Comprehensive Language Awareness:

A Definition Of The Phenomenon And
A Review Of Its Treatment In The
Postformal Adult Development Literature

Some anthropologists believe that the discoveries of fire, shelter, and language were almost simultaneous.

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INTRODUCTION

This paper explores how current constructivist theories of adult development deal with the phenomenon of comprehensive language awareness, hereafter referred to as CLA. It explains the concept of CLA, locates the phenomenon in the context of cross-disciplinary language studies and reviews the relevant development theories.[1]

By comprehensive language awareness I mean the ability of human beings to reflect on language as a learned, automatized habit and to evaluate both its benefits and its costs. On one hand, language – as a system of symbolic representation – is an indispensable and powerful tool for communication which continues to make human development and civilization possible. On the other hand, language can feel like a fetter to those who realize how completely under its spell they are.

Because language can be transmitted in both oral and written code form, humans are able to communicate not only in face-to-face situations, but over great historical, cultural and geographic distances. Indeed, it has been argued that extensive symbol use has propelled humanity's rapid evolution and seeming dominance over other life forms.

Words accomplish a wealth of transactions in the human arena from the practical to the fantastic, from the ordinary to the sublime. We use language to identify the objects and events around us and to tell the stories of our group and ourselves; we declare intentions, describe experiences, express feelings and draw others into our personal world. We use language to ask for information and help, to explain, argue and question, to teach and to admonish. Sometimes we use language for sheer play and to invent imaginary worlds. At other times we use it to cast spells, to injure or heal, to pray to our gods, to lament our destiny or to celebrate life. Many people would agree with E. Sapir (1921)[2] that language is undoubtedly the "most significant and colossal work that the human spirit has evolved."

Thinkers since antiquity and from many disciplines, have studied various tongues, described their structure, use and properties, and thought about the phenomenon of language and its function in human affairs.

P. Berger and T. Luckman (1966) give the most succinct account of how we are conditioned into a specific view of reality via our mother tongue. They describe how using language has become such an automatic aspect of our behavior by the time we are adults that we completely depend on it for making sense of the world. We generally do not know how we acquired it and how it structures our perceptions of reality. What is more we cannot even imagine how we could function without language. H. Rheingold (1988) put it this way:

> Although it is rarely visible to us we carry around in our heads a conceptual map of the world, a guidebook to rightness and wrongness, ugliness and beauty, value and worthlessness (p. 72).

Few thinkers, however, seem to have seriously considered the costs associated with our total reliance on language as a means of personal and cultural orientation. It is the mystics, and visionaries throughout history, trying to describe the transcendent dimensions of inner experience, who have often pointed out the difficulties of translating the "ineffable" into words.

The field of literary translation is another arena in which the limits of language have been elucidated (Sapir, 1921; G. Steiner, 1975; Rheingold, 1988). In this century researchers in the natural sciences have also joined those who realize the difficulties intrinsic to language. In quantum physics, for example, F. Capra

(1976) and D. Bohm (1980, 1994) discuss the insufficiency of language to describe the fundamental forces and dynamics in nature. Whereas K. Gödel (1931) elaborated on the limits inherent in abstract symbol systems, P. Watzlawick (1976) and M. Gardner (1975, 1978) use famous paradoxes as a device for showing the limits of language in rational analysis.

Language can feel like a fetter to ordinary persons as well who realize how completely they depend upon language for meaning-making. They may start to question the assumptions underlying our automatic language use and become concerned about the "precarious dependence of all we know upon linguistic tools which themselves are largely unknown or unnoticed" (B. Whorf, 1940). Furthermore, when we think about the nature of language, a fundamental and unique paradox becomes vivid: Whatever we wish to say about words we have to say with words or in some other form of symbolic representation that is shared with the intended recipient of our communication. As S. Brookfield (1991) remarked, "attempting to identify the assumptions undergirding our apparently objective, rational beliefs is like trying to catch our psychological tail." Yet wishing to identify the assumptions undergirding apparently inescapable human dependence on language, and to make sense of life by becoming conscious of the way language influences experience, seem to be serious concerns in the development of some individuals.

Overall it can be stated that present commentators of the cultural scene note that "we create symbolic systems of meaning … and then forget that they are our creations" (W. Anderson, 1990, p. ix). They also see a unique dilemma in language by its "being both the object and the agent of its study" (J. Bruner, 1990). Only cognitive linguists continue to assert that all language issues can be solved by the appropriate, rigorous scientific methods. (See A. Ayer, 1935; S. Pinker, 1994).

Below are two poems by R. D. Laing (1979), suggestively entitled Knots, which illustrate how language can become absurd, almost impenetrable, when we use words to try to explain what goes on in our minds, and the reasons why, sooner or later, we run into difficulties when we use language to describe our experience.

Jack sees
  Jill can't see Jill can't see
and that
  Jill can't see
    Jack can see and
        see he sees
    what Jill can't see she
can't.

Jack tries to get Jill to
  realize that there may be
something
  she can't see she can't
see.

(p.68)

All in all
Each man in all men
all men in each man

All being in each being
Each being all being

All in each
Each in all

All distinctions are mind,
by mind,
in mind, of mind
No distinctions no mind to
distinguish (p. 82)

You may have found you needed to read these poems more than once in order to understand them. Laing exposes the limits of language by carefully attending to the entanglements that ensue when we express the machinations of our reasoning. He maintains that this is so because language is always based on distinctions – artificial distinctions constructed in the human mind. Laing's writings suggest that conscious attention to language can help us understand something fundamental about human meaning-making.

As researchers, for instance, we regularly struggle with issues of definition. On one hand, accepted scientific practice requires that one defines the concepts and phenomena under study as clearly as possible. Precision is taken as an indication of the clarity of thought underlying observations, experiments and subsequent claims. On the other hand, when we try to be precise we quickly find it difficult to define our terms uniquely. The same word can

mean different things when used by different people or in different contexts. Thus researchers often end up "declaring" what they "mean" by a given term. But such a declaration is itself a definition, a conscious choice of what to consider inside and what outside the meaning boundaries of the concept. Because the issues of definition and boundaries are crucial in understanding the nature of language as a human artifact, I will say more about them when I discuss aspects of language later on.

In general, we do not pay enough attention to the fact that we rely almost exclusively on language to create a sense of self, to orient ourselves in life and to communicate with each other. Those who do, however, often ponder the inevitable conundrums created by language and what they might miss or not experience by taking language for granted.

My first goal for this essay is to build a case for why it seems to be so difficult for humans to question the language habit. I will begin by giving a brief survey of aspects of language relevant to understanding the phenomenon of symbolic representation. First I will look at the nature of language covering such topics as definition, the mechanisms of symbolic abstraction and progressive differentiation, polar opposites and paradox. Second, I will establish the biological roots of language and early language acquisition as a major area of influence. I will discuss the role that our senses, the mechanics of perception and innate categorization schemes play in making us see the world the way we do.

Building on this, I will explain how and why we develop the language habit. I will refer to cultural influences, such as our early and unconscious conditioning into language, its continual reinforcement and elaboration in everyday life and its stabilizing function in the human psyche. Then, I will discuss for whom and under what conditions CLA is likely to emerge, and what it might mean to those who have it. Cognizant of the caveat that any definition is at best an approximation, I will nevertheless develop a working definition for CLA at the end of the language section.

The fundamental aspects of language, its innate and its cultural components, in turn, will provide a context from which I will consider what the literature in adult development has to say about CLA. I have chosen this literature because it is the only place among theories of life-span development in which CLA is likely to be addressed. I will especially look at postformal constructivist theories because I assume that only adults capable of a metasystemic perspective could make the universal experience of being embedded in language an object of their conscious experience and reflection. The final goal of this essay is to assess to what degree CLA is recognized and incorporated as an aspect of human cognitive differentiation in adult constructivist developmental psychology.

This essay will contribute a linguistic focus to the traditional analytic categories and domains of constructive developmental psychology. Further-more, it will establish a current theoretical context in which to explore what it is like to develop and maintain an appreciation for the limits of language.

Understanding CLA is important since the aims of education are very much dependent on what we believe the trajectory and terminus of human development to be. Natural language use in particular, and symbol use in general, are prerequisites for participating in human social life and essential to survival. Understanding the nature and function of language and the development of CLA are therefore paramount in postulating more adequate and inclusive theories of human potential.

Moreover, on a more basic level, a full appreciation of the place of language in our experience is necessary because language permeates all facets of life and intellectual inquiry. Knowing how language influences what we notice or ignore, what we hold dear or abhor, and what we take for real or deem outside the outer limits of relevant possibilities, adds an important dimension to our understanding of the human condition.

ASPECTS OF LANGUAGE

Fundamental characteristics of language

The following discussion is meant to outline a number of aspects which are relevant to understanding the position of language in human affairs.

The ubiquity of language

Reports from the remotest corners of the world have shown that there is no known culture today without a language (Pinker, 1994). The capacity for language or, more broadly, for symbolic representations of experience, can be considered a universal human characteristic. As H. Gardner (1991) points out: "Language is the prototypical system of symbolization …. Research about other symbol systems is typically modeled upon the procedures and analyses used in studies of language" (p. 58). In addition, all other systems of notation or symbolic representation for communicating experience share, as symbol systems, various characteristics with natural language. They are a shorthand for transmitting knowledge and experience among people. To be understood, there must be some consensus of how a symbol relates to the thing symbolized, and this knowledge must be shared.

More importantly for claims about its ubiquity, natural language is not only the symbol system par excellence, it is its metalinguistic properties that make it different from other code systems. We use language to talk about, analyze, reflect upon and communicate about itself, and about all other symbol systems, as well as about experiences from nonsymbolically mediated states of mind (S. Cook-Greuter, 1990).

Issues of definition

I have chosen the single word as a linguistic unit of analysis for this section because it is the most commonly known language category in every-day usage. As noted earlier issues of definition are central to understanding language. To define the meaning of a word (from Latin de- and finis) literally means placing a boundary, or border around it.

When we are unsure about a word, we consult a dictionary where the "real" meanings of words are supposed to be found. Yet lexicographers ceaselessly work on revising them because word meanings change over time, and new words are created as old ones lapse into disuse. When words refer to concrete objects accessible to the senses, dictionaries work well enough. When words refer to concepts that exist as mental abstractions, however, problems of definition quickly become intractable.

If we try, for instance, to determine the meaning relationship between synonyms for some psychological concept, such as self-respect and self-esteem, we find that dictionaries often define one by using the other to explain it. Thus we end up with either a circular definition or an "infinite regress," that is, a never-ending chain of words defined in terms of other words that need definition.

Sooner or later we realize that words have neither a single - or "objective" meaning, nor a separate definition independent of the relations of equivalence and contrast which hold between them. As languages evolve, and as we as individuals develop and expand our awareness and our ability to discern and classify along multiple lines of comparison, the matter of where we should draw the lines between meanings is constantly renegotiated. Current social constructivists like K. Gergen (1994) argue similarly that, "words take on their meaning only within the context of ongoing relationships" (p. 49).

L. Wittgenstein (1922) can serve as an example of a philosopher who developed similar insights about language over the course of his life. He originally tried to solve philosophical problems in The tractatus logico- philosophicus by inventing an ideal language in which each object or property would be uniquely defined and represented by an unambiguous symbol. In Philosophical investigations (1935/58) however, he concluded that the meaning

of a word can only be found by examining the context in which it is actually used (D. Pears, 1968).

In this century, the difficulty of drawing clear boundaries between objects in nature has been corroborated by discoveries in particle physics. Even the term "particle" is a misnomer, since particles are not made of tiny parts, but are "probabilistic waves" which, unlike water waves or sound waves, are abstract mathematical quantities (see Capra, 1976, p. 138). Once again the limits of language are evident. It is difficult to express in plain language what we now believe the universe to be: an organic, rhythmically moving dance in which everything is fluid and ever-changing, and where all static forms, all objects exist as illusions.

What is pertinent to the development of CLA is that one can come to realize (1) that definitions are not fixed and unequivocal, (2) that they are constructed by humans and change over time, and (3) that the meaning of a word only exists against the backdrop of other words and their meanings. Given this general uncertainty about individual word meaning, it is striking that the whole matrix of words in any given language does seem to provide enough common ground as to the approximate meaning of each word to allow for communication, socialization of the young, and transfer and expansion of knowledge to occur.

Issues of boundary, contrast, polar opposites, paradox and meaning

The abstract synonyms for the act of definition themselves "define, delineate, delimit, demarcate" all contain the notion of boundary. An object can only be formed by segmenting a previously undivided continuum into several interdependent entities: the object itself, its negation (shadow or polar opposite) and the background from which it has been abstracted. The newly created boundary belongs to all three entities.

Two M. C. Escher pictures will serve to visually illustrate this. The first one on page 11, called Flächenfüllung (1957), shows the following aspects of CLA: (a) Object, negative space and background form a coherent whole. (b) Changing the definition of one figure changes the shape of all adjacent figures as well as the gestalt of the whole. (c) Foreground and background shift with our shifting attention.

On the surface, the idea that polar opposites are interdependent and mutually necessitate each other may seem counterintuitive. Yet paradox in language is a major area in which the limits of rational analysis regularly manifest. To become able to "behold" both sides of a contradiction and to see them as intimately related rather than mutually exclusive can be a powerful cognitive and psychological move.

Conventional linear logic forbids the unifying of opposites and thus the transcending of dualism: By definition, A cannot be not-A. Yet a super-ordinate understanding can be expressed in the very paradox of "A is both A and not-A" or its negative case, "A is neither A nor not-A." This is the way reality is often described in quantum physics and Eastern philosophy. Reality as observed at the level of subatomic units of matter is "neither particle nor wave" (Capra, 1976, p. 55). In the words of K. Wilber (1984) as quoted in J. Funk (1989, p. 7) reality is "neither One nor Many, neither infinite nor finite, neither whole nor part."

Figure 1.
M. C. ESCHER (1957) LITHOGRAPH**: *Flächenfüllung***

Abstraction upon abstraction: the increasing complexity and hierarchical layering of concepts

The word "abstraction" literally means "that which has been pulled out of" or "away from" something else and like many other common words reveals its everyday, sensory heritage. Abstractions of all kinds are based on reducing complexity in the service of recognizability and prediction. Symbolic representation rests on our ability to abstract from a great deal of complex sensory input and to only pay attention to that which seems similar and reoccurring, to label it and henceforth to use the abstract representation rather than to deal with the original input. Words allow us to respond efficiently to salient stimuli in both the external and internal scenery and to do so in preset, coordinated patterns of conditioned response. Because of their very nature as abstractions, words pull away from the underlying reality. The more we abstract and try to create order via language, the further away from the original unity or the center we get (see Figure 2). Yet little of this process is conscious or volitional.

It is by naming or labeling bits of experience, and then ordering them into suitable maps, that we create the world we live in. Words or concepts are the product of an initially arbitrary, though functional segmentation of the underlying reality. Once acquired, language dictates upon us the way we translate experience into words. When we speak, the gestalt character of experience gets splintered into bits and pieces, and sequenced according to the rules of our grammars. Concepts such as "the self," "the ego," – even the name of our discipline "psychology" – are anthropocentric inventions which do not refer to anything "real" outside our minds.

Humans not only acquire and manage a vast lexicon of symbols and concepts of all kinds and levels of abstraction, they integrate knowledge into complex matrices of multiple systems and into layers of hierarchical integration of increasing abstraction and complexity. It is the synthesis into higher-order frameworks which is generally associated with more advanced mental growth.

What is more, humans have developed written forms of language which introduce a further level of distancing from the reality of face-to-face interaction. Whether verbal or written, natural language has developed over centuries in an organic, nonlinear fashion and as we know from daily experience, irregularities, redundancy and paradox abound.

Scientists have tried to mend the vagaries of natural language by inventing such formal languages as mathematics and logic. Their major advantage is that the relation between each symbol and its referent is uniquely defined and fixed. However, Gödel (1931) argued that the problems of definition cannot be solved even within the most carefully constructed symbol systems. He "proved" that these are self-referential and produce noncontradictory propositions only within their own axiomatic confines. Any

analysis of them from an outside frame of reference will produce inconsistencies or "undecidable pro-positions" (p. 592).

In many ways, the abstractions of scientific language are even further removed than natural language from experiential reality. It seems ironic that even today many scientists fail to understand this basic tension between their theoretical abstractions and the underlying reality. Because they are not aware of the fundamental nature of symbolic representation, they believe that systematically and logically created theoretical abstractions can produce a more accurate and comprehensive view of reality. Having CLA, on the other hand, implies that one understands that symbols and their referents are incommensurate and that the seeming order in the abstract theory may not correspond to any order in the outside world. A theory, no matter how complex and integrative, can never fully describe the infinite variety and complexities of total experience. As I will show later, this differential attention scientists give to the nature of symbolic abstraction and how it affects their own theory making is an important component in theories of adult development.

The creation of complex maps of reality by progressive differentiation and elaboration

H. Koplowitz (1984) defined reality as an undivided unity, or undifferentiated phenomenological continuum, without boundaries and time-space distinctions. It is this same cohesive reality that A. Korzybsky (1948) referred to as the overall "territory" existing prior to human mapping. To be able to think about reality as an undifferentiated whole – even if only as a thought experiment – is important for understanding the phenomenon of CLA.

Genesis in the Old Testament provides a telling example of the general mechanism of the progressive segmentation and differentiation of the undivided whole. The creation myth identifies some basic categories of human experience in order of their appearance: From heaven and earth (above and below), to day and night (light and dark) etc., to the final arrival of humans and with them more abstract, nonsensory based concepts, such as the "naming" of the animals, and the prohibition to eat from the tree of "knowledge of good and evil."

Overall language can be conjectured to have evolved via progressive elaboration throughout history and repeatedly in different cultures. The creation story is but an example of how new segmentations and differentiations are made as the need arises. It is by naming the distinctions we make, that we eventually create the complex world of our lives full of things, events and ideas.

Each culture divides reality, that is the original, unstructured phenomenological continuum or chaos, in somewhat different ways. How the field of experience is segmented depends on a society's characteristics and specific needs (E. T. Hall, 1966). Although object boundaries and labels are arbitrarily chosen at first, they become relatively fixed parts of language by group consensus and constant repetition. They then serve as unconscious building blocks for further semantic distinctions and ramifications. The simplest definitions of what we consider tangible objects of everyday life as well as the most complex, abstract, seemingly all-embracing theories or myths are based on an elaborate segmentation and ordering of the original chaos.

Again a picture by Escher can serve to illustrate how language works to create our representational reality through the process of continuous segmentation and ramification.

Circle Limit IV illustrates the following linguistic points: (a) Starting from single dichotomies or dualistic splits – such as light and dark, positive and negative, angel and devil, which are all present in this image – continuing differentiation and segmentation lead away from the center or the beginning. (b) Polar opposites are complementary and mutually define each other. Changing the outline or "definition" of one, changes the shape of the other. (c) The mechanism of progressive differentiation and elaboration inevitably approximates a limit beyond which further differentiations become absurdly complex or experientially indistinguishable. (Ob-

serve how the outer boundary in Figure 2 above resembles a solid line).

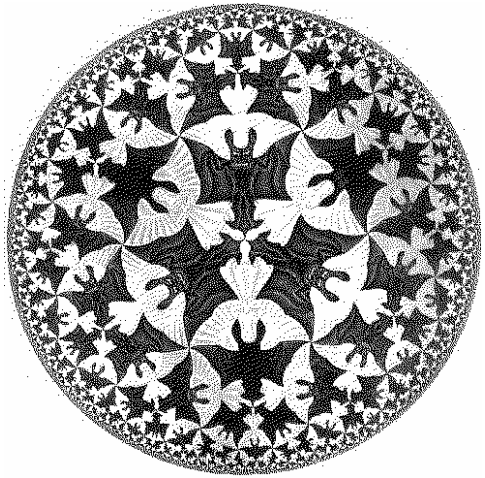

Figure 2. M. C. ESCHER (1946) WOODCUT: *Circle Limit IV*

Nonetheless, language is a formidable means to mediate and manipulate the environment. It frees humans from the immediacy of direct experience and allows for mental operations independent of the actual presence of the stimuli. But once we are conditioned into language, the undivided whole is hidden from us. Nevertheless, it is possible to imagine a state beyond any of the distinctions we have learned to make about it. (See Laing's poem 2).

Koplowitz (1984) suggests that we can get back to understanding reality in what he terms a "unitive" way by reflecting on and deconstructing the edifice of our pseudo-reality which is based on distinctions and perpetuated in language.

The biological roots of language

Following, I will outline additional reasons why language has such a hold on us. I will show how our senses and the mechanisms of perception regulate what we can "see" and therefore limit what we can describe.

The infant's innate ability to distinguish among certain stimuli has obvious survival function. It is useful to respond with crying to physical discomfort and to be able to alert mom to come to your help. It is also useful for baby to know her mother's face from that of a stranger because in nature noise attracts predators. Below I suggest that language has a powerful hold on us because it is part of our biological substrate.

The five human senses

Our five senses (sight, hearing, touch, taste and smell) are only capable of processing stimuli from a narrow range within each of the energy vibration domains they are tuned to.[3] Through modern science and technological advances we have learned to enhance them a millionfold and thus to have much fuller access to nature's processes. Electron microscopes let scientists peer into the infinitely small dimensions of the universe; rockets and radio telescopes into the infinitely large. The reality that is known through these lenses is vastly different from the realm of ordinary experience. As Rheingold (1988) put it:

> The world was astonished when physicists revealed that matter consists almost entirely of empty space. Our eyes simply don't detect the lonely electrons, spinning in their distant orbits around tiny nuclei, separated by immense subatomic voids (p. 199).

When we touch a pebble we ordinarily "perceive" a solid object with a smooth surface instead of the multitude of vibrating molecules that it is from the physicist's perspective. You may be able to close your eyes and imagine the pebble as a collection of dancing particles. But your ordinary senses will always belie the subtler vision. On their level, the pebble is undeniably solid, cold,

smooth, roundish, scentless and without life. Yet sages since time immemorial have recognized the vibrant, fluid, and interconnected character of the universe. Today modern science has confirmed their intimations.

Perception

Our nervous system is preset to register contrasts of various kinds (onset, intensity, patterning, opposites) within certain parameters and not others. We are biologically primed to scan the environment and lump together, i.e. to categorize, repeated experiences which have similar qualities into sets of expectations. These clusters become the starter sets for the discrete objects and events of the permanent object world.

Recent studies verify how ready infants are to scan the world for specific clues and how quickly they can abstract certain recurring patterns out of the multisensory stimulus continuum. The Gestalt school of psychology showed earlier this century that the brain follows a set of rules in sorting the incoming stimuli. It imposes its own preferred groupings[4] in order to simplify the multitude of stimuli and complexity the organism would otherwise have to deal with. Perception, the ability to automatically sort experience into discrete bundles, introduces a second unconscious filter between the full-spectrum reality and human experience.

Optical illusions are an effective way to demonstrate that the brain with its rules of visual processing can dupe us into seeing something different from what is actually there. That the illusion occurs consistently for all viewers, even initiated ones, is powerful evidence that, as Pinker (1994) points out, the mechanisms for perception are hard-wired.

But there is a price to be paid for any such simplifying and generalizing mechanism: A. Watts (1966) warns us of the danger by pointing out that:

> … by looking at the world bit by bit we convince ourselves that it consists of separate things, and so give ourselves the problem of how these things are connected and how they cause and effect each other. The problem would never have arisen if we had been aware that it was just our way of looking at the world which chopped it up into separate bits, things, events, causes and effects (p. 28).

Although the mechanisms for perception are innate, we know that continuous and varied stimulation of the senses is necessary to awaken them to respond and to develop perception. We further know from scientific experiments that object perception and perceptual constancies[5] develop gradually (J. Piaget, 1951; A. Karmiloff-Smith, 1991). Initial visual experiences, for example, become more precise and more detailed through active interaction with the environment.

O. Sacks (1993) tells a story about a man who was blind from birth. When his sight is surgically restored, he sees the world in its original flux of confusing stimuli. In Sack's account, the man Virgil cannot tell his dog from his cat when he sees it from different angles, animals he knows instantly by touch. Even if patients like Virgil learn to visually identify simple objects, they may never develop perceptual constancy. Sighted individuals, on the other hand, learn as infants to include in a single mental image all the variations that continuously strike the retina and give them a single name.

In summary, we can say that the human mind needs early and consistent interplay with the environment in order for innate perception to become established and automatized. When perceptual constancy is lacking, verbal identification of entities cannot take place.

We generally have no reason to doubt the veracity of the object world as it appears to our mind's eye since repeated experience and other people's behavior confirms its reality. The problem is that once we have formed a mental image of a discrete object and the actions it undergoes, and given it a name, we easily confuse the perceptual reality with the underlying flux of experience.

Moreover, language is so ubiquitous, that once we respond to something as a named thing, we tend to notice only the way it fits our preset expectations. We never actually see the same entity twice, nor does our visual field contain the boundaries that we automatically put into place around things when we delineate them from the background. It is the additional step of the "linguistic codification" or "symbolic representation" of mental images, that intensifies and solidifies the notion of their thingness and permanence. Language plays a powerful role in shaping and cementing this impression.

Besides perception, there are other biological constraints, such as, for example, genetic variables, memory capacity and speed, brain cell density, and general physical maturity and health, that likely influence language acquisition, and mental growth overall.

Language production: transmitting, encoding and decoding

Natural language also requires specialized organ systems for hearing and speaking that work in tandem to produce the variety of human sounds as well as delicately coordinated fine-motor activity (gesturing, signing, signaling, writing) to encode and decode language. Sounds (phonemes) and concepts (morphemes) and their written representations are strung together in various sequential arrangements. All languages have a linear-temporal aspect to them because they are "bodied forth" in linear time, bit by bit, phrase by phrase. The temporality and linearity support the illusion that events are causally related. Thus, the physical side of language production adds an additional filter to the filters given by the narrow range of our senses and the hard-wired processing rules of our brains.

Innate aspects of language acquisition

I have already stated that language is a universal phenomenon which points to its being a biological adaptation. Further evidence for its biological roots are common maturational patterns in first language acquisition. There is no question today that the capacity for natural language is innate in the human species. A blueprint for all languages preexists. Children all over the world babble in their early months with a wide variety of sounds. Regardless of their language environment, they start to talk at about one year using single words. It is another year or so before they use one or two words in combination to make simple sentences. By about age five, their language mastery has grown exponentially. Now children use complicated grammatical rules to make complex statements employing several thousand different words from a specific language.

As long as the potential for language is activated through exposure and practice in any particular language at the maturationally appropriate time, children will acquire it. They will henceforth use it as a basis for continuing development and as the main means by which they make sense of experience. On the other hand, children do not develop complex language without adequate human models. Regular interaction with other language users is necessary for the particular language to emerge out of the universal capacity.

The more we learn about neurobiology, the less disputable the evidence becomes that (1) the propensity for language acquisition is innate, (2) that specific areas of the brain tend to specialize in certain language functions, (3) that the parameters of grammar are universal and (4) that all human babies seem to make similar primitive distinctions and categorizations (Pinker, 1994).

Because language is partially innate, we are bound to objectify and linearize experience regardless of our awareness of and sensitivity to its non-linear nature. Parallel to optical illusions, the illusion of the reality of the object world occurs constantly for all human beings, even initiated ones – those who are aware of the constructed nature of reality – because of the way language works. Given its pervasive presence, its biological substrate, the physical constraints of its production, and its maturational acquisition in early childhood, is it surprising that using language is such a habit-

ual aspect of our behavior? The reality of the world of separate things and events gets reaffirmed in our minds each time we use language.

Natural scientists who describe the subtle processes in the micro- and macro worlds of quantum physics and astronomy as well as visionaries and sages who describe the subtle, ineffable world of our inner horizons alike are bound to do so with ordinary language. Nobody can escape the lure of language, even the avowed silence of the monk is a telling affirmation of it.

Although the biological roots of language ensure its availability to all human beings for survival, this arrangement carries costs. It is these costs that become evident only if we look at language from a metaperspective.

As outlined, I will next give an overview of the cultural aspects of language that may bear upon CLA.

Cultural aspects of language

Linguistic conditioning in childhood

In a typical human context, sensory experiences of all kinds become paired early on with certain words that adults produce whenever the appropriate stimulus set is present. The innate response sequences get channeled into the human domain and become conditioned because human babies are biologically "tuned" towards the human environment.

Adults point out to the child certain things and events that they deem important. Phrases like "wait," "smile for daddy," "don't do that," quickly put restraints around what is good from the purely self-centered viewpoint of the infant. The realities of frustration, the preeminence of human relationships and cultural values inevitably "enter the picture." We learn when and why we have to wait, whom we are supposed to smile for and what we may or may not do. Thus children's perception and mental ideation evolves not just according to innate propensities and maturational schedules as the cognitive scientists stress, but also according to the cultural dicta of the environment and the images and values that are captured in its language as advocated by Whorf (1956).

All babies emerge from the initial unconscious Edenic unity in the womb into a world of words and existing distinctions that are embodied in the language of early intimate caregivers. Children's first categorizations of experience occur on the level of sensory perceptions and serve survival needs. Their vocabulary expands as they continuously differentiate and elaborate on these early distinctions, aided by significant people in-vested in their participation in human society.

Every culture transmits its mindset, that is, its basic assumptions about reality and the relationship between humans and their environment through its language, symbols and behavioral patterns. Therefore the acquisition of a language seems absolutely necessary for cognitive growth beyond the infant state to occur. In order to become viable participants in life, children must learn the specific notions about reality of their group, starting from the initial concrete distinctions to the more general and varying types of relationships, abstract theories and role functions available in the larger society.

According to Berger and Luckman (1966), children are molded from day one through relentless behavior and linguistic modeling to become members of their group. Schooling and apprenticeships further habituate them into the values, reality perception and assumptions of their culture. What is to be considered important and real in everyday life is always transmitted through language and has coercive power over the child:

> The child does not internalize the world of his significant others as one of many possible worlds. He internalizes it as *the* world, the only existent and only conceivable world. (p. 135)

For example, most of us are amused by a toddler calling a dog a "kitty." We find ourselves subtly, or not so subtly, correcting our children every time they make this "mistake" until they have

learned to distinguish dogs from other four-legged animals by naming them correctly. By age four, most children will have acquired a complex language adequate to manipulate abstract concepts such as time. They understand simple causality and can invent and retell stories. They will also correct a two-year-old who confuses small animals. "This is not a cat, it's a dog. Can't you "see"?"

By now, labels appear to children as inherent in the nature of things. Any notions of their having been learned is lost. They know that the "real" world consists of distinct, preexisting objects with definite boundaries and properties. Knowledge of everyday experience has become self-evident, automatic, objective, and immutable.

We celebrate it as a developmental milestone when children start to respond to us primarily through language instead of reacting through their bodies. By the time they go to school, they can deal with ordinary experience in the summary fashion we all use: They respond to the ever-changing sensory information in terms of the predictable characteristics of the physical world as transmitted to them by their culture.

The cultural construction of reality

Anthropologists doing fieldwork in distant cultures first recorded that people using different languages behaved differently towards such universal aspects of life as, for instance, ancestors, children, sexuality, dreams, and physical death. Expressed more radically, some anthropologists hold that different languages create entirely different maps of reality and thus different experiences of life.

Whorf (1956) advocated this idea in the following words which I quote extensively because they resonate with what can be realized by analyzing one's own thought and language habits.

> We dissect nature along lines laid down by our native languages. (…) We cut nature up, organize it into concepts, and ascribe significances as we do, largely because we are parties to an agreement to organize it this way – an agreement that holds throughout our speech community and is codified in the patterns of our language. The agreement is, of course, an implicit and unstated one, but its terms are absolutely obligatory; we cannot talk at all except by subscribing to the organization and classification of data which the agreement decrees (emphasis mine, as quoted in Rheingold, 1988, p. 5).

In its strong form, the so-called Sapir-Whorf hypothesis postulates that people's thoughts are determined by the categories made available to them by their languages. In other words, different languages constitute different realities and different ways of being human. On the whole, anthropologists and social scientists have tended to stress the "variety" and "incommensurability" of the diverse languages and the views of reality they mirror, whereas cognitive scientists are captured by the "universal" aspects and the "lawfulness" of language and the human mind. See Appendix A for a condensed view of my current understanding of the role of nature and nurture regarding language in human existence.

In Gardner's (1985) words: "Most evidence suggests that … the fundamental operations of thought are the same everywhere, and it is the *uses* to which these processes are put that differ dramatically across cultures" (p. 254). An integrated stance, which makes room for both instinct and cultural conditioning as components of such complex human behavior as the language habit, seems more promising in understanding people's difficulty in developing CLA.

My own thinking regarding language and its uses in different societies has been most influenced by Berger's and Luckman's *The social construction of reality* (1966). These authors state that human beings can-not be understood apart from the particular socio-historical and linguistic context in which they were formed.

The number of distinctions one can draw in classifying and distinguishing the features of the world are, in principle, infinite.

Hall (1966) argues that cultures divide the phenomenological continuum in different ways according to their specific needs, development, and inventiveness as well as their context. Labels and their meanings become institutionalized and automatized through repetition and consensus. They then serve as unconscious building blocks for further distinctions and elaborations that make up a culture's language.

Philosophers since antiquity have debated the relationship between language, culture and reality, and each epoch, in turn, has had a different relationship to these concepts. Today we realize, for instance, that the means and methods of modern scientific inquiry were created and perfected in an atmosphere of 19th century linear-progressive positivism with its primarily instrumental view of language. There was certainty that the human rational mind is designed and capable of grasping the laws of the universe in all its manifestations. This certainty extended to the belief that we can comprehend nature – including the phenomenon of language (Ayer, 1935; Pinker, 1994) – by "objectively" and exhaustively "describing" and analyzing (from Gr. *ana* = apart, *lysein* = to cut) its constituent parts and processes.

Beginning with this century, scientists from many disciplines have joined the language debate. Anthropologists, particle physicists, linguists, logicians, psychologists, neuroscientists, and others have started to investigate the underlying assumptions guiding the discourse patterns, the methods for truth finding and proofs in their respective disciplines with the result that an uncertainty principle6 has replaced the former certainty. As biologically constrained organisms we influence what we observe no matter what we assess. The dependence on symbolic abstractions for describing our findings further limits our understanding.

There seems to be a growing interdisciplinary consensus that the maps and theories we make about reality "by rational means" are always reductionist and "partial." They can never grasp the whole, intricate, unity of the living universe of which we are an inextricable part (Bohm, 1980). As seen above in the language nature/nurture debate, the very existence of multiple, sometimes conflicting maps helps to point out the relative position and limitation of each of them.

Now that we are approaching the twenty-first century, a new set of issues related to culture and language has surfaced that affects all people, not just scientists. Commentators of the global scene (H. Smith, 1982; Watzlawick, 1976; Anderson, 1990) alert us that we have entered "postmodernity." Its ruling framework are rapid change, global interdependence, loss of familiar life patterns and boundaries, and pervasive uncertainty about the future. Access to world-wide information through modern transport, satellite radio, TV, and computers entails frequent encounters with other cultures, and other forms of living and reasoniung.

Information technology, the main medium of postmodern traffic, is based and dependent on elaborate symbol use. In addition, English has become the global language of choice, the "lingua franca" of our times. Thus, on one hand, computer and verbal literacy and familiarity with English, have increasingly become a prerequisite for active participation in this new order. On the other hand, as English speakers in a world dominated by English we might need to consider how our language shapes our perception and therefore limits what we can and cannot conceive of on a global scale. By its pervasive presence, English forces concepts that are not part of their own worldviews on interlocutors who use English to accommodate us. An awareness of the cultural biases inherent in language would therefore seem especially important for people in power positions whose mandate it is to communicate, interact and negotiate across cultures.

The development of CLA

Many members of a society never realize that their knowledge of reality is shaped through cultural/linguistic conditioning. This is so because language is internalized so early and so completely that any sense of its selectivity is lost to conscious experi-

ence. However, in a cross-cultural setting people more readily experience the incompatibility of different languages and may start to notice the "peculiar" ideas and narrative practices encapsulated in their own.

Most of the time, ordinary people as well as scientists treat language as if it were a neutral and efficient "tool" to get their ideas across to others without problems or distortions (K. Hayles, 1993). Indeed in many cases, the instrumental way of using language fulfills its intended purpose remarkably well.

Individuals involved in areas that focus on meaning (f. i. semantics, literature, therapy, narrative studies) on the other hand, are more likely to see the medium as "being the message", a view made popular by the anthropologist M. McLuhan (1964). It insists that to say something in different words, is to say something different.

The current emphasis and sensitivity to political and power implications of the vocabulary and guiding metaphors in a given speech community is a beginning insight into how language filters what we can attend to. (See for example the writings of D. Flemons, 1989; H. Cixous, 1991; E. Kaschak, 1992; S. Freud, 1994.) Much can be learned by analyzing language habits deeply embedded in a specific culture and the way they privilege and disenfranchise certain ideas and groups of people. But as I have mentioned earlier, language as a system of symbolic representations inevitably favors some aspects of reality (by naming them) and ignores others (by not having words for them), regardless of who does the perceiving and the naming and their conscious or unconscious motivations.

What is at issue in CLA, therefore, is not the relatively sophisticated language awareness on the specific level of assumptions about reality as framed in a given language, but on the more basic level of assumptions about language as a universal means of structuring experience. While both of these require metalinguistic awareness, there is a distinction to be made between (a) becoming aware of the peculiarities and biases of one's own language and (b) becoming aware of the limits of symbolically mediated experience in general. Only becoming aware of the latter constitutes CLA because it deals with the habitual and unexamined aspects of language as a universal human phenomenon.

Suggested psychological reasons for our attachment to language

So far I have argued that it is difficult for human beings to "see through" their language dependency and develop CLA for both biological and historical-cultural reasons. Yet these seem hardly sufficient to explain our "attachment" to verbal discourse and analysis.

Living in language we live in a split or permanently separated state. All our categorization schemes, theories, and mental frameworks are originally built on arbitrary, though functional distinctions. This holds from the primitive sensory distinctions of babyhood to the most elaborate adult theories of what is good, beautiful and just or scientifically valid, predictive, and replicable.

We analyze, categorize, and define the "elements" of experience in ways that reinforce the notion of their separateness and permanence and thus afford us a measure of stability and predictability. Through language, we collude with each other in perpetuating the illusion of the permanent object world including the notion of our own separate personal selves. What is more, such categorizing is inevitably linked to value judgments as a legacy of cultural conditioning. Valuing high, we may despise low, wanting to feel strong, we may repress our more vulnerable feelings; fearing death, we may deny it. By considering part of our experience as undesirable, we get attached to the "desirable" side of the dichotomy. To become conscious of how language is intrinsically evaluating experience is a first step towards unlearning the habitual judging response. (See Laing's second poem.)

I have already discussed how polar opposites can be seen as mutually necessitating each other. When someone understands the dialectical inter-play between the poles, it may be easier for

them to tolerate the idea that good and evil, pleasure and pain, life and death are aspects of living within language and everyday human consciousness.

Some adults do start to examine their need for certainty and permanence as they watch the continuous complexification of their frameworks of meaning. They may consciously explore how they make distinctions and realize that a major function of language is to create a semblance of order and stability. The full absorption of A. Korzybski's caveat, that the map is not the territory, may awaken the desire to peer behind the veil drawn by language and to reconnect with the direct, unfiltered experience of the whole. This is very difficult because, as I have suggested, language is so deeply ingrained that comprehending without it seems impossible.

Language helps us deny the reality of the transience of life which is, in principle, available to our senses. H. Fingarette (1963) hypothesizes that we create artificial boundaries between self and object world, self and others, self and different aspects of the self and give these inventions names in order to create a stable self-sense in a constant effort to minimize the anxiety of non-being. In addition, both Fingarette and Wilber (1980, 1986 b) contend that the object world is invented through the mechanism of "objectification." By using language, we can temporarily behave as if the world of objects and events existed as permanent entities independent of ourselves as their knowers.

In general, how more "mature" adults might make sense of life and express their understanding has only recently become the focus of scientific interest. While concerns about one's specific cultural conditioning have been observed to occur as early as adolescence, CLA seems to develop only after midlife and even then it is rare for the many reasons outlined above.

The study of individuals with CLA

A. Maslow (1972) first described mature development in terms of the possibility of language-transcendent modes of experience during peak moments. Throughout his work, W. Torbert (1973, 1987, 1991, 1994) and others (Steiner, 1975; D. Brown, 1986) have suggested that some individuals not only learn to see through the function of language as an ordering principle, but develop the necessary inner resources to embrace the uncertainties and ambiguities that are part of such a view.

People with CLA are likely to be interested in questions of boundary and paradox as fundamental aspects of human experience. They probably understand why greater effort and precision in language never brings the desired final order and consistency – whether in doing science or in finding an objective self-identity. One wonders whether CLA would inevitably lead them to grapple with the imperfection and transience of all things human. Both Fingarette (1963) and Wilber (1980, 1986b) suggest that it is the anxiety about death which fuels the potent, unspoken, underlying human attachment to reason and language.

One might expect that once individuals discern the anxiety-reducing function of language, their attitude towards the language habit would change in several ways. One may find oneself temporarily in a no-man's land after one distances oneself from the pseudo-reality created by language. While the old ways of mediating experience no longer suffice, new ways of orienting oneself to life may have been glimpsed during peak moments, but are not yet fully or consistently accessible.

Many forms of meditation also lead individuals into experiencing the limits of language and possibly towards greater language awareness. Zen Buddhism, for instance, has developed a methodology by which students are confronted with their attachment to words and discursive reasoning. Essential to the Zen koan is "paradox," i.e. that which is "beyond" (Greek., para) "thinking" (Gk., dokein), and transcends the logical or conceptual. Since the koan eludes solution by means of reasoning, it requires an intuitive leap to another level of comprehension beyond the logical contradictions and the dualistic splits inherent in language.

To recapitulate, no matter how elaborate our verbal universes and theoretical mappings are, they are always removed from the underlying, fluid, nonsymbolically-mediated reality. The experience of unfiltered reality may ultimately seem to be more meaningful and alluring to individuals with CLA. It acknowledges their at-oneness with the universe and its eternal rhythms of expansion and contraction, construction and deconstruction, birth and death and rebirth. CLA may be one step towards developing a different, more open-ended relationship to one's destiny.

In the preceding pages I have attempted to show that the CLA is rare for multiple reasons. As a symbolic code, language is always reductionist, always less than the experience it is meant to represent.

Second, we are biologically primed to use symbols and abstractions, and to act upon the world in an indirect manner, rather than to respond to the sensations as they occur. Early and consistent verbal conditioning does the rest to make the development of CLA difficult. Finally, and most powerfully, CLA requires one to acknowledge the illusory nature of the world of words and symbols in a tolerant, appreciative stance. The point of CLA is not to discredit language as a vital means for making sense of experience, but to realize that symbolic mediation is a special case of reality apperception, one for which we may pay unconscious psychological dues.

Although both Eastern as well as transpersonal Western psychology describe ways of transcending symbolically-mediated ways of knowing, I am focusing here only on CLA within the context of personal psychology.

Towards a definition of CLA

Overall, research in language-oriented human development has focused almost entirely on language acquisition, language usage (both practical and creative) and language processing. It has neglected to give sufficient attention to the limits of language and to the experience of those individuals who might become sensitive to them. A working definition of CLA thus needs to include the following elements:

CLA allows one:

- to realize that language is a universal, all-pervasive dimension of human existence,
- to reflect on language as an acquired, automatic habit,
- to ponder its nature and function in meaning-making,
- to become aware of the relative position of one's own meaning organization vis-á-vis other languages and other ways of reality construction, and
- to contemplate the benefits and the limitations of language in the experience and evolution of humankind.

Researchers in cognitive development have consistently found that very few people develop a perspective broad enough to allow them to observe their own mental behavior from a balanced and well-differentiated perspective. I will give a more detailed summary of developmental theory on mature reasoning in the following section. For now, R. Kegan's 1994 formulation of what it means to liberate oneself from that in which one is unconsciously embedded (as in one's native laguage) can serve as a basis for understanding the need of some people to come to grips with the language habit. Kegan writes:

> In fact, transforming our epistemologies, liberating ourselves from that in which we were embedded, making what was subject into object so that we can "have it" rather that "be had" by it – this is the most powerful way I know to conceptualize the growth of the mind. It is a way of conceptualizing the growth of the mind that is as faithful to the self-psychology of the West as to the "wisdom literature" of the East. The roshis and lamas speak to the growth of the mind in terms of our developing ability to relate to what we were formerly attached to. (p. 34).

CLA could thus alternatively and simply be defined as: CLA is the ability to "have" language rather than "to be had" by it.

Having established what CLA entails, I can now approach the constructivist adult development literature. It provides a framework within which issues of increasing awareness in various human domains are traditionally explored. A fully adequate theory of adult cognitive development should include some recognition or elaboration of aspects of CLA because all areas of rational thought are affected by language. I will next evaluate how constructivist theories of adult development have dealt with the phenomenon of CLA as a dimension of mature cognitive life.

CONSTRUCTIVIST ADULT DEVELOPMENTAL PSYCHOLOGY AND CLA

An overview of constructivist developmental theory

The Piagetian model of human development

As discussed earlier, the capacity for symbol use and the hierarchical ordering of concepts is innate in human beings. We perceive, organize, judge, and synthesize input from external and internal sources in order to orient ourselves and create meaning in life. Constructivist developmental theories outline how we form such systems of coherent meaning through a series of increasingly comprehensive reinterpretations of reality.

Cognitive growth can be described as a process of differentiation and integration at progressively higher levels of complexity. The more differentiated individuals become, the more elements from more diverse sources and at higher orders of synthesis they can simultaneously process and integrate into coherent frames of meaning. Sources of input range from registering multiple channels of sensory information, others' moods, behaviors and interactions to one's own thoughts, perceptions, emotions, motivations, biases, dreams, intuitions, bodily states and states of consciousness. Torbert (1973, 1987, 1991, 1994) organizes these sources into four territories of experience or foci of attention. In addition, K. Smith and D. Berg (1987) in *Paradoxes of group life* also consider interindividual sources in the form of the group mind and archetypal intimations.

Another way of looking at the developmental progression is to state that the greater the differentiation, the greater distance from the objects of attention or the greater one's perspective on experience. At the most advanced levels, awareness simultaneously ranges from the concrete to the ephemeral, from the present to the infinite (time and space), from the particular instance to whole systems of human behavior and thought. Only at these higher levels of synthesis can education as a discipline or language as a universal habit be taken as an object of reflection.

The whole trajectory of human development can be usefully divided into four realms of cognition: The preconventional, the conventional, the postconventional or postformal, and the metasymbolic or transpersonal.[7] (See Figure 3, p. 42). Language plays a preeminent role in development after early childhood and throughout the life course in the three other realms. Once we have language, it serves as the main tool for recognizing, learning, conceptualizing, interpreting, and communicating in and about all aspects of experience. The metasymbolic realm lies outside the scope of this essay because it employs supra-rational modes of cognition.

Piaget (1952) first posited that mental growth occurs in an invariant hierarchical sequence of relatively stable equilibria or stages. Each new stage constitutes a transformation of the previous way of interpreting reality. At each stage the material or content from the previous stage is integrated as a special case, that is, as an element into the current, more inclusive meaning structure. What one was unconsciously embedded in or subject to at one stage, becomes object and can be consciously organized and related to at the next higher stage. (Kegan, 1982, 1994).

Piaget outlined the development of reasoning for the first two realms of development from birth to young adulthood. In regards to CLA, it is important to note that Piaget himself stated that

the external object world is constructed early in development and then [mis]taken as preexisting and external.

> … when language and thought begin, he [the neonate] is for all practical purposes but one element or entity among others in a universe that he has gradually constructed for himself, and which, hereafter he will experience as external to himself (Piaget, 1954, p. 9).

Piaget's highest stage of cognitive integration is formal operations, a highly decontextualized set of rules and abstract procedures common to traditional scientific practice. It embodies logico-deductive tenets which posit according to Koplowitz (1984)

that causality is linear,
that variables are independent,
that boundaries of objects are closed, and
that objects are separate from the observer.

Piaget projected this stage to be reached by early adulthood and saw it as the prototype of adult reasoning. Indeed, it figures prominently in the ideology and education of the West.[8]. Adults at this stage act as independent agents orchestrating their lives. They treat reality as something preexistent and external to themselves, made up of permanent, well-defined objects and closed systems that can be experimented with, measured, analyzed, and the laws of which can be figured out according to established procedures. Scientific instruments, experimental protocols and sophisticated analysis are the chief tools of this endeavor.

Post-Piagetian or postformal models of adult development

Looking at formal operations as a step in development rather than its terminus, postformal developmentalists observe that positive development and cognitive differentiation beyond formal operations can occur throughout life. Some people continue to transform their views of reality, creating more complex and inclusive matrices of reasoning and understanding even into old age.

Postformal theories add a new perspective to understanding adult development. They make useful distinctions and predictions not possible in psychoanalytic, ego psychology, information processing or lifespan explanations of adulthood. In particular, they can account for the phenomenon of conscious exploration of one's underlying assumptions about meaning-making at a level of depth that these other theories can not**.**

In some form or other all postconventional theories take into account the interdependence of parts within a system and the interdependence between a system and its context, a stance generally known as systems theory. According to Koplowitz (1984) systems theory holds:

that causation is cyclical or systemic,
that variables are interdependent,
that boundaries are open, a matter of interpretation, and
that while the permanent object world exists, its meaning is constructed.

A systems view allows people to understand their own cultural conditioning and participation in interpreting reality. Things mean what they do because of our experience with them in given personal, cultural, historical contexts. Systems theory considers the whole to be greater than the sum of its component parts. In human affairs, it looks at relationships rather than the isolated individual and aims for plausible interpretations rather than objective explanations. It also describes the means by which hypotheses are arrived at (heuristics) and does not merely rely on the unexamined use of the traditional arsenal of scientific methods.

In a rarely observed second postconventional transformation, the linear view of reality gets further deconstructed into what Koplowitz (1984) calls the unitary view of reality. It holds:

that causation pervades space-time,
that relations among variables form a unity, and

that not only the boundaries, but the permanent objects themselves are human constructs.

At the unitary stage not only the content and assumptions guiding one's beliefs are investigated, but the process of meaning-making itself comes under scrutiny, as well as one's deep-seated psychological need for maps, order and certainty.

Postconventional development thus describes the stepwise deconstruction of the constructed aspects of our symbolically mediated views of reality. It outlines the disidentification from the fiction of the separation between knower and known. CLA seems to be one salient ingredient towards transcending the separation created in the representational mode of reality perception. At least in theory, the decoupling from one's automatic and exclusive symbolic "mediation" of experience, allows one to reconnect with the underlying reality in a fuller and more "im-mediate" way.

Overall theories that postulate postconventional stages vary along multiple lines. They differ in (a) how many stages are identified beyond conventional development, (b) what the criteria are for the distinctions among the stages, and (c) how much of human experience they explain. For instance, some theories concentrate on reasoning about specific narrowly defined cognitive tasks in the line of Piaget's experiments (M. Commons and F. Richards, 1984; K. Fischer, 1984); some explore reasoning in specific domains such as the moral (L. Kohlberg, 1984) or the good life (C. Armon, 1984); some chart people's expanding self view (J. Loevinger, 1976; Kegan, 1982, 1994), while others concentrate on the development of women (C. Gilligan, 1982; M. Belenky, B. Clinchy, R. Goldberger & J. Tarule, 1986) or of young men (W. Perry, 1968). Theories also differ in (d) how much space they allocate to the psychology, function and process of meaning-making in human experience, and (e) what they project the most comprehensive view of reality to be. (f) They further differ in terms of whether they are more empirically or theoretically driven. In general, it seems to be easier to conceptually envision second order postformal transformations than it is to find individuals who embody them (M. Miller and Cook-Greuter, 1994).

Some theorists postulate one postconventional stage, others make finer gradations depending on whether they try to show that there "is" development beyond formal-operations or whether they are trying to outline a more complete, overall trajectory of human development. Most seem to shy away, however, from considering adult growth beyond the rational, representational realm of cognition. This is not so in the field of transpersonal developmental psychology (Wilber, 1986 a, b; M. Washburn, 1988; C. Alexander et al., 1990, 1994). It has attempted to build full-spectrum theories of human development which follow development from birth through conventional and postconventional stages into the postsymbolic realm and into stages of higher consciousness.

In general, postformal theories in the personal realm emphasize contextual and process-oriented forms of knowing and give more attention to people's inner life. Some theories distinguish between understanding what is perceived as meaningful or wise in living from what is merely rationally defensible and logically consistent (J. Smith, 1989; H. Chandler, 1990; G. Labouvie-Vief, 1990). It is worth considering the possibility that research over the last twenty years with mature adults has paved the way for the discipline of psychology to reconsider the "psychic" or metaphysical aspects of living along with the "logic" in psycho-logy.

A LITERATURE REVIEW OF RELEVANT AUTHORS IN POSTFORMAL DEVELOPMENT THEORY

In order to concentrate on the most likely candidates which might include references to CLA, I had to evaluate the many stage theories. Those based exclusively on research with young adults do not describe the level of metasystemic perspective that is necessary for reflecting on language as a field of human behavior and were excluded (Perry, 1968), as were other theories postulating only one

stage beyond formal operations. *Women's ways of knowing* (Belenky et al., 1986), belongs to this category. It addresses the need of knowers to understand their own contribution to the interpretation of reality, but it does not question the underlying assumptions of the meaning-making process itself.

Domain specific theories are too focused on a narrow aspect of human development to allow for CLA as an issue to emerge. Gender-based theories, for instance, often stress differences in attention – Gilligan (1982) contrasts a female ethic of care with a male ethic of justice – while they seem to underrate the underlying structural similarities in how things are attended to and the parallel investment in meaning they may hold for the subjects.

I also left out Kohlberg's and Torbert's writings because they are too domain specific. Kohlberg's theory of moral development has had a major influence in shaping the field of postformal psychology especially regarding the structural underpinnings of reasoning at higher stages, but it is not sensitive to subtle semantic issues. Although Torbert's work in individual and organizational development acknowledges language issues as important, as action inquiry, it centers around creating and describing practices and interventions that cultivate higher development.

Thus, in summary, I have chosen to discuss five major theories that (1) consider the whole adult lifespan, (2) postulate a higher than systematic cognitive differentiation and (3) are non domain-specific. I will evaluate each theory along two parameters. First, does it recognize the phenomenon of CLA as one possible field or metasystem explored at the postformal stages? If not completely, what aspects of it does it recognize? Second, how much is the author aware of the distance between the level of formal abstraction in which the theory is expressed and the underlying reality it attempts to describe?

Michael Commons and Francis Richards: A general model of stage theory: the systematic, metasystematic and the paradigmatic stages

I am starting with Commons and Richards' series of papers published in 1984 because they intended to unify the budding field of postformal psychology by providing a rigorous theoretical scaffold for the many emerging strands of postformal theory. Although their General Stage Model (GSM) has not gained the discipline-wide acceptance they had hoped for, it does serve as a reference point in relation to which other theories often position themselves.

By setting up clearly delineated, higher-order problems or tasks – tasks that are uniquely defined for each stage and sequentially ordered – Commons and Richards operationalized and systematized the model to be internally consistent and follow the same logic of differentiation across the entire developmental sequence. However, most of the problems belong to the scientific-experimental or logical domain of thought. They are quite divorced from the adult realization "that solving a problem is less important than solving an important problem" (R. Sternberg, 1992, p. 393).

Commons' and Richards' stage sequence is based on the increasingly complex coordination of actions in which the output of the processes of one stage become the input for the processes of the next stage. They strive for a level of generality that makes their model "a theory of the structure of information-processing requirements, rather than a theory of development in any particular domain" (p. 125). In both method and argument, their model is most directly an extension of Piaget's work.

Regarding language, they explicate that children begin to name objects and create superordinate names for groups of objects at the stage of nominal actions, that is, when they begin to talk and recognize similarities or patterns. Nominal actions lead to a symbolic differentiation of cognition into what subsequently become more defined domains of thought such as moral thought in the evaluation of actions. Commons and Richards refer to a basic no-

tion of CLA when they state that: "It is not assumed that the process of assigning names is well understood" (p.133). Thus they seem to be aware of the initially "polymorphous" (p. 142) assignment of names to things. In spite of this awareness, the rest of the model consists of a systematic operationalization in scientific language and notation of increasingly complex and generalized actions that can be executed with "named" elements or symbols. Such actions represent, for example, operations with concrete numbers: from adding "+," to symbols for the action of adding "∑," to higher order notions of generalized functions symbolized as "*," and so on. Although entirely expressed in formalistic terms, the GSM, like Piaget, claims that its principles should guide all stage theories not only those dealing with the scientific domain.

Commons' and Richards' *systematic* stage allows one to describe the properties and transformation within a given system. Their *metasystematic* stage deals with relating whole systems to each other, culminating in the formulation of a metasystem or framework for coordinating several systems. Their *cross-paradigmatic* stage, finally, coordinates or unifies whole fields or frameworks of knowledge into a superordinate field. They declare that "if the field of endeavor represents the most complex element of epistemology for which there is any empirical evidence, then cross-paradigmatic operations represent the present terminus of genetic epistemology" (p. 138). In other words, their systematizing reaches a rational limit beyond which they cannot conceive of any further meaningful movement.

There is empirical evidence, however, that people can gain a perspective on the whole process of meaning-making, including a perspective on the limits of systematizing through rational - representational means. Commons and Richards assume that the terminus of human cognitive differentiation can be described in purely analytic, formalistic terms. Though they start out with a reference to the tenuousness between the symbol and the thing symbolized, they seem to ignore this in the course of constructing their model. Their abstract mappings elucidate the structure of all possible logical operations, but they cannot account for the paradox of the language or mapping habit itself. In Gardner's words: "It is not … the first occasion in cognitive science where the formal methods turn out to work most effectively with those aspects of behavior that seem least central to mankind's concerns" (1985, p. 252).

As I have argued earlier, scientific symbol systems, as abstractions from abstractions, are even further removed from reality than natural language[9]. If we wish to understand how humans can come to question their own means of meaning-making as in CLA then the GSM can tell us very little. If we are interested, however, in specifying and assessing the formal properties, the structural rigor, the complexity, the predictability, and the internal consistency of stage theories, then the GSM is useful and exemplary as a theory.

Jane Loevinger (1976): the autonomous and the integrated stages in ego development theory

In contrast to Commons' and Richards' model which is heavily theory-driven, Loevinger's ego development theory (1976) and especially her measuring instrument *(The* Washington *University Sentence Completion Test = SCT*; Loevinger, Wessler and Redmore, 1978) are based on empirical evidence. Ego development theory proposes an invariant hierarchical sequence of cohesive meaning perspectives with which humans face life. It is a psychological system which interrelates action, affect and cognition and therefore, unlike Commons' and Richards' GSM, does attempt a more full-bodied explanation of human meaning-making.

Most importantly regarding CLA, it postulates that people's stage of conceptual differentiation is mirrored in the content (level of abstraction) and the structure of their language (complexity). Loevinger's approach to "measuring" development constituted a breakthrough when it appeared. The instrument is based on the assumption that language is constitutive of reality and that people unconsciously project their underlying cognitive framework

into their verbalizations. Thus a rater can deduce a probable developmental stage by analyzing a person's sentence completions. The theory also assumes that people, as a rule, function at the most "egosyntonic" stage. That is, they operate at the stage that explains the world best to themselves particularly in areas in which they are motivated, such as the shared day-to-day situations used as stimuli in the SCT, or in which they are experts, such as in their fields of specialization.

However, Loevinger never makes explicit the connection between different ego stages and related linguistic indicators. Nor is there a single underlying generator that explains growth throughout the model. My own research has dealt with some of these problems and introduced a more consistent framework from which to view the increasing differentiation - individuation of successive ego stages (Cook-Greuter, 1990, 1994). I use the level of self-perspective attained as a distinguishing criterion throughout development and outline a stepwise deconstruction of the notion of a permanent, separate self and object world at postconventional ego development.

The two highest stages of Loevinger's theory are vaguely defined and not well differentiated from each other (ibid.). Actual responses to the SCT-stems show that individuals can develop a perspective on their own framing of experience that allows them to recognize that both self and reality are continuously reconstructed in an "illusive" effort to attain an objective, permanent self-identity. Conscious attention to subtle semantic issues is part of that awareness. For example consider this response to one of the SCT stems. "Raising a family – is a misnomer. A family is not raised, it grows as a group process (…)" (Cook-Greuter, 1994, p. 129). In this case the prompt "Raising a family –," itself is objected to because it implies a unilateral endeavor, whereas the respondent understands interactions with family to reflect a dynamic interplay in which all parties may change. Loevinger's theory does not account for individuals who are able – within the test situation – to critique the SCT-stimuli as framing reality in too narrow a way from their perspective.

Loevinger's most advanced ego stage, the integrated, describes persons who are still preoccupied with forging an "objective, durable self-identity," albeit a complex and dynamically equilibrated one (Loevinger and Wessler, 1978, p. 11). They are also characterized as "transcending conflict and reconciling polarities." Of the highest stage examples given, many like the following are unconvincing:

> "When people are helpless – it may be because they lack self-confidence, the will to help themselves, or knowledge of the solution to their difficulties" (Loevinger, Wessler and Redmore, 1978, p. 119).

This response does "summarize several contrasting points of view that lie behind many categories at lower levels," (ibid.) but it does not indicate in structure or content any differentiation beyond a systems view, or suggest a transcending of conflict.

Because of the emphasis on durable self-identity, Loevinger's theory cannot account for individuals who become interested in a dynamic, fluid self-experience, or for those who are attracted to modes of reasoning that draw energy and insight from the very "irreconcilability" of polarities. Such themes do appear on SCT protocols and are addressed in my other papers as well as in Basseches (1984) and Kegan (1994). It is possible that these concerns did not appear in the original data from which Loevinger's theory and the instrument were constructed because of their rarity. An inherent danger of empirically-derived theories is that they can only be as comprehensive as their data. Loevinger et al. (1978, p. 125) also add the researchers' own limited awareness (rater bias) as a possible reason for not recognizing existing nuances and cognitive differentiations in the data.

Although built on the notion that reality is constructed through language, Loevinger's ego development theory does not recognize the possibility of mature adults becoming aware of this

notion and consciously incorporating it into their living. CLA, paradoxically, seems to be outside Loevinger's theoretical purview.

Michael Basseches (1984a, 1984b): Dialectical thinking as a metasystematic form of cognitive organization

Basseches' work, although it is not a full-scale developmental theory, specifies the indicators for a mode of reasoning he calls dialectical. He differentiates dialectical from other types of thought by focusing on the organizing principle or "process by which structured wholes, forms, or systems, evolve and change" (1984b, p. 217). He defines dialectic as a transformation (= movement through forms) in which the relationship between the notion of form and the notion of movement are central, that is the relationship itself "has a role in making the parties what they are." He illustrates this with the definition of the concept "road": "If no vehicles traveled on the road, it would not be a road. (…) Thus, its being a road depends on its particular relationship to vehicles (p. 218)." This is a fine example of the linguistic issues that emerge as part of CLA. It shows an understanding that concepts are interrelated, depending on each other for their existence. More than that, what things mean depends not just on what given statements themselves say, but also on their position in the larger historical context and the specific cultural conversation of which they are a part.

Rather than proposing a stage sequence, Basseches (1984, p. 74) organizes dialectical thought into 24 general moves or cognitive schemata which he isolated from interview material. He classifies these into motion-oriented, form-oriented, relationship-oriented ones, plus a higher-order group which integrates the other three by "describing relationships among forms, and transformations through forms, as well as *the process of form construction*" (my italics). According to Basseches (1984), all four kinds of schemata must be used for thinking to be considered dialectical, that is fully postformal.

The notion of dialectic itself, of the movement from thesis (the object), to antithesis (its shadow or negative), to synthesis (to seeing the whole), requires a partial understanding of the process of meaning-making via symbolic representation. In as far as Basseches' subjects use dialectics as a mental maneuver in specific instances without realizing that it constitutes a general pattern in their reasoning, they do not show awareness of the dialectic nature of thought. Basseches himself, on the other hand, by being able to point out such patterns *qua* patterns can be said to do so. While most of the schemata are not directly related to issues of CLA, several are:

Schema 4 "Recognition of correlativity of a thing and its other," for instance, deals with definitions. It makes explicit that the meaning of any assertion, concept or object of reflection depends on all of the things to which the assertion, concept or the object is related to and differentiated against (including their background and negations).

Schema 6 "Affirmation of the practical or active character of knowledge" deals with the constructed nature of knowledge and its function as a map of "uncharted complexity" (1984 a, p. 97) and thus clearly speaks to the map-territory issue. It is classified as a motion-oriented schema because people can become self-consciously aware of how thinking about their thinking influences the course of their thinking. Thus thought can become "aware of the possibilities for change or motion within itself."

Schema 7 "Avoidance or exposure of objectification, hypostatization, and reification" points out problems with treating as separate and static entities that are part of interrelated, dynamic processes. It speaks to our tendency to see named objects as external givens rather than as constructs. Basseches goes further to suggest that people who are aware of this pattern can avoid objectification and reification by

> using language in such a way that one is likely to maintain awareness of motion, process, or constitutive relations in general,

> and of the processes of human activity and mental abstraction or construction in particular. This is difficult in the English language, since the use of the nominative case, which is required by the grammar, carries connotations which often result in all of the effects described … above (1984a, p. 99).

Among the metaformal schemata, schema 16 "Location of contradictions or sources for disequilibrium within a system or between a system and external forces or elements which are antithetical to the system's structure," and schema 23 "Criticism of formalism based on the interdependence of form and content" refer to paradox and contradiction as means to transcending established mindsets by challenging the person conscious of them to a "developmental resolution as a transformation to greater complexity." The basic rhythm of schema 1 (thesis-antithesis-synthesis) is, of course, the same whether applied to single instances or to whole systems of thought as practiced in the metaformal schemata.

Unlike Loevinger, Basseches asserts that,

> … disequilibrium is valued over any particular form of equilibrium, since it provides a source of transformation which is capable of freeing one from the limits with which any particular form of equilibrium is viewed as necessarily associated (p. 130).

This preference for uncertainty, reflects the attitude of the person with CLA who also prefers to be conscious of the paradox of living in language. The very awareness of the inherent tension points beyond it. Thus living in paradox feels freeing and vital in comparison to the kind of closure which Loevinger's durable, objective self-identity might provide.

Though Basseches has chosen to locate all dialectic schemata in the general realm of adult thought, my hunch is that they could be shown to be characteristic of several different ego stages, some emerging as byproducts of formal operations, others becoming salient towards the end of cognitive differentiation in the postformal realm. Only if individuals employ all four types of dialectical schemata can their thought be considered postformal. In that situation, Basseches' theory makes room for the possibility of developing CLA as an integral part of higher order cognitive differentiation.

Robert Kegan (1982, 1994): A theory of the evolving self; the interindividual stage or the fifth order of consciousness

In many ways Kegan's and Loevinger's theory are similar. Both describe the evolving self or ego development from infancy to mature adulthood and both attempt to be comprehensive in their proposed stage sequence. Human beings are multi-faceted, and thus these two theories concern themselves not only with cognition, but also with affect and action and describe their differentiation and integration in dynamic interplay.

In his first book, Kegan outlined an overall theory of orders of consciousness or ways of knowing. He described five such possible orders: two preconventional, two conventional and one postconventional one. Each of these constitutes a higher order integration and subsumes the previous view as content in the new outlook. Kegan's orders focus on positions of relatively stable organizations of meaning in the ongoing evolution of the self.

Though they cover similar ground, Kegan's theory differs in salient aspects from Loevinger's. The instrument for measuring the orders of consciousness, the *Subject-object interview* (L. Lahey et al., 1986) not only measures the theoretically defined five orders, but also transition steps between them. Figure 3 below compares the relative positions of Kegan's orders of consciousness to the stages in Loevinger's stage sequence.

For example, an individual's order of consciousness can be at either 4 or 5, or at one of three steps in between these integrations: at four but with signs of differentiation from four, 4(5); in the middle of two stages 4/5 and almost at five, but with four residues (4)5. Since they are not theoretically defined as stages, the in-between-steps are assessed impressionistically.

Loevinger, in contrast, defines the differentiations from the previous integration themselves as stages (Δ/3, 3/4, 4/5) in development throughout her model. Longitudinal testing with the SCT documents that adults often settle in an oppositional stance for decades, neither retreating to the previous integration nor advancing to the next which supports Loevinger's point of view.

That such differences in segmenting and defining a substantially similar topic area or territory are possible, points again towards the artificial and discretionary nature of carving up any underlying human reality. Whether one focuses on orders of consciousness or on the sequence of relatively stable perspectives taken up in life results in differences in the theory, the number of stages observed and in the way these are measured.

In his second book, Kegan introduces the notion of two separate positions – a deconstructive form of postmodernism and a later reconstructive one – between his fourth and fifth order of consciousness, that is a separate stage for the 4/5 step. Here he asserts that:

> antimodernism is clearly the position of differentiation before integration, a position whose energy is necessarily devoted to maintaining a valuable disjunction and whose gift it is to make clear the good reasons for doing so (p. 327).

If "differentiation always precedes integration" (p. 326) then the positions of differentiation between the orders of consciousness should be defined for the whole sequence to reflect this overall developmental pattern.

In general, Loevinger is more consistent than Kegan between her theory of ego stages and her measuring instrument. On the other hand, Kegan's theory is psychologically richer and more comprehensive. It addresses both the ontological question of what it means to exist in this world and the epistemological question of how we make sense of our existence. It explains how we construct meaning by embracing ever more of our external and internal experience. It empathically portrays the changes in positive experience, motivating concerns, and difficulties at different stages while it explains these changes using the subject-object transformation as the underlying cognitive mechanism.

For the latter Kegan provides a descriptive itinerary along Piagetian lines of how meaning evolves "according to regular principles of stability and change." Humans appear to develop via a continuous dialectical equilibration between related opposites of all kinds: between self and other, preservation and expansion, differentiation and integration, individuation and participation (A. Angyal, 1965). Overall the trend seems to be toward greater flexibility and coherence between the organism and its surround.

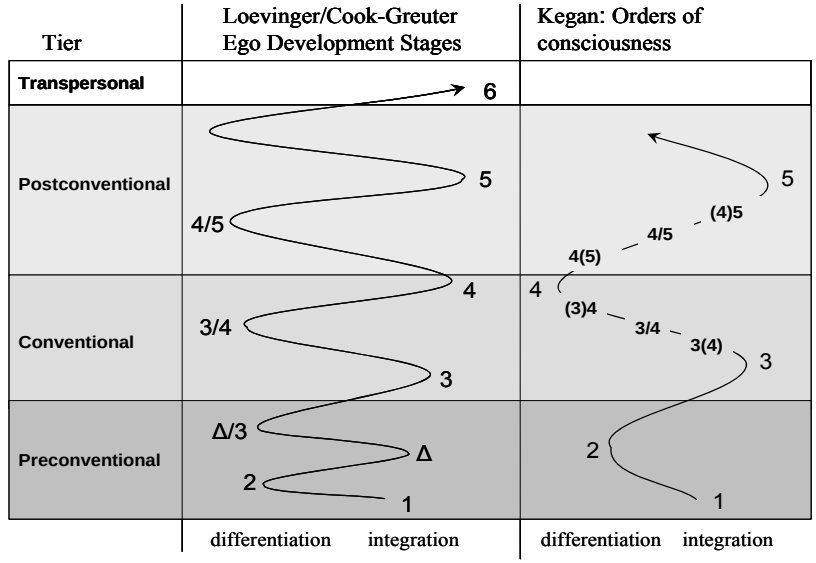

Figure 3
COMPARING LOEVINGER'S AND KEGAN'S STAGE SEQUENCES

In *In over our heads* Kegan (1994) argues that whereas modern society's institutions require fourth-order, formal-operational thinking, most adults are still in the process of acquir-

ing the tools for such thinking. They are just learning to differentiate themselves from their immediate cultural context and to independently evaluate different norms, roles and beliefs in order to build their own, individual, self-chosen sets of values and motives and form separate self-governed identities

Nonetheless, he acknowledges that a small number of people develop beyond conventional views of reality, to a trans-systemic or interindividual order of comprehension, or from a modern to a postmodern view. In developmental terms, one would need a postmodern perspective in order to look at language as a system of universal human behavior that can be evaluated from outside. In Kegan's words, one needs to realize:

> that the logical power a system has on its own terms is flawed and incomplete when viewed from outside … that each system – each 'way of knowing' – is inevitably 'decisive' in the literal sense of cutting some things off and including others, that each way of knowing is a way of not knowing, that each discipline is itself an ideology offering the power of explanation but at the price of inevitably advantaging someone or something and disadvantaging someone or something else (p. 290).

Though this is a description of the insights offered by current social constructivists about the relative nature and limits of intellectual disciplines or knowledge systems, it also describes CLA. For as I have indicated, any language constitutes a "way of knowing" the world which always privileges some aspects of the phenomenological continuum by naming them, and leaving unacknowledged others by not having words for them. CLA implies that this privileging happens not just in regard to one or the other ideology as social constructivists indicate, but on a deeper level whenever we use language.

It is in the chapter on *Conflict, leadership and knowledge creation*, that Kegan deals most explicitly with issues of boundaries, polar opposites and the continuous process of reconstruction which is valued for its ongoing challenge to absolutes and boundaries. He asks, for instance, whether we take a priori the existence of separate elements or systems, a formal-operational view of reality, or whether we focus on the process of how knowledge about reality is created. At the fifth order of consciousness, individuals realize that any abstraction, whether a single element or a complex theory, is always a partial representation of the whole, existing only in relation to what it has been differentiated from.

As meaning-makers we inevitably yearn for that overarching theory that encompasses every conceivable potentiality and thus can provide us with absolute certainty and closure. Not before the fifth order of consciousness do people become capable of reflecting on their experienced need for meaning and order and their involvement in creating it through mapping reality in language.

In terms of understanding the nature of polar opposites (any concept and its negation) as interdependent, Kegan points out that there is a super-ordinate possibility beyond the process of dualistic splitting, one in which one's tendency to split is taken continuously inside as an expression of one's own partialness and incompleteness.[10] Thus he discusses on a more general psychological level, what CLA allows people to understand through examining the nature of language.

Similar to Basseches, Kegan maintains that people with a reconstructive frame of mind find vitality in rending every new veil that comes into awareness, because they experience closure and fixed boundaries as deadly.

> We could argue that the purpose of reconstructing — this creating of better and better theory — is to arrive eventually at the Complete Theory, but a truly reconstructive view would actually be more likely to associate such a "victory" with death. As long as life goes on, the process will need to go on (p. 330).

CLA requires just such a reconstructive sentiment towards language. Individuals can realize that language is an important, but partial aspect of meaning-making. As long as they continuously

deconstruct and reconstruct their relationship to the phenomenon, they can loosen its grip. In Kegan's words, they can have language rather than be had by it.

Loevinger's theory implies that one of the ways this "being had by" language manifests itself is in the way one projects one's own reasoning style and process of meaning-making into one's utterances. Loevinger's theory and writing, paradoxically, indicate a strongly rational/linear stance towards theory-making and an instrumental view of language. In contrast, Kegan seems aware of the possibilities, limits and power of language. He is mindful of these as a word smith. In the prologue to *The evolving self* he invokes several aspects of CLA.

> While it may be possible for us to accept in isolation an axiom like Hegel's, …, that what is most fundamental about life is that it *is* motion (rather than merely some*thing in* motion), it remains that we are greatly tempted - and seduced - by our language into experiencing ourselves and the world as things that move (p. 8).

Here awareness of our tendency to reify as well as a semantic sensibility to changing word meanings is evident (something < some "thing"). In the prologue, Kegan also points to the etymology or forgotten aspects of commonly used words, such as the action residing in the noun "being" and the response-ability in responsibility. The most salient of these insights is the double meaning of the word "meaning" as both "making sense" and "mattering, being of consequence." This distinction summarizes the heart of Kegan's work in both its epistemological and ontological dimension.

Though Kegan does not mention language *per se* as an internally consistent system of behavior that can be reflected upon at the fifth order of consciousness, his theory has room for CLA as such a system of focus, and his own language use is indicative of the existence of the phenomenon.

Herb Koplowitz (1984): A projection beyond Piaget's formal-operational stage: A general systems and a unitary stage

A short, comprehensive and compelling article by Koplowitz (1984), which summarizes adult development, has been instrumental to my own thinking. He outlines the transformation of the observer's relationship to four fundamental scientific concepts – causality, relations among variables, boundaries and permanent object (p. 291) – from formal-operations to two proposed postformal stages. Summaries of these changing relationships have been provided and highlighted above on pages 17-18 in the overview of postformal developmental psychology.

Koplowitz argues that seasoned systems thinkers have to "dematerialize" their world views eventually because the permanent object is always defined by its relationship to the context. Both Kegan and Basseches make similar points using a "tube with two ends" and "wife and husband" as examples of concepts with interdependent definitions. In turn, anthropologists point out that husband and wife are parts of a wider kinship relationship network, in which all kin terms are interrelated. Although the definitions and boundaries of these differ for different cultures, kinship vocabulary is again part of a larger set of social relationship nomenclature in an ever widening web of interconnected definitions.

Although systems reasoning (or metasystematic, dialectical, first-order postformal thought) is more advanced and more flexible than formal-operations (or a linear, analytical approach to knowing) it has its own limitations. As Koplowitz observes:

> The general systems reasoner, having dealt with boundaries all throughout life and having made sense of the world using boundaries, is not at all sure of how, where, and, ultimately *whether* to draw them (p. 286, italics mine).

Those who take a systems approach seriously, eventually discover that every object, every variable, every context is connected to other objects, variables and contexts in such a way that boundaries remain elusive. Ultimately everything is interrelated

and the world of objects is a temporary, yet convenient guiding fiction.It is the "dis-illusionment" or the final deconstruction of the concept of the permanent object world that occurs at the unitary stage.

Koplowitz elucidates that "reality is undifferentiated. The process of naming or measuring pulls that which is named out of reality, which itself is not nameable or measurable" (p. 289). Here he refers to the basic linguistic process of abstraction "pulling out" and differentiation. As argued before, the capacity for understanding this mechanism is characteristic of CLA. When he observes how the constructed nature of boundaries affects the conception of polarities, he takes up another aspect of language awareness, namely the essential interdependence and unity of polar opposites. When he declares that "one cannot draw a boundary around good without at the same time delineating evil," (p. 229) he refers to the yin-yang nature of our basic dichotomies and the dualistic, partially innate splitting that occurs from the outset of our linguistic world making.

The view of reality as described in Koplowitz's stage of unitary thought resonates most with insights that can be gained by exploring the nature of language. Koplowitz's formulation of the unitary stage as one in which individuals become fully conscious of the constructed nature of the objects and their boundaries and of the essential unity of the universe, goes furthest in completely deconstructing the formal-operational worldview and in using CLA to illustrate the limits of reasoning in the symbolic realm of cognition.

Summary

In this last section I have looked for the phenomenon of CLA as an aspect of meaning-making in comprehensive, non-domain specific models of adult development. Such evidence does appear in the theories of Kegan, Basseches, and Koplowitz.

Though Commons and Richards look at the ability of people to reflect on whole fields of thought, they do not seem to consider language itself, both as their own narrative means and in its formalistic-symbolic representational aspects, as such a field of contemplation. They do not examine the underlying premises of symbolic logic by which they develop and describe their abstract model.

Loevinger presents the most paradoxical case, however. Even though her theory is based on the proposition that language is constitutive of reality, it does not account for the possibility of people becoming aware of this realization and consciously using it in their construction of meaning.

Basseches, in contrast, looks at metaformal thoughts-in-motion which appreciate the power of paradox and the continuous reconstruction of meaning as an essential aspects of growth. Kegan also addresses the metasystematic ability to reflect on whole internally consistent systems of thought and on dialectical reasoning itself as aspects of his fifth-order or postmodern consciousness. Although Kegan demonstrates great sensitivity to the shaping qualities of language in his writing and predicts that people can become aware of meaning-making as a continuous process of reconstruction and premise investigation, he never explicitly addresses language awareness as part of that process.

Finally, Koplowitz also emphasizes the necessity for a continuous deconstruction of our tendency to objectify reality. He defines as preeminent a unitary view of reality in which the domain of reasoning and symbolic representation constitutes only a special form of knowing within a more integrated, metaphysical apperception of reality. Among the theories explored, Koplowitz's alone focuses on the nature of language as an abstraction in explaining the progression of stages in his theory.

The authors' own level of language awareness as evidenced in their writings seems to be a good indicator for whether they consider aspects of CLA as a possibility in their theories. Loevinger as a psychometrician and Commons and Richards as psychologists interested in the "quantitative analysis of the construc-

tion and understanding of reality" tend to invest their energies on the structural, measurable aspects of development rather than on the more qualitative, meaning-related ones. It is consistent with constructivist developmental theories that scientists' choice of topic, preferred type of theory and methodology is a partial reflection of their own conception of reality. In the words of David Bohm: "A theory is primarily a form of insight, that is, a way of looking at the world, and not a form of knowledge of how the world is" (1980, p. 4).

By analyzing the process of meaning-making or the way concepts and theories are formed, one can learn to realize the essentially constructed nature of the object world and understand the unavoidable distance between the symbol and that which it symbolizes.

By observing the entire language acquisition process and the progressive differentiation-abstraction movement in language in general and in one's own meaning making, one can consciously reapprehend the underlying seamless, interconnected reality.

Recall Whorf's claim that "we dissect nature along lines laid down by our native languages" which implies that the objects are not otherwise separate and real. Recall also Rheingold's description of our limited vision: "Our eyes simply don't detect the lonely electrons, spinning in their distant orbits around tiny nuclei, separated by immense subatomic voids." Both these descriptions hint at the unitary view of reality which can also be gained through a careful analysis of the nature of language and its function in meaning-making.

DISCUSSION

As I have argued throughout, the ubiquity and diversity of language makes it one of humanity's most marvelous achievements. At the same time, its nature as a system of symbolic abstraction, and its biological and cultural aspects generate powerful filters that restrict awareness of its limitations. As defined, CLA allows individuals to have a broad perspective on how they make sense of experience through language, as well as on how knowledge, which is symbolically-mediated, is inevitably partial and anthropocentric.

Based on theoretical considerations and statistical evidence from empirical research (Cook-Greuter, 1990, 1994) CLA seems to be rare. It develops in the overall pattern of postformal cognitive differentiation proposed by adult stage theories. First, one becomes aware that meaning does not reside in objects and events, but is attributed to them by the human observer, that is it is an interpretation. Next, in a further differentiation, this relativizing occurs at the metasystemic level at which the underlying assumptions of ideologies and whole scientific disciplines are laid bare.

CLA goes one level deeper in that it looks at the medium itself by which discursive reality is constructed and deconstructed. Unlike the reason- and life-affirming reconstructive stance that Kegan sees as the positive integration beyond the merely "de[con]structive" move of antimodernism, CLA implies that the whole paradigm of differentiation and integration in the rational domain of symbolically-mediated knowing is limited and needs to be transcended if further development is to occur. As proponents of consciousness theory point out, transcendent ways of knowing can not be "articulated" and experimentally observed, only experientially and individually verified (Nuernberger, 1994). Since this entire paper is embedded in the domain of rational discourse, it is subject to all its limitations.

I have presented a hypothesis that CLA evolves from viewing language as a practical and objective tool, to viewing it as an instrument of ideology or social/cultural conditioning, to viewing it as a fundamentally problematic aspect of human behavior. This hypothesis has yet to be tested. In order for language awareness to be a developmental phenomenon, the shifts in awareness would have to occur in an invariant sequence and the stages hierarchically subsume each other. Other factors might also contribute to or ex-

plain the occurrence of CLA. For example, heightened language awareness could be a function of personality, verbal intelligence, or upbringing (multi-culturalism, polyglottism). Since forms of language deconstruction are frequently a symptom of psychopathology, the relationship of CLA with the latter might also be explored.

I have argued that most humans, including scientists, use language most of the time as though it were a neutral instrument, unaware that it paradoxically creates the very reality they are describing and trying to explain. Perhaps for this reason, or because they do not share my view of its importance, the adult developmental theorists reviewed in this paper, do not investigate language awareness itself. Some do, however, use subject responses to indicate basic ambiguities in language and reasoning in support of other topics, or show signs of CLA in their own writing.

Notwithstanding everyday language use, there is evidence that researchers in both the social and the hard sciences recognize that reality is beyond any of the various maps we can make of it. Perhaps this convergence of cross-disciplinary understanding reflects the increased maturity of "science" itself. It is tempting to speculate that these recent developments reflect an evolutionary trend towards a unitary consciousness that runs parallel to the development of a unitive consciousness in individuals, a consciousness which integrates meta-physical as well as physical, rational, affective and behavioral dimensions of experience.

The mere possibility of CLA and of transcending cultural-linguistic boundaries both in individual cases and by the scientific community as a whole has consequences for all fields of human investigation.

With the advent of the information age, people around the globe are exposed to the sights and sounds of other cultures and other languages. Verbal/numerical literacy and some familiarity with computers and international English seem to be prerequisites for participating in this brave new world. As ordinary people, not just scientists, face this information or symbol-saturated era, there is a greater urgency for cross-cultural tolerance and a more relative stance towards one's own worldview. One of the benefits of the wider multicultural exposure is that there are new opportunities for hearing different languages and encountering different outlooks.

EDUCATIONAL IMPLICATIONS

The growing awareness of the limits of language in the sciences together with the postmodern demands for greater cross-cultural awareness have manifold implications for education. Greater language versatility would be a desirable goal for global citizenship. In the following I will raise some questions regarding today's practices and goals and offer some alternatives for consideration.

Given the global environment, wouldn't it be preferable that children were educated towards a secure, but more flexible identification with their mother tongue? If so, might we not benefit from seeing bilingual education as *developmental* rather than *remedial* because of the cross-cultural and linguistic awareness one could foster? Learning another language well, is one of the best ways to get a perspective on the peculiarity of one's own.

Given the limits of language as a representational system, we might also wonder about the costs of our current emphasis on symbol manipulation to the exclusion of other ways of knowing. Attention to the shifting states of our bodies, emotions, and consciousness as well as to intuition and dreams are known avenues to non-rational apperception. What if we taught and encouraged children to be more receptive to sensory and kinesthetic information, and to use their intuition, dreams, and aesthetic sensibilities as channels for understanding the world alongside symbolic competencies? What might be gained by teaching children to meditate in addition to discursive reasoning?

As for the adult arena, recent developments in leadership training[11] have already begun to utilize non-rational, lateral or divergent modes of reasoning, aesthetic competencies and group-centered ways of meaning-making as powerful avenues for increasing creativity, effectiveness and life satisfaction.

An awareness of multiple perspectives and realities seems most indispensable, however, for leaders in government, international commerce and diplomacy. What if they were aware of their own partial knowledge of reality? Wouldn't negotiations be more effective if they were able to attend more flexibly to the needs of a diverse, multi-lingual, global citizenry? Might they not then be more willing to consider and learn from the accumulated practices and wisdom of other cultures and other ways of constructing the meaning of life?

Adults with CLA, who have developed dynamic, fluid, multi-modal ways of meaning-making, are perhaps especially well equipped to deal with these new exigencies in training and education. Mature insight into the process by which experience is reified in language may allow them to build bridges for and be mentors to those not yet aware of or ready for a more unitive view of reality. Being free to move in and out of frames of reference, they can better appreciate each person's and each group's need for boundaries and unique identification, while promoting a collaborative focus on what connects us as human beings across personal experience, development, race, gender, ideology, geography, history, culture and language.

APPENDIX

My Current Assumptions About Meaning Making And Language In Human Experience

1. Each human organism is similar to all others of the species as well as a unique manifestation of it. All human life is governed by the same overall organismic systems principle and subject to the same "patterns of nature" such as birth, change, and physical death.

2. Humans can only develop into functional adults in a social context. One becomes *homo sapiens* only as one is *homo socius*. The primary socialization is carried out by significant others who transmit the culturally accepted orientation and definition of what constitutes the reality of everyday life (Berger and Luckman, 1966). The most powerful means of socialization is language. Throughout life and with every speech act, the shared reality gets mutually reinforced.

3. Though socialization is crucial in the acquisition of a specific language, the human animal has a highly sophisticated innate capacity for different types of symbolic codifications and manipulation of experience, ready to be activated upon entering life outside the womb. In addition, and unlike other animals, humans can become aware of this feat.

4. Natural language is the most fundamental, universal and flexible of existing codifications. It is the metalinguistic properties that make it the most versatile of all symbol systems. It is used not only to describe and discuss its own dimensions, but those of all other systems of symbolic representation as well.

5. The capacity for language acquisition is innate in the human species. A blueprint for all languages preexists. As long as the potential for language is activated in children through exposure and training in any particular language at the maturationally appropriate time, they will acquire it. On the other hand, children will not develop complex language without adequate human models. The regular interaction with an external catalyst seems to be necessary for the particular language to emerge out of potentiality. The process of first language acquisition is lost to memory. The language habit becomes unconscious and automatic.

6. A given language will become the basis for continuing development within a given speech community and the main means by which its members make sense of experience. Cognitive growth can be described as a process of continuous symbolic differentiation and elaboration as well as higher order symbolic abstraction and integration. The more evolved, the more territories of experience become available for symbolic representation and cognitive manipulation.

7. All human life strives to fulfill the human propensity towards both differentiation (individuation) and integration (participation) (Angyal, 1965). Development occurs in stages. At each stage, the quality and the balance of these two trends have to be renegotiated. Overall development moves from unconscious symbiosis towards conscious universal embeddedness.

8. Human beings have an intrinsic disposition and need for meaning-making and meaning-maintenance. Once a meaning scheme is in place, it is constitutive of experience and acts as a filter for dissonant stimuli. The psychological construct of the "ego" represents this striving of humans beings to understand themselves and the world they live in (Fingarette, 1963) through active exploration and participation.

9. Experiences vary in quantity and quality for different individuals depending on their being born into a specific historical time, geographic place, linguistic and cultural environment, and personal circumstances.

10. The parameters of the human condition, however, have remained constant throughout history and around the globe. As a physical organism we are born, grow, change, and die within the context of our physical environment. While we live, we need to eat, drink, breathe, eliminate waste matter, and sleep. To insure the survival of the species, procreation has to occur. As an organism with the capacity for feelings, thought, and the need for self-knowledge and knowledge of the world, we depend on a social environment with which we are in dialogue for continued growth, self-experience, and self-definition.

Revised from S. Cook-Greuter (1990). Maps for living: Ego-development stages from symbiosis to conscious universal embeddedness. In M. L. Commons, C. Armon, L. Kohlberg, F. A. Richards, T. A. Grotzer & J. D. Sinnott (Eds.) Adult development vol. 2, Models and methods in the study of adolescent and adult thought (p. 80-83). New York: Praeger.

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[1] Since 1998 I have also used the term "language habit" to refer to the automatic and unconscious use of language in meaning making.

[2] Authors are cited with their first initial and last name at first mention, thereafter with their last name only.

[3] Many animals respond to other ranges of the stimulus continuum or have different senses: Bees can 'see' ultraviolet light, bats and dolphins have echolocation.

[4] According to the Gestalt psychologists, such rules for groupings are abstraction, reduction and simplification, continuity, proximity, figure over ground preference, orientation in space, and depth perception.

[5] Perceptual constancy refers to the ability to recognize an object as being the same under various environmental conditions. When we see a thing as the same under different lighting, from various perspectives, and from different distances, for example, we exhibit color, shape, and size constancy.

[6] The concept of "the uncertainty principle" originates with the physicist W. Heisenberg (1958). According to D. Doherty (1986), the Heisenberg uncertainty principle describes two important phenomena: The fuzziness of nature at the subatomic level and the inevitable interference of the measuring device on the object measured.

[7] Both Kegan's work and my own statistical analysis of over 3000 adult SCT protocols shows the distribution of these realms to be approximately as follows: Preconventional 10%, conventional 80% and postformal and transpersonal together another 10%. Evidence of CLA appears only at the highest ego stages which represent<1% of protocols, i. e. it appears to be rare.

[8] For a thorough analysis of the demands embedded in modern Western ideology and its impact on adults see Kegan's (1994) *In over our heads*.

[9] K. Fischer et al., 1984; goes even further. He argues that "abstractions are already so far removed from actions in the real world that further developmental levels (beyond the level of formulating general theoretical principles) might well be not merely useless but maladaptive (p. 53)."

[10] He argues the point by discussing the dualistic equivalency between an absolute ideology and the absolute antiabsolutism of the deconstructive stance in postmodernism. pp. 327 ff. In linguistic terms, absolutism and antiabsolutism are as dualistic a pair of opposites as dualism and non-dualism.

[11] See for instance, Torbert (1987) and Issues & Observations. Vol. 15. No. 1. Greensboro, NC: Center for Creative Leadership.

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