenomena, for example, can be largely explained in some cases by personality dynamics, in other cases by their consequences, and in still other cases by ecological causes. In this case, each of these is a unique theory used to explain the phenomena. (Integral Theory suggests that all of these causes, and others, are to some degree influential, but more on that in a moment.)

Theories vary in the complexity of their structure. A simple form is “A variation in  $x$  causes a variation in  $y$ .” (Stinchcombe, 1968, p. 6). More complex causal structures are made up of two or three causal components. There are also theoretical forms which have an infinite number of causal structures, such as when social phenomena become causes of themselves, maintaining themselves, and becoming an “infinite self-replicating casual loop” (Stinchcombe, 1968, p. 8). Systems theory, complexity theory, chaos theory, and Integral Theory are some of the recent theoretical strategies which have arisen to help us understand phenomena. Even more effective strategies will likely arise in the future.

Integral Methodological Pluralism itself is a form of theoretical inquiry. It is a theoretical framework which helps researchers to identify that for any given occurrence, such as a social phenomenon, there are influential dynamics—causes—which arise out of each of the domains identified by the eight fundamental perspectives. IMP suggests that to comprehensively understand a sustainable development initiative, we need to be aware of the causal forces that

can be revealed through phenomenology, structuralism, autopoiesis, empiricism, hermeneutics, ethnomethodology, social autopoiesis, and systems theory.

When using theoretical inquiry it is vital to consider the motivations which underlie each of the theories one is working with. Particularly within the social sciences, theories may have political, social, and even religious implications. They may therefore be driven by political, ideological, or ethical motivations (Bentz & Shapiro, 1998). Therefore, an understanding of the theoretician, and the environment and history in which they developed, is vital to theoretical inquiry. This is akin to the aforementioned need to understand the historian when engaging in comparative-historical inquiry. I contend that, ultimately, the worldview out of which a theory is formed, has the largest impact upon how accurately the theory explains reality. Newtonian physics, for example, was developed out of a different, less complex worldview than that of quantum physics. Quantum physics explains more of reality than Newtonian physics, but it, too, is being eclipsed by new theories—such as string theory or IMP—that arise out of even more complex worldviews. These, too, will be overshadowed; such is the dialectic of progress.

*Further Information.* Arthur Stinchcombe's *Constructing Social Theories* (1968) provides a comprehensive overview of the foundation of theoretical inquiry. There are very few other guides to engaging in theoretical inquiry within the human and social sciences of which I am aware.

### *Critical Social Science and Critical Social Theory*

Critical social science (treated here as synonymous with critical social theory) is an epistemological methodology which aims to respond to the domination, oppression, and injustice found within our individual and collective structures. Its critique reaches into the psychological,

cultural, social, economic, environmental, and technological domains of our world. Critical social science engages in this work by taking into consideration, as much as is possible, the entire context in which any phenomenon occurs (Bentz & Shapiro, 1998). As Kellner (1989, p. 1) notes in *Critical Theory, Marxism and Modernity*, “Critical Theory is informed by multidisciplinary research, combined with the attempt to construct a systematic, comprehensive social theory that can confront the key social and political problems of the day.”

At its heart, critical social science has a theory of liberation—liberation from economic inequality, environmental destruction, gender and racial oppression, addiction to consumerism, and so on. This liberating approach attempts to address the core, as much as is possible, of the oppression; it focuses on shifting the deep structures of oppression or domination which arise in a society (Bentz & Shapiro, 1998). Yet critical social science does not pretend to be a liberating force in itself, but rather calls this liberation forth from within the individuals it influences. “The process of liberation entails a process of *self-emancipation* and *self-creation*” (Held, 1980, pp. 25-26). It uses theory to promote active political involvement and help people to develop their consciousness (Held, 1980). The theory espoused through critical social science in many cases aims to make salient the gap between current reality and what is possible; it highlights our current limitations and contrasts them to a potential future state. This theoretical clarification is intended to help promote the “development of the masses” as Georg Lukács claimed (one of the significant influences on critical theory) (Held, 1980). Bentz and Shapiro (1998) summarize this transformational aspect of critical social science:

[B]ecause critical theory arises from a tradition that emphasizes human autonomy and consciousness, its approach to change and action is concerned not just with “results,” but with results that occur through transformed consciousness and

experience. It aims at a consciously transformed life and not merely at objectively measurable improvements. (p. 83)

There is a unique position out of which critical social science researchers approach their work. It is a combination of insider status, engagement, and cultural and historical specificity. A critical social science researcher works from within the very social world she studies; she is invested in solving social problems; she recognizes the unique cultural and social “envelopes” which craft the knowledge any person (including herself) holds; and she acknowledges the historical situation in which she herself and the phenomenon under study arise (Bentz & Shapiro, 1998).

I agree with Wilber (2003a; 2003d) that Integral Methodological Pluralism and Integral Theory can be used to expand the capacity and impact of critical social science. Critical social science is already grounded in a quest to understand the context of any situation as completely as possible, and the use of Integral Theory can strengthen this understanding. IMP offers the eight fundamental perspectives, which reveal the main dimensions of reality which influence any initiative or occurrence. Additionally, Integral Theory includes the notions of developmental levels and lines, states, and types. Developmental levels and lines, whether arising in the interiors or exteriors of individuals or collectives offer an important advantage. They help researchers to situate themselves and the phenomena studied in an evolutionary perspective. This helps reveal where a person, culture, or social phenomenon has been, and where it is potentially going.

There is an important critique of this research approach which offers constructive insight into its possible evolution. Critical social science calls for a transformation of consciousness and a transformation of societal structures, but does not comprehensively explain the roadmap for arriving at the future state—free of oppression and domination—which it espouses. To my

knowledge, it doesn't clarify what it actually means to "transform consciousness," but jumps immediately to the description of consciousness or structures transformed. These approaches "exhort a goal without elucidating a path to that goal" (Wilber, 2003d, p. 104). An understanding of the path from here to there is vital for the structural changes to actually manifest. Integral Theory, based upon over 100 models of development in individuals and collectives (Wilber, 2000b), is able to provide the beginnings of that map.

The Integral framework can also enhance the clarity with which one can understand and explain any phenomenon. An understanding of developmental levels and lines, states of consciousness (of individuals and collectives), and types (personality types, cultural types, social structure types) all add granularity to the context. Integral Theory contends that with this increased understanding, change initiatives can be tailored so as to gain deep traction with the individual and collective forces involved (Wilber, 2000a; 2000c; Beck & Cowan, 1996). An excellent example of using Integral Theory to understand and address deep structural changes—in this case around climate change policy in Australia and the market domination of fossil fuels which may be supporting environmental destruction—is Chris Riedy's (2005) *The Eye of the Storm: An Integral Perspective on Climate Change and Sustainable Development*.

*Further Information.* *Introduction to Critical Theory: Horkheimer to Habermas*, by David Held (1980), provides a detailed overview of this field. To understand the methodology behind conducting inquiry in critical social science, Raymond Morrow and David Brown's *Critical Theory and Methodology* (1994) is highly recommended (as cited in Bentz & Shapiro, 1998).

## Conclusion

We've seen how the combination of the eight major methodologies provides reliable and verifiable knowledge about the internal and external facets of the intentional, behavioral, cultural, and social aspects of sustainable development. The heart of Integral Methodological Pluralism is that it helps researchers to both explain their data from a third-person perspective, and understand their data from first and second-person perspectives.

Sustainable development is a complex endeavor. At any given time there are factors, forces, and dynamics which influence sustainable development initiatives that arise out of each of the dimensions identified by the eight fundamental perspectives. If we are to achieve global social, ecological, and economic sustainable development, it may require that we respond to the pressures from all of these dimensions. If we only acknowledge a few of the fundamental facets, those left unrecognized may undermine our efforts. By basing a sustainable development approach in anything less than these eight methodologies, we run at least two risks:

- 1) We can miss seeing dysfunctions arising in those dimensions which we leave out, and
- 2) We can oversee powerful leverage points that may help our efforts.

Thus, the more of these lenses we see our sustainable development efforts through, the more comprehensive understanding we will have of how the context, the stakeholders, and even ourselves will support or thwart the process. This can lead to far more effective practice.

Therefore, I recommend that sustainable development researchers and practitioners use an IMP "analysis," where we consistently "check in" on each of the eight fundamental perspectives to see what truths and data they reveal. This can help us to self-correct and self-organize in a more inclusive and comprehensive way.

The evolution of sustainable development to date has been one of increasing inclusion of these eight perspectives; many sustainable development programs today are far more comprehensive than before, as I've noted in a previous article (Brown, in press):

[Many sustainable development programs today] do environmental assessments, cost-benefit analyses and have social scientists that look at the cultural issues. The UK's Department for International Development (DFID)—with both their BITE framework (Biophysical, Institutional, Technical and Ethical) and their Sustainable Livelihood Guidance Sheets—is an excellent example of this. They: integrate and address human, social, natural, physical, and financial capital... [and] simultaneously strive for environmental, economic, social, and institutional sustainability of livelihoods.

Additionally, some forward-thinking researchers are already grounding their work in IMP. Chris Riedy, during research for his Ph.D. thesis on climate change policy in Australia (Riedy, 2005), was able to identify literature that employed methods from seven of the eight methodological categories of IMP. Autopoiesis, with respect to climate change, was the sole methodology for which he was unable to find data. However, if he had searched in the field of cognitive studies, which looks through the same fundamental perspective as autopoiesis, Riedy likely would have found relevant data. I believe that there is already research being done which uses each of the eight major methodologies for many, if not most, issues in sustainable development. Yet this research is dispersed. The next step is for scholars and practitioners to recognize this and begin to incorporate the data from all of these dimensions.

In my experience, there are fundamental perspectives which are often left out of most sustainable development initiatives. An understanding of the intentional facets of sustainability

seems to be the least recognized. I've yet to see any sustainable development programs, besides those based upon Integral Theory,<sup>13</sup> which demonstrate a clear understanding of the role which the interiors of individuals play. There seems to be little attention paid to customizing sustainable development initiatives to the psychological and experiential dynamics of practitioners and stakeholders alike. Therefore, an increase in the use of phenomenology and structuralism, I believe, will improve the practice of sustainable development. There is at least anecdotal evidence from those who have used the Integral framework in the field for the past decade, and who have focused especially on using data from structuralism, that they are achieving better results (Brown, in press).

The other facets of sustainable development which appear to receive little attention are the insides of behavior and systems, or those which are revealed through autopoiesis and systems autopoiesis. There is considerably less research available in these fields, as compared to those of structuralism and phenomenology. Nonetheless, there are forces arising within these dimensions that influence sustainable development initiatives. If we ignore the destructive forces therein, we may fail at creating enduring solutions. If we can learn to leverage the supportive forces in these dimensions, we may find some of the keys to truly effective sustainable development.

I believe that the future of sustainable development lies in an integrated inclusion of the eight major methodologies. To successfully respond to our social, ecological, and economic challenges—and create the better world we believe is possible—may necessitate inhabiting all eight fundamental perspectives and synergistically utilizing the knowledge each provides. To do this will require teams of leaders who not only understand this framework and the methodologies, but who can hold the eight fundamental perspectives within their worldview and deeply honor the validity of each. I am beginning to see such teams emerge within the

sustainable development movement, and it gives me great hope for the future of humanity and the ecological health of the planet.

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## Author Note

Barrett C. Brown serves as Co-Director of Integral University's Integral Sustainability Center, which applies Integral Theory to sustainable development issues. He represents *Kosmos Journal* and the Integral framework at the United Nations, holding UN consultative status through the Center for Psychology and Social Change. Since 1995, Barrett has worked throughout the Americas in the areas of sustainability, human development, and communications. His current consulting focuses on using the Integral framework to customize sustainable development and organizational development initiatives to stakeholders and systems. Barrett has completed advanced training and certification programs in Spiral Dynamics, Integral Organizational Leadership, and Zero Emissions Research and Initiatives (ZERI). He is an advisory board member for: *Kosmos*, an integrally informed journal on global issues; the Shift Foundation, which works with high-potential youth; and IntegralCity.com, focusing on urban sustainability issues. Barrett is currently a doctoral student in the Human and Organizational Systems program at Fielding Graduate University. In addition to consulting, mentoring, and research, he also co-designs and delivers workshops on Integral Theory and Practice for Integral Institute. Barrett has presented and trained widely, including at the United Nations World Summit on Sustainable Development (side event), the Bioneers conference, the School for International Training, and the Spiral Dynamics Integral Conference on Natural Design.

Correspondence concerning this article should be addressed to [bbrown@integralinstitute.org](mailto:bbrown@integralinstitute.org).

## Footnotes

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<sup>1</sup> For an extensive account of the four quadrants, consult *A Brief History of Everything*, by Ken Wilber (2000a).

<sup>2</sup> For full explication on the “technical” use of these terms, consult Wilber, 2003a-d.

<sup>3</sup> For an introduction to Integral Theory, consult *A Theory of Everything*, by Ken Wilber (2001). For a summary of Integral Methodological Pluralism, which is a recent advance in Integral Theory, consult *Integral spirituality: The role of spirituality in the modern and postmodern world* (Wilber, in press).

<sup>4</sup> Personal communication from Gunter Pauli, who transformed his company Ecover after seeing the massive waste it was creating on an island nation that held Ecover’s production facilities. He went on to found ZERI: Zero Emissions Research & Initiatives. John Elkington recounts similar stories in his book *Cannibals with Forks* (1997).

<sup>5</sup> Structuralism is also used to study the collective interiors from an objective perspective, but is one of many tools in cultural anthropology to do so. It is an exemplar methodology for objectively studying individual interiors (Wilber, 2003d).

<sup>6</sup> Schools of thought that promote this idea include: Cradle to Cradle, ZERI, Eco-Effectiveness, and The Natural Step.

<sup>7</sup> For innovative examples of using this process to create value for sustainability initiatives, see [www.zeri.org](http://www.zeri.org).

<sup>8</sup> This notion is not scientifically accurate, as the autopoietic process has only been demonstrated to be true for living systems such as cells and organisms. Some theorists claim that social systems are living systems (e.g., Capra, 1996; 2002) but this is an unproven concept. The pioneering theorist in social autopoiesis—Niklas Luhmann—does not consider social systems to

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be living systems (e.g., Luhmann, 1990) and the notion is thoroughly critiqued (e.g., Wilber, 2000c; 2003c). See the section below on social autopoiesis for further clarification.

<sup>9</sup> Structuralism, in IMP, is the overarching name for looking at individual interiors (i.e., psychological structures or the structures of consciousness), from a third-person perspective. This approach can also be used for looking at the structures of collective interiors, but it is only one of the main approaches in the ethnomethodological family. For understanding the external aspects of individual interiors, though, it has no major competitors; thus the term has been chosen to represent that entire perspective (Wilber, 2003d). There are various schools of structuralism, such as poststructuralism, neostructuralism, and adequate structuralism (Wilber, 2003d).

<sup>10</sup> The actual practice of archaeology, ethnography, and cultural anthropology often also includes looking at the systems of interaction amongst people—their patterns of behavior—as well as the artifacts (clothing, technology, political systems, modes of production, etc.) they create. This study of the external expression of cultures—the patterns of interaction and systems which arise—falls into the realm of systems theory, as discussed above. Thus, while ethnomethodology is a pure perspective on the “outsides” of cultures, many modern day approaches to understanding groups will use this perspective *plus* the perspective of systems theory to reveal the patterns of interaction and study the systems-based artifacts *plus* the perspective of empiricism to study the behavior of individuals and individual artifacts. You can see the trend toward an Integral approach which would embrace all of the perspectives mentioned in this document.

<sup>11</sup> There is a different use of the term ‘ethnomethodology’ in the literature (Garfinkel, 1967). It is cited as a research approach which arose out of phenomenology. According to Bentz

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and Shapiro (1998, p.101), “The term *ethnomethodology* was coined by Harold Garfinkel. It means ‘the study of folk methods for making...[one’s] own culture make sense’ and to allow one to accomplish one’s tasks.” This approach appears to be looking at the “insides” of cultures, whereas Wilber’s use of the term looks at the “outsides” of cultures. Scholars will need to clearly define how they are using the term when applying it.

<sup>12</sup> This is exemplified by the classic spectrum of development that ranges from atoms to molecules to cells to organisms (all individual holons) to groups to societies to global systems (all social holons). See Wilber (2000c) for a thorough treatment of this issue.

<sup>13</sup> For a list of sustainable development initiatives which are based upon Integral Theory, consult *Theory and Practice of Integral Sustainable Development—An Overview* (Brown, in press).