Remapping Psychology:

A New Look at Values in Scientific Ontology

By Bert H. Hodges

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Bert H. Hodges explores the possibility that values are the ontological fundamentals within which human activities such as perception, development, and emotion are enacted. The relation of values to "laws" and "rules" in scientific accounts is considered, and a theory of values is sketched that clarifies the enigmatic character of behavior. Values, it is proposed, are heterarchical, legitimating, and frustrating. Mr. Hodges teaches social, cognitive, and theoretical psychology at **Gordon College**.

A woman pulls up to an intersection in her car with her left turn signal on. She looks to the right and sees a truck approaching some distance from the right. Should she pull out and make her turn, or should she wait?

A youngster approaches his father and asks for money in a mechanical and off-handed way, not unlike he has done dozens of times before. Reaching for his wallet, the father says with some irritation, "I'm not an automated teller machine, you know."

An old woman, who still bears the scars, physical and emotional, of hiding Jews from the Nazis in Poland during WWII, is asked how she could have been so courageous. What, her inquisitor wants to know, made her special? Her enigmatic reply: "The hand of compassion was faster than the calculus of reason."[1]

Each of these scenes, I will argue, recalls or requires the realizing of values. The first is an example of everyday perceiving and acting, the second an example of the development of a relationship, and the third an example of emotion. Each of these situations embodies issues central to psychology, yet the theoretical tools with which psychologists would try to understand these issues provide only a clumsy grasp of their significance. Why is this so? Is a more sensitive grasp of perceiving, acting, developing, and feeling possible?

It will be argued that values should be fundamental constituents of a scientific ontology. Since this is not how most psychologists, philosophers, or physicists have considered values, if they have considered them at all, this paper proposes that a new look at values is necessary if we are to advance in our understanding of issues such as those illustrated above. Reconsideration of values and their place in scientific theorizing will raise issues of significance not only for psychology, but also for science and religion more generally,

as well as many other special disciplines such as hermeneutics, anthropology, and philosophy

A New Look and a New Cartography

In the decade after World War 11, a "New Look," as it was called, was introduced into perceptual studies in psychology.[2] Its primary thesis was that what we see or hear is influenced by our motivations. Thus, for example, hungry people would be quicker to see food-related words than those who were not hungry. Similarly, if persons were asked to draw a circle the size of a quarter and another the size of a penny, they would tend to overestimate the size of the quarter more than the penny The reason for the predicted difference was that the greater economic value of the quarter would tend to inflate its perceived size and/or the lesser value of the penny would deflate its perceived size. Do values of this sort affect perceptual activities, as predicted? A flurry of studies suggested the answer is "yes, sometimes, and the differences are usually quite modest."[3]

Similar questions are often discussed in the pages of this journal: How, if at all, do Christian motivations affect scholarship and vice versa? Do aesthetic, economic, or religious values influence scientific discourse? Do commitments-personal, political, or professional-lead to differences in piety and practice? The answers given might be summarized in similar fashion as well: "yes, sometimes, and the differences are usually quite modest." However, David Livingstone has recently argued in this journal that such global summary statements hide as much as they reveal, papering over significant differences of time and place.[4] "Science" has not been practiced in precisely the same way in different places or periods, nor has "religion," so it may be superficial at best or misleading at worst to make some factual or normative claim about "the relation of science and religion." VVhat is needed, he suggests, is a new cartography that maps the values and motivations that affect science and scholarship in their local incarnations, a geographically and historically sensitive map that will help to explore the nuanced negotiations between commitments and practices that change over region and era.[5]

What is offered in this paper is a new cartography for Psychology. More specifically, I will present a new look at values, how they may be defined, and how they map onto psychological description and explanation, illustrating in various localities of psychology, namely, perception, development, and emotion, the crucial role values play I will try to show why giving priority to values in mapping psychology clarifies phenomena that are puzzling at present, and also places the insights available through the use of existing maps into a larger, richer context that makes new adventures possible. The cartography offered here will of necessity be sketchy, but it is intended that its sampling of broad contours and particular sites will encourage the interested reader to examine more detailed and extensive maps that use the same or similar coordinate systems.

What purchase can we gain on this psychological territory and its adjoining districts? If, to paraphrase Abraham Kuyper, there is no square inch of the universe and its activity over which Christ is not concerned to be Lord, how might we chart these comers of creation and redemption? Is it possible that a new mapping of psychology would reveal

an integrity of ethics, epistemology, and ontology that is difficult to discern using existing philosophical and scientific maps? To answer these questions, we need to appreciate existing maps.

Why a New Map Is Needed

Modernism is marked by two losses, a loss of perspective and a loss of prospective. Perspective is what locates us in some physical and social geography, what provides a sense of place. Prospective reveals direction, a sense of where we are going, a sense of purpose. Extracted from the physical world and history and declared 'free wills" by Descartes, humans lost their place. With the loss of teleology in Newtonian science, humans also lost their sense of directedness, the prospect of where they were going. Facts became objectified-about the world separated from humans-and fixed-about the present. David Hume articulated the deductions with convincing clarity: there is no natural connection between the senses and perception, between the present and future, between *is* and *ought.*

Sciences, including psychology, have generally taken their task to apply to the first half of each of the contrasts just given, to be descriptive, inferential, and amoral. Psychology has taken the Humean stance for granted as its starting position. Virtually all introductory psychology textbooks claim that (1) the senses cannot provide adequate meaning, that (2) perceiving is restricted to a momentary present, preventing us from reliably knowing the past or the future (thus, causation cannot be perceived, only correlations), and that (3) claims about "goods" that "ought" to be realized have no natural or legitimate place in a descriptive psychology. All of these assumptions are dubious, but it is the third one that is the focus of this paper.

The exclusion of meaning, intentionality, and value from the geography of science was arguably intended to protect science from the political and religious wars of the time, but whatever its worth as a strategy for the physical sciences, it presented an enormous barrier to the success of the social sciences two centuries later.[6] Meaning, intentionality, and value are central to understanding the activity of humans and other animals, but the scientific maps psychologists inherited from the physical sciences leave them at a loss to identify these central features with any ease.[7] The most widely used mappings of the psychological territory are responses to the geography of modernism. Two broad traditions of mapping emerged in science, both useful, but neither entirely satisfactory

The two main ways in which the territory of science in general and psychology in particular has been mapped are in terms of *laws* and in terms of *rules.* The meaning of laws and rules may be understood in geographical and historical terms. Regarding place, laws are statements of universal dimensions; rules are more localized. Regarding time, laws are oriented to the past; that is, they take the form of causes and consequences. Rules are oriented to the future; that is, they take the form of means-ends statements where the ends are usually understood as goals. To summarize, laws are taken to be necessary, universal, and invariant; rules are taken to be contingent, local, and revisable.

Examples of lawful constraints include the inability of humans to move pairs of limbs (for example, index fingers of the right and left hands) in an out-of-phase relationship at high frequencies, the emergence of walking in children only near the end of their first year even though they are capable of alternating stepping movements shortly after birth, and the universal tendency of humans, even children blind from birth, to express anger in tightened lips and delight in smiles.[8]

Examples of rules would be the size and worth of a quarter, the syntactic rules of Spanish, the kinship rules of the Iroquois, the methodological rules of experimental psychology, and the legislative "laws" of Japan.[9]

Scientists and scholars who have emphasized the "givenness" of existence usually stress the lawfulness of human activity; the view they express has been referred to as naturalism. Those who have emphasized the constructive nature of human activity usually stress the rule-following character of human activity; the view they express has been referred to as rationalism.[10] Naturalists tend to stress the unintentional character of existence, while rationalists stress the intentional character of existence.[11]

What is the problem with these two ways of mapping the scientific and human domains? Harr6 and Secord suggested that most of human behavior cannot be mapped clearly onto either of these coordinate systems because the behaviors "are enigmatic, having neither an explicit set of rules, nor produced by well-established causal mechanisms."[12] The context for the remarks of Harre' and Secord was an exploration of social behavior, but the enigmatic character of behavior applies as much to physical coordination as it does to social coordination.[13] For example, studies of expert jugglers have revealed that their juggling does not lock into some lawful mode nor can it be accounted for by their following rules; rather, good juggjing seems to balance on an edge between unintentional cycles of activity (that is, laws) and self-instructional guidelines (that is, intentional rules).[14] Perhaps, as Bahktin has suggested, human activity is 'all and always on the boundary."[15]

The "obvious" solution to the enigma of behavior (that is, coordinated activity) is to combine or integrate in some way the mappings of lawful constraints with rule-following ones. But this is not so easy; let me illustrate. Naturalistic, lawgoverned approaches to psychology find it necessary to assume or posit intentional rules to conserve actions assembled and coordinated by natural laws. For example, in a study on reaching for an object, goals and rules must be specified by instructions from the experimenter to the subject, such as "reach as far as you can without lifting yourself off the seat on which you are sitting." Our bodies are lawfully constructed in certain ways that constrain reaching, but these lawful aspects of reaching cannot be studied without invoking arbitrary restrictions. If there were no such arbitrary restrictions, and I as a subject were asked whether I could reach an object across a large table, I could simply get up, walk over and get it! The difficult part is to choose the "right" restrictions so that the skill the experimenter wishes to understand is revealed properjy But how do we discover which rules are right, the ones that lead to revelation rather than distortion? What laws or rules will suffice?

To flip things over, studies that want to focus on goal-seeking and rule-following behaviors find themselves taking lawful relations for granted. Experimenters simply assume that subjects can do things like reach, listen, write, and remember, none of which can be explained by rules alone. Even the "simplest" of behaviors, standing on two legs, for example, cannot be accomplished by rule-following procedures alone because there are too many joints and too many muscles that can do too many different things. If the nervous system were to try to control such postural balancing in a rule-govemed way, that is, by sending "instructions" to each muscle 'telling it unambiguously what to do and when," it would be equivalent to solving an equation in a "state space" with 200 dimensions, rather than the two or three dimensions familiar to us from geometry. Rules are not sufficiently powerful and flexible to account for these basic skills .[16] But there is a further difficulty: what skills shall be used to test the effect of various goals or rules? Should the skills used be writing or walking, remembering or perceiving? Even when that decision is made, there are further judgments to be made: how will remembrance be tested? By observing behavior, by asking subjects to summarize their experience, by testing their ability to distinguish a detail experienced at one time from similar details experienced at other times, or something else? What rule or law will enable us to answer these questions?[17]

To summarize, rules seem to need laws, and laws seem to require rules. Local constraints appear to function only in a more universal context, and the universal constraints always appear to be modulated by local conditions. But, as the examples just considered illustrate, more than just adding laws to rules, or rules to laws is needed. Questions remain that apparently cannot be answered by laws or rules.[18] The reason for the enigma is that there is something missing, a larger context in which laws and rules carry out their work. What is needed is a new map that puts laws and rules into a different set of coordinates.

A New Map

Kugler and his colleagues suggested that what is needed to account for behavior is a "graded determinism ... an explanatory continuum ... [by which] a system's intentional dynamics can, [at different times and in differing contexts], be govened by *laws that are more like rules, or by rules that are more like laws."*[19] Hodges and Baron proposed that the continuum called for by Kugler and his colleagues is underwritten by *values* .[20] But what are values? And how do they relate to and coordinate laws and rules?

To unfold the map of values, I will borrow a geographical metaphor from Charles Taylor. Values are the horizon that locates us in a "moral space," providing a way of locating ourselves .[21] Like distant mountains, values are non-local, and yet they provide a sense of place for us. One difficulty with this geographical metaphor is that it might be understood in a way that is static, that having a sense of "place" is to be fixed and unmovable. But this is not what is meant. Rather the horizon of values provides distant but real guides that help us to find our way, that help us in the journey of life. Values provide not only place but prospective; they indicate where we have come from and where we are going. Taylor has put it like this:

So the issue for us has to be not only where we *are,* but where we're *going* ... That is why an absolute question always frames our relative ones. Since we cannot be indifferent to our place relative to this good, and since this place is something that must always change and become, the issue of the direction of our lives must arise for us.[22]

Harry Heft, a developmental psychologist, has proposed that 'behavior is pervasively constrained by subtle, non-specific, higher-order environmental conditions that are difficult or impossible to isolate at any specific moment in time."[23] The horizon is perhaps as good a metaphor as we have for such "non-specific, higher-order environmental conditions." As we journey, the mountains surrounding us reveal new aspects of themselves, or even come into and go out of view. Values themselves do not appear as some unchanging frame of reference, at least to those of us for whom they form the horizon, although their appearance will change more slowly than anything closer. Surprisingly perhaps, it is the very distance and non-specificity of the horizon that allows it be useful, to serve as an absolute question [that] always frames our relative ones."

In arguing for the centrality of values for understanding perceiving and acting, particularly in their social context, Hodges and Baron proposed that values are:

... a set of constraints that both precedes and emerges from the existence of laws and rules. Ontologically, values are the global constraints on an ecosystem.... values are the intentions of the world as a self-organizing system in the sense that they are the ends towards which the ecosystem as a whole is directed.... biologically, values refer to the fundamental dynamic constraints on the constitution of an ecological niche, where the term "niche" refers ... to a "way of life."[24]

Considered thus, values constitute the very possibilities for life in some setting, provide the real goods that may be realized in some space, establish the proper functioning of the ecosystem and its parts .[25] Viewed in more temporal terms, values might be understood as the origins and ends (that is, boundary conditions) that provide for the dynamics and direction of existence, including our obligation to know it and act in it responsibly. To put it psychologically, values designate the *oughtness* of what is to be said, done, or felt; values locate the *worth* of any particular activity for its time and place.

The normative tone of the description of values just offered is familiar. What is not familiar is the space marked out by Hodges and Baron for values.[26] Psychologists and philosophers since Descartes have located "values" within a geography either of rules or of laws, or in a few cases, within a combination of the two.[27]

Values are most often viewed as a species of rules, as "beliefs" or "principles" that establish personal or social preferences in thought and action. Put in motivational terms, values are "wants" or "desires," goals we wish to achieve or places we wish to possess. Values are social constructions, the establishment of priorities; the deconstructed version is that values are rationalizations, the pretense of some hierarchy that sanctions its oppression of unprivileged others.

Alternatively, some have viewed values as a matter of lawful functioning, as universal imperatives of biology or society For example, Schwartz has described the attempt of some economists, sociobiologists, and behaviorists to treat their descriptions of human

behavior as universal and necessary, to understand motivation as "needs" rather than "wants."[28] The deconstructed version of this naturalistic approach to values is to claim that, rather than being irresistible givens of existence, they are illusions, accidental and non-functional byproducts of natural processes.

Hodges and Baron argued that the "old maps" have the relation between laws, rules, and values inverted; values take priority over laws and rules, rather than the reverse: "Values are the intentions of the world as a self-organizing system" and operate at levels even higher than societies and more fundamental than biology. "[29] Values are the boundary conditions and dynamics of existence; ontologically, they are the fundamentals of the universe. Nested within these values-realizing dynamics, laws function as widely distributed (that is, universal) space-time stabilities, while rules function as time-dependent, localized stabilities.

Like laws, values have a quality of necessity since they unavoidably constrain action, but like rules, values may be shortchanged by action at any given time or place. Thus, values are not universals in the usual sense, nor are they simply matters of local ownership and belief; they are more like *incarnations,* transcendents revealed immanently (that is, locally and historically).[30] As such, values guide our use of laws and our invention and revision of rules, providing the moral measure of human activities such as acting, perceiving, developing, and feeling. The values-realizing nature of reality provides "opportunities for virtue (or vice)," and demands that human activities, including those of scientists and scholars, be responsible.[31]

Mapped in this way, values point to many avenues for investigation. I will mention three in passing, before turning to the one I will pursue, namely, elaborating the theory of values just offered by way of examining how a values-realizing approach might reorient psychological investigations of perception, development, and emotion. First, one way of understanding the purpose of this new map is that it is concerned to reintroduce a strong sense of "responsibility" into psychology. The way in which the theory is intended to do this distances it from "values clarification" programs on the one hand and Edward Wilson's "consilience" on the other.[32]

Second, some readers may have noticed that the "new map" has resemblances to some "old maps" that are now largely available only in "museums."[33] A little research even reveals that there were earlier maps in psychology that gave far greater prominence to values and responsibility than do most currently available maps; for example, Wundt, Brentano, Kbhler, and Asch (all of whom are major figures in psychology and who span a hundred years of its history) assigned values crucial roles in their theory and research.[34] An important history waiting to be written is the story of how and why this dimension of their work was downplayed or ignored to such an extent that most psychologists would be surprised, as I was, to discover it.

Third, by staking out an "ontological space" for values, I am suggesting that values "go all the way down," as a neuroscientist who read one of my papers once put it. Since I first wrote with considerable trepidation "values operate at levels even higher than societies

and more fundamental than biology," I have been reassured to learn of others who give primacy to action and ethics in understanding existence. For example, John Shotter, a prominent social theorist within psychology, has proposed that we move from a "things-ontology" to a "moral activitiesontology" "Do we," he asks, "require an ontology of already existing things, or an ontology of ethically significant, developmental activities?[35]

French philosopher Emmanuel Levinas has suggested that we might do better to go beyond ontology.[36] For him, ethics precedes ontology Our task is not "to be" but "to better." This inverts most Western thought that assumes that "being" comes first, then "becoming," that "is" precedes "ought." Levinas, however, is a Jewish thinker, and like Heschel, his claim of the priority of ethics recognizes that humans exist first and foremost as "commanded" beings.[37] The command comes first and reveals that we are not a completed existent, but one in need of action, one yet to be finished. To this, I might add that the stillness and satisfaction of *shalom* are not the marks of our existence or the universe's. God has only begun his good work in us. The universe and we are commanded-we are still becoming what we are to be. "Being" will more properly mark our tenure in the new earth and heaven than it does now.[38] For now, we are about bettering-taking care of the earth, loving our neighbor and God-and being bettered-growing in grace and wisdom.

Finding Our Way to a Better Psychology

Having examined briefly the puzzles posed by modernist maps of psychology and taken an overview of a possible "new map," we move to take a closer look, to see if it works in practice. Would a values-realizing map provide a better guide than maps that mark only laws and rules? Can the enigmas of behavior be seen more clearly and coherently when laws and rules are embedded within the coordinates of values?

We will look first at perception-action, then at social development, and finally at emotion. These three were chosen for two reasons. First, they are central areas of the psychological terrain, yet they are sufficiently varied to represent the diversity of the whole. Second, exploring these areas will allow me to highlight three themes of the theory of values being offered, one for each area, respectively: the heterarchical nature of values, the legitimizing power of values, and the frustration that attends values-realizing activities. These themes will elaborate the theoretical understanding of values outlined above, as well as indicate how psychological exploration might be advanced if this theoretical map were adopted for use. How values, laws, and rules appear and are considered in each area will be illustrated, and then a specific example of research with enigmatic results (when considered in terms of laws and/or rules) will be reinterpreted in the coordinates of values.

Finally, for each area and the aspect of values highlighted in it, there will be a brief consideration of how epistemic and/or ethical evil might be understood.[39] The character of good and evil, which is at the heart of values, is another avenue deserving of much more thorough exploration by psychologists, one that supercedes the parameters of this paper. The purpose of drawing attention to it in this context is to suggest its centrality for

doing psychology as a natural science, and to indicate how it might be usefully mapped in these dimensions.

Action and Perception: The Heterarchical Nature of Values

Perceiving, the pickup of information about our surroundings and ourselves, is an activity. It requires action, literal moving around and through an environment, handling, looking, sniffing, etc. Perceiving is not only an activity itself, but it *is for* behavior, where behavior is action that is coordinated to the environment, that changes and is changed by that environment appropriately. As the word "appropriately" indicates, perceiving and acting are about realizing values. James Gibson, arguably the most important and certainly the most original theorist of perception and action in this century, summarized his life's work thusly: "I have been moving toward a psychology of values instead of a psychology of stimulus."[40] He saw perceiving as a matter of agency, as characterized by "seeking." I have argued that he understood perceiving and acting as always searching for greater clarity, coherence, comprehensiveness, and complexity ("richer and fuller" was his phrase) .[41]

It is important to note that the values guiding behavior are always multiple. As perception and action become more sensitive and skilled, they will show more specificity and flexibility (that is, clarity and comprehensiveness), more unity and diversity (that is, coherence and complexity). These values are in tension with each other such that it is possible for there to be tradeoffs between them; for example, as we move closer to see an object more clearly, we may lose something of the larger context within which it is situated and finds its meaning. However, the relationship between values should not be understood primarily as competitive, but as cooperative. Thus, for example, moving around a scene generally provides not only greater comprehensiveness of vision, but also provides for our seeing more clearly and coherently as well.

The cooperative tension that exists between values is heterarchical. A heterarchy is a coalition of units (for example, parts of a nervous system, members of a group) that function cooperatively in coordinating behavior. "In such coalitions 'subordinate' and 'executive' roles are not fixed but reversible. The decisions of each unit are modified but not determined by what other units are doing, so that control or intentionality is in the system rather than in the 'executive.'"[42] Unlike rule-sets, which attempt to fix behavior, values are dynamic. In one task or phase of development, one or more values may take the lead in organizing activity, but in other tasks or phases they will follow. Thus, values mutually constrain each other so that each of them is realizable in the long run only if the other values are equally honored. Thus, the tension inherent in values motivates continuing development and growth.

One important consequence of the view that values are necessarily multiple and heterarchically related is that good epistemic or ethical activity is never guided by a single value or by a fixed hierarchy of values. In other words, actions that try to realize a single value or that try to freeze values in some hierarchical relation will yield epistemic

or ethical evil.[43] Such actions approach values as if they were goals or try to use them as if they were rules.

A common example of this in research on perception and action is a focus on accuracy to the exclusion of other values. I will use one group of studies to illustrate. Recall the woman waiting to make a left turn mentioned at the beginning of this paper. She must look at oncoming vehicles and perceive with a high degree of accuracy when they will arrive at the place where her vehicle will be if she were to pull out; what she must perceive has been called "time-to-contact." Research reviewed by Caird and Hancock has indicated that drivers consistently underestimate time-to-contact at greater distances (that is, times) .[44] These findings have puzzled researchers. Earlier research had suggested that time-to-contact was a lawful relation that should perceivable to a high degree of accuracy.[45] Why were drivers not doing what they presumably were capable of doing?

A values-realizing approach suggests drivers may not be interested only in seeing how accurate they are in perceiving time-to-contact. If one is perceiving how hard to apply one's brakes when approaching a car in front of him/her that has stopped, going two inches too far is more accurate than stopping 20 feet short, but being true to oneself and one's fellow drivers calls for more than accuracy! Focusing on accuracy alone in driving studies can produce misleading interpretations of results, such as a study on perception of time-to-contact that concluded that males were more accurate than females.[46] Given that values other than accuacy are at stake in driving, the results might have been equally well described as "females are safer than males."

A values-realizing perspective is quite helpful in making sense of the otherwise puzzling results in time-to-contact studies. Older drivers tend to leave themselves a greater margin of safety (that is, be less accurate); larger vehicles such as trucks are given a greater margin of safety, but so are motorcyles; females are "more accurate" than males for compact car arrival but less so for motorcycles and delivery trucks.[47] These findings suggest that a driver's relative concern with accuracy, safety, and other values varies not just with physical characteristics of the vehicle, but also with information that the kind of vehicle gives about the driver and his or her intentions. Good driving depends as much on others and their sensitivity to and honoring of values as it does on one's own sensitivities and intentions; thus, good driving entails accuracies and allowances for others, as well as for oneself.

These findings might suggest that safety, considered as a value, always outweighs accuracy, but this is not so. For example, similar underestimations of time to-contact have not been observed in the striking of a falling ball (as in volleyball), where accuracy outweighs safety.[48] Driving, like all perception-action skills, involves many values. Good driving is found in the balancing of those values. Driving is not just about accuracy, efficiency (for example, speed), safety, or kindness. It is about all of these and *more.* It is unecological to pick out one subsidiary component of the driving task, namely the perception of time-to-contact, and expect drivers to isolate that variable from the larger context of values that constitute good driving.

We need to remember that lawful relationships that make accurate perception and action possible do not exist in isolation, but answer to other values as well. Similarly, the various rules (for example, traffic laws) that constrain driving are not sufficient to good driving either. Laws and rules are needed, but both work to produce skilled driving only when they function within a heterarchy of values. Isolating a single value such as accuracy leads to bad driving (for example, driving "bumper to bumper" at high speeds), as does treating a single value is always most important (for example, an obsessive concern with safety would lead to very limited driving). Issues of moral vision are as relevant to skillful driving as are time-to-contact laws or the rules of the road.

Social Development: The Legitimizing Power of Values

If perception and action draw attention to the heterarchical nature of values, leaming and development confront us with the issue of legitimacy and of values to address it. Learning and development have an implicit values-realizing dimension that is only occasionally recognized. Learning and development are not just about change, but directed change.[49] For example, implicit in theories such as Piaget's theory of cognitive development or Kohlberg's theory of moral development is that later stages are better than earlier ones .[50] If questioned, there would be an appeal to values; for example, it might be argued that a later stage is more comprehensive or complex than an earlier one. Learning and development, like perception, is a kind of achievement; it is change that is relevant and appropriate.

Most approaches to development are cognitivist in their orientation and assume that development is a matter of goal-directed, rule-following behavior. Goals and rules are taken to legitimate (that is, to explain the appropriateness of) the observed activities. Through the resources offered by his social and physical environments, a child constructs a set of rules that guide his attempts to gain knowledge or to wield power. What supposedly legitimates the rules is the efficiency with which the goals are achieved. There are powerful and pervasive problems with rules and goals as a complete account of what motivates our action and thought.[51]

One problem is the basis on which goals are selected as worthy of our effort. A second problem, given that most people have many goals, is how they can be properly coordinated. A third problem, the one I have selected to emphasize, is that our goals change as we learn and develop; what once seemed desirable no longer does and vice versa. Even the rules by which we live change. The grammatical rules children use to speak change over a period of months and years; nations may change their "laws" and even amend their constitutions; methodological procedures and analyses in a discipline that are acceptable in one era become unacceptable in another. The changes in goals and rules are not arbitrary; the changes are meant for the better.[52] If the goals and rules can change, then something else must legitimate the change besides goals and rules. Similarly, when cross-cultural variation is discovered-whether it is a parent and child whose pronunciation and syntax differ trying to converse, or a European explorer trying to trade with a Native American-some basis for negotiation larger than the differing,

perhaps even opposing, goals and rules, must be found. An appeal to one's own goals or rules will not suffice.

Piaget and Kohlberg's well-known theories of development are one kind of response to the variability of rules and goals. They reject what they see as the utilitarian ethic and epistemology offered in both behaviorist and cognitivist theories of development. Both are Kantian in their philosophy and assume a kind of universal law (that is, scale) of development to be operative in which persons and societies move from lesser to greater cognitive and moral sophistication. This scaling of values (for example, justice is the ultimate value in Kohlberg's theory) has provoked numerous criticisms, one of which is a limited version of the claim that values are multiple and heterarchical.[53] Another criticism is that Piaget and Kohlberg offer nothing that specifies what motivates a person to go from one stage to the next. Martin and his colleagues have proposed that values are what is needed to account for stage transitions in theories such as Piaget's, as well as what is needed to legitimate the goals of rule-following approaches.[54]

To illustrate the ways in which values might clarify research on development, I will consider an intriguing set of observations described by Jackie Goodnow, a distinguished developmental psychologist, on the occasion of her being honored by the American Psychological Association .[55] She noted her dissatisfaction with both of the research traditions I just described. The "grand theories" she said she found too high level to be of much use in guiding her studies, while much of the work that focused on specific tasks, locales, and rules was too particular to be relevant to her interests. What she was looking for, she said, was a "middle level theory." As an example she described her own research on how household tasks are given by parents and carried out by their children (for example, washing the car, making one's bed).[56] She was particularly interested in what it was that parents intended for their children to learn from doing these tasks and how that learning would be enabled by the parents.

What she observed surprised her. Parents used "interactions about tasks as lessons about relationships." They seemed more concerned about how the child approached the task than its actual achievement, more concerned about the development of mutual regard among family members than about compliance. She found that parents did not provide clear and consistent rewards and punishments that would lawfully produce "good" children, nor did they usually give clear explanations with reasons that a rule-govemed approach to socialization supports. Specific articulations about morality were rarely offered by parents to children at all, and when they were, they were usually framed metaphorically or dramatically in ways that Goodnow described as "enigmatic." One example about the father who did not want to be considered an ATM was given at the beginning of this paper. Others reported by Goodnow included a mother telling her young child who had failed to clean up or make her bed, "This is not a hotel" or "I'm sorry; we had to let all the servants go," and the mother who did her "fishwife act" to let her children know she had "had enough" of their misbehavior. Parents not only do not do what psychologists believe is reasonable, they do positively unreasonable things like making references to things about which the child is likely to know little, and by using irony and hyperbole.

What parents want their children to learn is to be responsible and gracious, and they understand that this entails much more than compliance .[57] Compliance requires what laws and rules require-specificity and fixity, a precise and unchanging end state toward which the parent can move his or her child. Responsibility is quite the opposite of compliance; it is a matter of values, and parents realize that values must be communicated (shared) in ways that make the child work even to understand what is being communicated. In short ' the ambiguous, dramatic behavior of adults invites the children to enact in miniature precisely what it is that parents want them to learn. Merely to understand the parent requires the child to begin to be responsible and gracious.

The account of Goodnow's research may leave the impression that all parents are wise, their children always attentive. What might be said about evil, as well as good, with respect to social and moral development? In an intriguing chapter on "Christian adulthood" Bouwsma has argued that the "refusal to grow is, in an important sense, the source of all particular sins." In other words, evil is located precisely in our failure to acknowledge the necessity of change, the refusal to grow into the full stature of Christ .[58] This insight can be elaborated from a values-realizing perspective. We fail to know and act responsibly when we take development, our own or someone else's, to be either automatic or arbitrary. We do the former whenever we pay too little attention to ourselves or others; leaming and development require monitoring. Much of the task of monitoring falls to parents, and good parents and other teachers attend closely to those under their care. Research suggests that good parents do not interfere too much, but move to assist the child at those moments when the child is close to accomplishing a task but cannot do so unaided; in short, good parents are caring but respectful, concerned but not "pushy."[59] Paying too little attention is a form of evil, as is paying too much. Parents who hover over their children treat them (unwittingly perhaps) with condescension, and they treat truth and goodness as so many arbitrary tidbits of knowledge that have to be pre-digested and arranged for the child. The world is not arbitrary and the child is not incompetent, but the world is also difficult and the child is not autonomous.

Good parents also realize that they, not just their children, answer to values, a moral order larger than themselves or their time and place. Since both they and their children have access to this moral order in the physical and social relations within which they are embedded, parents may learn from their children, as well as vice versa. Both children and parents learn what it is to be good partly through their participation with each other. Parents and children work together to be responsible, to increase the integrity of their relationship, but since time and space will eventually separate them, the integrity they serve must be larger than themselves and their relationship. Goodness is found in realizing that integrity comes as a gift to those who are faithful; evil is treating it as a matter of personal control or indifference.

An Interlude: How Values Yield Integrity and Identity

Before moving on to explore emotion, we need to retrace our steps to examine more closely how the diversity of values highlighted in our look at perceptionaction is connected to the ability of values to legitimate our activities highlighted in our

exploration of development. Only if we appreciate the richness of values and their power to justify our activities can we appreciate why our lives have the emotional character they do. Understanding emotions requires a firm grasp of perception-action and development.

We have considered how values are multiple and heterarchical and how they have the power to legitimate, to justify our actions and attitudes in a way rules cannot. Diversity and unity mark the community of values. A single value or a fixed ordering of values does not honor the diversity of the good. Rules and goals change over time and as we move from place to place, and even our use of lawful relations may vary. What holds these diverse episodes and encounters of our lives together? How do they rise above temporary dogmatisms, above local heuristics for survival? Values hold our lives together, providing a developmental story that gives a narrative unity to them that raises them above the temporary and local without lapsing into a universalism that makes one person interchangeable with another. Values allow us to have an identity, neither a prepackaged essence waiting to be discovered, nor a collection of odd experiences waiting to be organized, but a gift of responsibility. What is crucial as we turn to our third area of exploration is to notice how the diversity and unity coordinate to give us real moral identity, to mark us as responsible beings, beings called to bettering.

What allows values to legitimate, to serve as guides to our justification, is that they exist as a community themselves. If values are fundamental to reality, as my hypothesis has it, then reality is fundamentally social and developmental. Martin and his colleagues have argued that values are tacit and ambiguous.[60] This does not strike our modernist ears as good news. Precisely what makes goals and rules seem so much more appealing than values is that they are clear and precise. We know when we have achieved goals and when we have not; we know when the rules have been followed or violated. Modernism tends to reduce science and morality to a set of bureaucratic procedures. Much of the time such a mentality may allow us to get by, but when it most clearly will fail us is at those transitions when we move from one stage of development to another, or when we are moved by choice or fate to encounter another culture, another way of organizing social, political, or scientific practices. As Kuhn has argued about the periods of apparent confusion and conflict that in hindsight come to be called "scientific revolutions," values are indispensable guides. As he puts it: "What from one viewpoint may seem the looseness and imperfection of choice criteria conceived as rules may, when the same criteria are seen as values, appear an indispensable means of spreading the risk which the introduction or support of novelty always entails."[61] Ironically, just what looks like the curse of values, their looseness, provides just what is needed, the "play" necessary to adapt to novelty, the complexity necessary to grow.

Martin and his colleagues proposed that values themselves are developmental; they unfold further only as we act to make good on what has unfolded thus far. This allows values to be self-authenticating: "Every attempt to explicate a value is subject to criticism from the point of view of the value itself.[62] To this Hodges and Baron have added: "But it is not just that each value judges itself, but that each value is judged by all the values. Values work where rules fail because they do not depend on an isolated criterion but on a community of criteria that are mutually interdependent"[63] Values legitimate because they

function as a community, what Maclntyre calls a "tradition."[64] This community cannot be reduced to our social contemporaries or our biological forebears. We answer to God and the future, as well as to society, world, and history.

In answering to the diversity of heterarchically related goods, we are pulled in many directions. Answering to all of these values in a way that is marked by the care and playfulness that seems to mark good parents and teachers is a difficult balance. Nevertheless, responsibility demands and promises that if we keep our balance, it will yield our identity, it will give us our lives. The open-ended nature of responsibility is difficult. Trying to realize the diversity and unity of values is frustrating.

Emotion: The Frustration of Values-realizing Activity

Existence is embodied and emotional. People are passionate and purposeful. If this were not true, it is unlikely we would ever experience events as difficult or frustrating. Emotions, according to Lazarus, a leading researcher, are generated out of ecological relations and the direction in which those relations are going that are of personal significances.[65] If emotions are embodied concerns-incamations of relations, directions, and significances-they are signals of ontology and cosmology. Emotions point to the boundary conditions that define our existence; they give us a feel for our place and prospects. Emotions are indices of values.

The psychologist who has most explicitly emphasized the role of values in emotion is Joseph DeRivera .[66] He has been deeply influenced by John Macmurray, a Christian philosopher, particularly in his views of human personality. Macmurray has argued that "the fundamental unit of personal existence is two persons in relation to one another" or, more exactly, "two persons in community in relation to a common Other which includes them."[67] Thus, persons do not exist outside of relationships, and the "world itself may be better conceived in terms of agency than as an impersonal object."[68] Emotions, like actions, do not belong to a person, but are "between the self and the other." What is the nature of this between-ness that we call emotion?

The key is found in the relation of the persons to a common Other. Emotions are psychological acts in which we resonate to our perceptions of good and evil; thus, emotions might be thought of as moral imperatives. They mark a tension and directedness between *is and ought.* Emotion is the felt tension of perceptual-action cycles that are moving between grace and awkwardness, between integrity and dissipation.

For example, as Sabini and Silver as well as DeRivera point out, the perception of injustice provides an occasion for anger .[69] Anger takes for granted the common bond between persons and their mutual allegiance to justice as a value. What one or both parties are pointing to in their posturing and directive actions is the gap between *is and ought,* the felt injustice. Emotions dramatize values and make them metaphorically sensible so that we can perceive the "moral space" in which we are located, and they further arouse and attract actions that move us toward the goods of that space.

Values, according to DeRivera, "are capable of inducing valences that are not a result of the person's own need or will ... [they] may even command us to perform some activity that is not in our personal self-interest."[70] An emotion that exemplifies this is depression. DeRivera suggests that emotions such as depression not only reveal values, but also help to preserve and enhance them. For all its undesirability, depression prevents us from engaging in dissonance reduction in the face of failure. Depression prevents us from acting, or relieves us of the responsibility for actions already taken, but in a way that acknowledges our failure and maintains the worth of what our actions ought to have realized. Depression acknowledges the goods unrealized in our action, and retards the corrosive effects that self-justification would have on our perception of values.

Emotions, then, are embodied enactments of a social-moral order, rather than merely a mechanistic reflection of one's own desires, or a cognitive appraisal of social norms to explain ambiguous bodily sensations .[71] Lawful approaches to emotions tend to see them as biologically motivated reactions to matters of significance to survival; the moral dimension is lacking altogether, or is reduced to needs, or is added as an afterthought in a way that can-not be accounted for by laws.[72] Rule following, constructivist accounts also have difficulty framing the moral dimension of emotion; emotion is treated largely as a matter of cultural interpretation and expressions.[73]

What might change if emotion were located within values-realizing dimensions? First, emotion would return as a primary passion of psychologists, not the afterthought it is now.

Second, emotion would be seen as less dangerous than it often is, less an intrusion that distorts rationality and more an essential component of living gracefully and wisely. Robert Frank, an economist, has argued that emotions are strategic; that is, they incline us to long-term actions that are good for us, so that we are not misled by rational assessment of short-term gain.[74] Precisely, what emotion helps us to do is to act without thinking. To those of us raised in the rationalist tradition, this sounds dangerous. But there is nothing dangerous about acting out of emotion if emotion has been educated in alerting us to evil and arousing us to good. Nearly all the stories of rescuers of Jews during World War 11, one of whom I quoted at the paper's beginning, attest to the fact that they did what they "had to do" without deliberating, so much so that many of them feared that if they had thought about it, if they had counted the cost, they would have failed to help. Behind their tendency to act compassionately was nearly always a tradition, embodied in their home, their village, or their church, that had provided long training in the virtues of caring and competence necessary to make their "decision" to help a natural one.[75]

Third, emotion would be understood less as either a helpless response to events (that is, lawful) or as a choice of social disguises (that is, rule-following), and more as social-moral sensitivities and skills that can be educated. Emotions can be more or less right, more or less appropriate to the occasion and those involved. On this view, we are responsible for our emotions, and emotions are for responsibility. Responsibility realizes that life is lived not by certainty or chance, but by faith.

Fourth, it would help explain findings that surprise and puzzle psychologists now. To illustrate this fourth point, I will use a fascinating study by Colby and Damon of "moral exemplars," persons who had engaged in altruistic ventures against considerable odds, whose commitment to do good seemed heroic to those around them.[76] Their findings posed a number of paradoxes about the emotional character of these moral exemplars.

First, they expected their heroines and heroes to be racked by struggle and doubt, deliberating their options and summoning their courage to take on dangerous and difficult tasks. What they found instead was *confidence.* One woman who spent her life fighting for racial justice explained that what others saw as courage she saw merely as her ability to see "legal opportunities," to see laws that could be written that would protect the rights of citizens. It took no courage, she said, "to help a person operate according to the law."[77] Colby and Damon cannot quite fathom her answer because she described her sense that the law was on her side even when it was yet unwritten. What confounds Colby and Damon, I suspect, is that they do not realize theoretically what the persons they studied did realize practically-namely, values. If a law has yet to be written, then they have trouble seeing how it could be part of the law. Law for them is a set of rules that we as citizens (through our representatives) construct and impose (on ourselves). Law for the woman they describe is Justice, a matter of values rather than rules.

Second, Colby and Damon were surprised to learn how many of their moral exemplars were religious. What surprised them even more was that these confident religionists were not dogmatic or authoritarian. Rather they were *humble* and exercised their leadership within a community, citing the community rather than themselves for what good had been done. The values and communities that nurtured these exceptional people appear to have been heterarchically organized; the community was not led by one person, and they did not serve a single good. The moral exemplars saw what they did for good not as an achievement of the self, but as their participation in an obligatory task that they had chosen. Paradoxically, they had a strong sense of choice and a strong sense of obligation in what they were doing. Both contributed, no doubt, to their confidence in the validity of their task.

Third, Colby and Damon expected to find idealists, but they did not. Their exemplary moral heroes and heroines were not naive dreamers, but practical problem solvers who were perfectly aware of the dangers and difficulties they faced. Those persons fighting poverty, for example, "all knew that no matter how heroic their efforts, there would be more poor people on this planet when they died than before they started their work."[78] What keeps persons persisting in missions so frustrating that most persons respond only with anger or apathy? Where did they *find hope?* They seemed to realize that they were "in over their heads," which is probably why most of them found their hope in their assurance that God was bigger than them or the problems they faced. As Suzie Valdez, who labors tirelessly to feed and clothe Mexican-Americans in Juarez, put it, "God will provide." The values-realizing possibilities of the creation moved these persons to exemplary action because they trusted in the Source and Embodiment of those values. They had been called by God, and they had taken up that vocation.

The hope embodied in Colby and Damon's moral exemplars brings us full circle in our exploration of emotion and its relation to values. If values are the fundamentals of the universe, it suggests that the universe is open, awaiting our responsible action. What our emotional experience embodies is just this incompleteness. The whole world groans for deliverance like a woman in labor; humans, who caused that suffering and who are called to be midwives of its redemption, ache, too.[79] The natural attitude of our emotional lives in a fallen world is one of *frustration.* In discussing their study of expert jugglers, Beek, Turvey, and Schmidt made the startling suggestion that this may be true at a physical as well as a social level. Biological action systems, they proposed, are "to a considerable extent 'frustrated' . . . meaning that [they] are subject simultaneously to very many different physical requirements that they cannot possibly satisfy fully."[80] We never simultaneously and completely realize all the values in any perception-action cycle. Our development is always marked by incompleteness as well as achievement. This frustration is as close at hand as the task on which we are working. For example, writing this article is an exercise in frustration. No matter how I juggle ideas and words, much will remain unclear, incoherent, incomplete, and simplistic. Raising children or engaging in political and social projects is no less frustrating.

What surprised Colby and Damon and what can surprise us is hope. Hope is the cure for frustration. Hope is that virtue that holds confidence and humility in the tightrope tension necessary for us to keep our balance. But there is a better metaphor. As theologian Tony Thistleton put it, we can talk of "taking a position" or of "taking a journey."[81] He recommended the latter. Walking is a matter of throwing oneself off-balance and then regaining it. It is all geography, placing, and timing, but what might be seen as a series of awkward positions, when viewed whole as an unfolding event, becomes a graceful and steady walk, a faithful advance from where we are to where we ought to be.

Where are good and evil found in emotional life? A values-realizing approach suggests that to a large extent the very reason that human life is emotional is because it is lived by faith, and we are called to be responsible to God for each other and the earth. Faith and responsibility *are* difficult and frustrating; it is this difficulty and frustration that resonates in us quite literally, shaking us with fear and delight, moving us to anger and forgiveness. DeRivera has proposed that evil is found whenever we let fear dominate love.[82] 1 would add that it is when we let the frustration of the Fall undermine our hope, when we lose the balance of confidence and humility to keep walking by faith, even though at given moments it feels awkward, perhaps even impossible, to go on.

A Last Look: Is There Hope?

This paper has offered a new cartography for psychology It has done so by taking a new look at values. A theory of values was outlined and elaborated that gives promise of opening up what John Shotter calls a "providential space" for recontextualizing the laws and rules that have generally been the province of psychologists and other scientist[83] Given its ontological and ethical dimensions, this space appears to be large indeed. But before declaring some revolution in the making, we would do well to remember that we have examined only three areas of this space quite briefly. The good news is that the

results of this initial foray are encouraging; a map using the coordinates of values seems to help us place and relate laws and rules better. The bad news is that frustration awaits our efforts at best, and at the worst, if we are not vigilant our efforts may yield evil. The hope is that this space and our activities within it, including our mappings of it, will prove Providential.

References

[1]Eva Fogelman, *Conscience and Courage: Rescuers of Jews During the Holocaust* (New York: Anchor Books, 1994), 57.

[2]W. Schiff, *Perception: An Applied Approach* (Boston: Houghton-Mifflin, 1980), 407-416.

[3]The phrasing is mine, but it is consonant with Schiff 's review.

[4]D. N. Livingstone, "Science and Religion: Towards a New Cartography," *Christian Scholar's Review* 26 (1997): 270-292.

[5]Although Livingstone is primarily concerned with what we might call the literal meaning of historical and geographical variability, he means, I think, his claims to be understood metaphorically as well. I want to anticipate a possible misunderstanding of my citation of Livingstone's article, which emphasizes "the local," while the cartography described in this paper emphasizes "the non-local." The larger issue that unites his concerns and mine is that of "scale," the gauging of the most appropriate level at which to describe some phenomenon. As fractal theory in mathematics has reminded us, patterns dissipate and reoccur across scales of differing magnitude. His call for more fine-grained description and mine for figuring values into research for which they usually serve as unnoticed background both assume that a change of scale and perspective will improve our prospects for discovering meaningful patterns.

[6]The problem in Hume is the premises with which his syllogisms begin. The question is: What kind of a world is it that we live in, and are to know and take care of? It is a matter of metaphysics, ontology, and cosmology. For this reason the new map offered in this paper starts with a different ontology. Hume, of course, assumed a Newtonian world of separate inert atoms in an empty space, going nowhere particular (that is, directionless time). Meaning (that is, relationship) and value (that is, lasting worth) are absent in such a world. But what if the world is not as Newton and Hume supposed? Even physics, for the most part, long ago stopped assuming such a world. Physicists now talk less of things (that is, atoms) being the fundamentals of the universe, and more of fields, gravitational, magnetic, quantum, and the like. Furthermore, the irreversibility of time and the relativity and dependency of physical processes on observation, which have become central to physical theory point to dimensions of directedness and personal agency absent in classical mechanics. See E. Kadar and J. Effken, "Heideggerian Meditations on an

Alternative Ontology for Ecological Psychology: A Response to Turvey's Proposal" *Ecological Psychology* 6 (1994): 297-341, and R. Swenson and M. Turvey, "Thermodynamic Reasons for Perception-Action *Cycles," Ecological Psychology* 3 (1994): 317-348.

[7]Asch, "Gestalt Theory," *ininternational Encyclopedia of Social Sciences* (New York: MacMillan, 1968).

[8]S. Kelso, J. Scholz, and G. Schbner, "Non-equilibrium Phase Transitions in Coordinated Biological Motion," *Physics Letters* A:118 (1986): 279-284; E. Thelen, "Motor Development," *American Psychologist* 50 (1995): 79-95; and W. Charlesworth and M. Kreutzer, "Facial Expression in Infants and Children," in P. Ekman, ed., *Darwin and Facial Expression* (New York: Academic Press, 1973).

[9]The rules illustrated are separated by locality, but it should be noted they vary over times as well. For example, the pronunciation and syntax of English-speaking peoples has changed over time. It is easy to think of natural science as providing lawful descriptions and the social sciences rule-following ones, but the actual situation is more complicated. The examples given suggest there are social laws and social rules. Similarly, in the physical sciences we speak of epigenetic rules in biology, measurement rules in physics, etc. Whether the rules in biology and physics, for example, reflect only the human activities associated with the phenomena, or are inherent in the phenomena themselves, has been a matter of considerable discussion (for example, debates over proper interpretation of quantum dynamical phenomena). Another possibility, the one most consonant with this paper, is that all scientific phenomena are best understood as ecological, that is, having their properties and powers only within a set of contextual relationships that include the scientist, rather than being understood as objective (in the thing itself) or subjective (in the scientist).

[10]J. Fodor, "Methodological Solipsism Considered as a Research Strategy," *Behavioural and Brain Sciences* 3 (1980): 63-109, and H. Looren-de-jong, "Intentionality and the Ecological Approach," *lournalfor the Theory of Social Behaviour* 21 (1991): 91-109.

[11]Deconstructionists have made their way by showing that some claim to lawfulness is really an example of rule-following, that what had been taken as universal and necessary is local and contingent. In short, deconstructionists are constructionists, the ones hired to tear down **in** order to make way for new buildings and byways. Naturalism has had its own form of deconstructionism. An important group of naturalists has repeatedly taken what were seen to be products of human achievement, matters of planning and progress (that is, rules), and deconstructed them into naturalistic 'accidents," unintended byproducts of lawful processes, not subject to rational control.

[12]R. Harr6 and P. Secord, *The Explanation of Social Behaviour* (Oxford: Basil Blackwell, 1972), 12.

[13]M. Turvey, "Coordination," *American Psychologist* 45 (1990): 938-953.

[14]P. Beek, M. Turvey, and R. Schmidt, "Autonomous and Nonautonomous Dynamics of Coordinated Rhythmic Movements," *Ecological Psychology* 4 (1992): 65-95.

[15]M. Bakhtin, *The Philosophy of the Act* (Austin, TX: University of Texas Press, 1993), 287. Unlike Turvey and *Harr6* and Secord, many psychologists have been too insensitive (theoretically and methodologically) to notice the enigmatic character of their subject matter. A possible reason for this state of affairs is provided by James Gibson tinguished perceptual psychologist; he complained that many psychologists have a 'lack of awe" regarding what they study, which has led to much of psychology being "a second rate discipline" (quoted in E. Reed, *James J. Gibson and the Psychology of Perception* [New Haven, CT: Yale University Press, 19881, 1).

[16]Thelen, op. cit., and Turvey, op. cit. This is why no real two-legged robots have been successfully built. An appreciation for the complexity of such seemingly simple tasks can be gained by t der paying attention to her feet as she stands for several seconds. She will discern continuous small movements that are crucial to her remaining balanced. Standing on one leg makes it clearer; the movements become larger. This is a particularly nice example because it illustrates that our natural "state" is one of activity, of moving, of balancing. We take standing to be stable. We talk about "taking a position," but perhaps we would do well to give precedence to metaphors of movement, to directions taken, and ongoing adjustments of posture.

[17]Not only do goal-oriented, rule-following accounts assume the availability of lawful activities, but they also assume that people are motivated to care about what they are doing, that they intend to be cooperative, that they will not take thirty minutes to carry out a task that they could do in ten minutes, etc. Benny Shanon *(The Representational and the Presentational* [New York: Harvester-Wheatsheaf, 1993], 162) has pointed out that cognitive accounts of goal-seeking seem to depend on non-cognitive forms of action, motivation, and volition. This is a general statement of what I will argue more specifically in the next section.

[18]Laws are too strong and too flexible to constrain cognition and behavior properly; rules are too weak and rigid to do so. Laws underdetermine our actions (for example, we may walk, skip, hop, or run to the office), while rules bid to overdetermine them (for example, 'walk, don't run").

[19]R Kugler, R. Shaw, K.Vicente, and J. Kinsella-Shaw, "The Role of Attractors in the Selforganization of Intentional Systems," in R. Hoffman and D. Palermo, eds., *Cognition and the Symbolic Processes: Applied and Ecological Perspectives* (Hillsdale, NJ: Lawrence Erlbaum Associates, 1991), 103; italics added.

[20]B. Hodges and R. Baron, "Values As Constraints on Affordances: Perceiving and Acting Properly," *Journal for the Theory of Social Behaviour* 22 (1992): 263-294. R. Shaw, 0. Flascher, and E. Kadar, "Dimensionless Invariants for Intentional Systems: Measuring the Fit of Vehicular Activities to Environmental Layout," in J. Flach, P. Hancock, J. Caird, and K. Vicente, eds., *An Ecological Approach to Human-Machine*

Systems I.- A Global Perspective (Hillsdale, NJ: Lawrence Eribaum Associates, 1995): 293-357, prominent theorists concerning the relation of physics to psychology and researchers in ecological approaches to perception and action, have acknowledged that values are crucial to developing an adequate account of intentional activities.

[21] C. Taylor, *Sources of the Self. The Making of the Modern Identity* (Cambridge: Harvard University Press, 1989). According to Taylor, we live within a "moral space" which provides a "horizon within which I can try to determine from case to case what is good, or valuable, or ought be done..." (27). He goes on to add: "To know who you are is to be oriented in moral space, a space in which questions arise about what is good or bad, what is worth doing and what is not, what has meaning and importance for you and what is trivial and secondary." His choice of a spatial metaphor is not accidental, he suggests, noting that persons who are psychologically disoriented (for example, narcissistic personality disorder) may "show signs of spatial disorientation as well as moments of acute crisis" (28). Although he rarely uses the terms "values," Taylor argues that "there are ends or goods which are worthy or desirable in way that cannot be measured on the same scale as our ordinary ends, goods, desirabilia. They are not just more desirable.... Because of their special status they command our awe, respect, or admiration" (20).

[22] Ibid., 47.

[23]H. Heft, "Affordances and the Body: An Intentional Analysis of Gibson's Ecological Approach to Visual Perception," *Journalfor the Theory of Social Behaviour* 19 (1989): 1-30.

[24]Op. cit., 270, italics deleted.

[25]For philosophical discussions of "proper function," see R. Millikan, *White Queen Psychology and Other Essays* (Cambridge, MA: MIT Press, 1993) and A. Plantinga, *Warrant and Proper Function* (New York: Oxford University Press, 1993). Values might be understood as somewhat like what Plantinga refers to as a "design plan," a term he borrowed from Daniel Dennett, but I share Linda Zagzebski's *(Virtues of the Mind* [Cambridge: Cambridge University Press, 19961) reservations that the metaphors used by Plantinga are too static and mechanistic. Psychologically, the difficulty is t@at the developmental and social nature of epistemology needs to be more fundamental. Theologically, the concern is that God is better understood as a Creator and Redeemer than as a Designer.

[26]Like Taylor, the way Hodges and Baron present "values" is in terms of a moral ontology. It should be noted that our ideas found their genesis and development without knowledge or acknowledgment of Taylor. This is more confession than a claim to originality, but it does suggest that the map offered here is not a cartographic oddity, available only to a peculiar group of explorers. The commonalities of separate mappings that converge in their contours are encouraging.

[27]I am often asked why I employ the idiom of "values" to work out the protect represented in this paper. The concern, often, is that the term has been hopelessly corrupted along the lines described in this paragraph. This concern is too large and important to be addressed in a footnote, but a *pr6cis* to an answer would be that there is a history of usage in psychology that I think affords redemption. A related idiom, which I have also used but which is not highlighted in this paper, is that of "virtues." If I were writing primarily for philosophers, I might well situate my project in the tradition of virtue ethics begun in Aristotle, developed in Aquinas, and renewed in the work of Alasdair MacIntyre and others. 2'B. Schwartz, *The Battlefor Human Nature: Science, Morality, and Modern Life* (New York: Norton, 1986).

[29]Op. cit., 270- 271.

[30]The theory of values presented is intended to undo the usual understanding of a number of familiar dichotomies such as objective-subjective, realism-idealism, body-mind, environmentorganism. Even the usual meanings of the constituent terms of the fact-value dichotomy are being challenged. On my view there are no facts prior to values, and values are not unrealized ideals; perception and action are not about "is," and morality is not about "ought." Perception and action have a moral dimension that makes them prospective, a movement from "is" to "ought." Facts, on this view, are moments and places we may highlight in discovering which way to go, or that we may use to point the way to another. In any given case, what is revealed of values may range from universal to unique. The real physicality and space-time historicity of events does not place identical obligations and responsibilities on all people in all places at all times. Nonetheless, as creational and cultural (including enscripturated and ecclesiastical) revelations unfold historically, it seems that all humans will "answer" to all the values. Thus, there may well be invariants in human history. Saying for sure what is unique or universal at some particular moment in the unfolding of that history is more difficult.

[31]Hodges and Baron, op. cit., 286. For further discussion of how values are to be defined in ways that relate them to laws and rules in scientific explanations, including their relation to perception and action and the issues of development and evolution, good and evil, and social epistemology, see Hodges and Baron, op. cit., as well as Martin, Kleindorfer, and Brashers, op. cit., and J. Martin and G. Kleindorfer, "The Argumentum Ad Hominem and Two Theses About Evolutionary Epistemology:'Godelian'Reflections," *Metaphysics* 22 (1991): 63-75.

[32] L. Raths, M. Harmin, and S. Simon, *Values and Teaching* (Columbus, OH: Charles E. Merrill Publishing Co., 1966). E. Wilson, *Consilience: The Ltnity of Knowledge* (New York: Alfred A. Knopf, 1998).

[33]See A. Maclntyre, *After Virtue* (South Bend, IN: Notre Dame Press, 1981). Frank Richardson and Robert Woolfolk ("Social Theory and Values: A Hermeneutic Perspective," *Theory and Psychology* 4 [19941: 199-226) describe the relation between the old and new views. "In the West, modem viewpoints displaced a certain classical account of human life as part of a meaningful cosmic drama built around the sense

common to both Greek and biblical perspectives, that human life moves toward the en@ or telos of a shared human existence in harmony with Nature or God.... Within such a teleological scheme of life there is no characteristic modern gap between 'is' and 'ought'" (202).

[34]T. Mischel, 'W@ndt and the Conceptual Foundations of Psychology," *Philosophical and Phenomenological Research* 31 (1970): 1-26; W. Kbhler, *The Place of Value in a World of Facts* (New York: New American Library, 1938/1966); Martin Leichtman, "Gestalt Theory and the Revolt Against Positivism," in *Psychology in Social Context,* Alan Buss, ed., (New York: Irvington Publishers); S. Asch, "Rules and Values' " Chap. 12 in *Social Psychology* (New York: PrenticeHall, 1952); Ibid., "Gestalt theory," op. cit. Many psychologists have raised concerns about "responsibility," or 'values," or "freedom," and some have even made positive proposals to address their concerns, but generally they have failed to make proposals that altered the fundamental theories and research patterns of the discipline. A key reason for the failure was that they granted that much of psychology was immune to their concerns; responsibility, freedom, or values, they argued, needed to be "added." A prominent example of this strategy was what is called "humanistic" psychology As I argued earlier, what is needed is more radical; the addition must be at a more fundamental (or higher) level, so that facts (laws, rules) come to exist in a context of values, rather than seeing values as added to laws and rules.

[35]J. Shotter, *Cultural Politics of Everyday Life* (Buckingham, UK: Open University Press, 1993).

[36]E. Levinas, *Ethics and Infinity* (Pittsburgh: Duquesne University Press, 1985); and Idem,[6]Ethics as First Philosophy," in *The Levinas Reader,* S6an Hand, ed., (Oxford, UK: Basil Blackwell, 1989), 75-87.

[37]Abraham J. Heschel, *Who is Man?* (Stanford, CA: Stanford University Press, 1965).

[38]*In The Great Divorce* (New York: MacMillan, 1946), C. S. Lewis suggests that growth characterizes the life of the redeemed even after death.

[39]I take epistemology and ethics to be much more closely related than is traditionally assumed. Our activities intended to increase (or prevent) knowing can be more or less responsible, more or less values-realizing, just as our activities intended to change (or conserve) the world can be. Consequently, some epistemic activities could be counted "evil" just as could ethical activities. See Zagzebski, op. cit., for a judicious rendering of epistemic concerns in terms of an ethics of virtue, as well as the earlier work of Lorraine Code, *Epistemic Responsibility* (Hanover, NH: University Press of New England, 1987).

[40]Reported in Edward Reed, *James J. Gibson and the Psychology of Perception* (New Haven, CT: Yale University Press, 1988), 296.

[41]J. Gibson, *The Senses Considered as Perceptual Systems* (Boston: Houghton-Mifflin, 1966) and *The Ecological Approach to Visual Perception* (Boston: Houghton-Mifflin,

1979). For further discussion of the values of clarity, coherence, comprehensiveness, and complexity, see B. Hodges, "Human Identity and the Values of Learning: The Seven C's," in N. Dejong, ed., *Christian Approaches to Learning Theory, Vol. 2.: The Nature of the Learner* (Lanham, MD: University Press of America, 1985), 93-111, and Idem, "Social and Value-Actualizing Constraints on Ecological Accounts of Perceptual Warrant," paper presented at the Center for Ecological Studies of Perception and Action, University of Connecticut, 1990.

[42]Hodges and Baron, op. cit., 281. The term gained its usage in psychology in understanding the relation between the various components of the body in carrying out a skilled action. Traditional approaches have assumed that an "executive" in the brain, using "feedback" it has received from various parts of the body, gives a "command" which is passed down through various levels of the nervous system to the muscles and fibers that contract or relax according to the "instructions" they have received. In other words, ordinarily it is assumed that the body is organized as a hierarchy and that skill is a matter of planning and feedback. The evidence suggests otherwise. M. Turvey, "Preliminaries to a Theory of Action with Reference to Vision," in R. Shaw and J. Bransford, eds., *Perceiving, Acting, and Knowing: Toward an Ecological Psychology* (Hillsdale, NJ: Lawrence Eribaum, 1977), 211-265. See also Hodges and Baron, op. cit., and J. Martin and B. Hodges, "Learning, Values, Imagination, and Responsibility: Appropriate Ambiguity," in N. Dejong, ed., *Christian Approaches to Learning Theory, Vol. 3: Freedom and Discipline* (Lanham, MD: University Press of America, 1987), 85-99. The very notion of "control" so dear to the heart of much psychology, both in experimental work on perception-action, as well as in counseling and therapy, has its root in the Cartesian view that encourages us to objectify the world and control it by acts of autonomous will.

[43]For a general discussion of this issue the reader may consult Hodges and Baron, op. cit., 282ff. It might be noted that isolating a single value is a form of idolatry in a theological sense. Practically, it leads to ironies such as a person who becomes so obsessed with correcting some injustice that they shortchange other values such as truth, mercy, or freedom in a way that is itself unjust (that is, in their pursuit of justice they act unjustly). Virtually the same point is made by C. S. Lewis in *Mere Christianity* (New York: Simon & Schuster, 1980), 24.

[44]J. K. Caird and P. A. Hancock, "The Perception of Arrival Time for Different Oncoming Vehicles at an Intersection," *Ecological Psychology* 6 (1994): 83-109.

[45]For example, D. N. Lee, "A Theory of Visual Control of Braking Based on Information about Time-to-Collision," *Perception* 5 (1976): 437-459.

[46]R. McCleod and H. Ross, "Optic Flow and Cognitive Factors in Time-to-Collision Estimates," *Perception* 12 (1983): 417-423.

[47]Caird and Hancock, op. cit.

[48]D. Lee and others, "Visual Timing in Hitting an Accelerating Ball," *Quarterly Journal of Experimental Psychology* 35A (1983): 333-346.

[49]Martin and Hodges, op. cit.

[50]0wen Flanagan, *The Science of Mind,* 2nd ed. (Cambridge, MA: MIT Press, 1991), Chap. 5.

[51]For example, B. H. Hodges, "Beyond Goals: The Place of Values in Prospective Action," to appear in A. Costall and E. Kadar, eds., *Ecological Approaches to Intentionality* (Mahwah, NJ: Lawrence Erlbaum); f. E. Martin and G. B. Kleindorfer, 'Mind as a Rule-govemed Device: Tom Swift and His Amazing Truth Machine," *Logos* 7 (1984): 35-56; and Benny Shanon, op. cit.

[52]How development is for the better is not obvious or simple. If one takes development to be teleological in the sense of goal-directed, then many developmental changes would not be progressive. For example, when first leaming to talk about "Coming" or "going" in the past, young children often say (correctly from an adult point of view) "came" and "went." Shortly thereafter, they are likely to switch to saying "comed " and "goed. " This makes no sense from a goal-oriented perspective. From a values-realizing perspective, children are realizing comprehensiveness, as well as clarity and coherence in moving to this apparently incorrect form. It is a good move. In due time their speaking will come to honor the complexity of language, coherence, and clarity.

[53]For example, Carol Gilligan's *(In a Different Voice: Psychological Theory and Women's Develop*ment [Cambridge, MA: Harvard University Press, 19831) widely discussed complaint that Kohlberg omits "caring" as a value. Amore penetrating but less widely known critique along these lines is Craig Dykstra's *Vision and Character* (New York: Paulist Press, 1981).

[54]J. E. Martin, G. B. Kleindorfer, and J. H. Buchanan, "Piagetian Reflections on Legitimacy, Justificationism, and Learning Theory," *The Genetic Epistemologist* 14 (1986): 1-13. For a further interesting discussion of values as they relate to Piaget's theory, see T. Brown, "Values, Knowledge, and Piaget," in E. Reed, E. Turiel, and T. Brown, eds., *Values and Knowledge* (Mahwah, NJ: Lawrence Erlbaum, 1996):137-170.

[55]J. Goodnow, "Adding Social Factors to the Study of Cognitive Development," paper presented at the American Psychological Association Convention, Boston, August 1990.

[56] Goodnow," Children's Household Work: Its Nature and Functions," *Psychological Bulletin* 103 (1988): 5-26.

[57]L. K. White and D. B. Brinkerhoff, "Children's Work in the Family: Its Significance and Meanings," *Journal of Marriage and Family* 43 (1981): 789-798.

[58]W. J. Bouwsma, "Christian Adulthood," in E. Erickson, ed., *Adulthood* (New York: Norton, 1978), 87.

[59]Hodges and Baron, op. cit. jaan Valsiner *(Culture and the Development of Children's Action,* Chichester, UK: Wiley, 1987), who studied children eating meals with their parents, concluded that "in the majority of cases observed the mother remained neither an impartial observer of the self-feeding toddler, nor a domineering feeder" (235).

[60]Martin and Hodges, op. cit.; Martin, Kleindorfer, and Brashers, op. cit.; J. E. Martin, "Aesthetic Constraints on Theory Selection: A Critique of Laudan," *British Journal of Philosophy of Science* 40 (1989): 357-364.

[61]T. S. Kuhn, "Objectivity, Value Judgment, and Theory Choice,' in I Kuhn, ed., *The Essential Tension: Selected Studies in Scientific Tradition and Change* (Chicago: University of Chicago Press, 1977): 320-339.

[62]Martin, Kleindorfer, and Brashers, op. cit., 68.

[63]Hodges and Baron, op. cit., 281.

[64]Maclntyre, op. cit.

[65]R. S. Lazarus, "Progress on a Cognitive-Motivation-Relational Theory of Emotion," Ameri*can Psychologist* 46 (1991): 819-834.

[66]Joseph de Rivera, "Emotions: Personal and Social Functions," paper presented at the American Psychological Association Convention (August 1987); Idem, "Choice of Emotion and Ideal Development," in *Emotions in Ideal Human Development,* L. Cirillo, B. Kaplan, and S. Wapner, eds., (Hillsdale, NJ: Lawrence Erlbaum, 1989) 7-34; Idem, "Love, Fear, and Justice: Transforming Selves for the New World," *Social justice Research* 3 (1989): 387-423.

[67] DeRivera, *Love, Fear, and justice,* 24; John Macmurray, *Persons in Relation* (Atlantic Highlands, NJ: Humanities Press, 1961), 178.

[68]DeRivera, "Choice of Emotion," 24.

[69]John Sabini and Maury Silver, *Moralities of Everyday Life* (Oxford: Oxford University Press, 1982); DeRivera, "Choice of Emotion."

[70]DeRivera, 1989, "Choice of Emotion," 13.

[71]Sabini and Silver, op. cit.

[72]See N. Frijda, "The Laws of Emotion," *American Psychologist* 43 (1991): 349-358.

[73]C. Calhoun and R. Solomon, "What Is an Emotion?," in *Classic Readings in Philosophical Psychology* (New York: Oxford University Press, 1984).

[74]R. Frank, *Passions Within Reason* (New York: Norton, 1988).

[75]Fogelman, op. cit.

[76]Anne Colby and William Damon, *Some Do Care: Contemporary Lives of Moral Commitment* (New York: Free Press, 1992).

[77]1bid., 73.

[78]Ibid., 81.

[79]Romans 8:22.

[80]Beek, et al., op. cit., 91.

[81]He made this comment in a general discussion at a conference, "Crossing the Boundaries: Interpretive Theory and the Christian Faith," Center for Christian Studies, Gordon College, Gloucester, MA, April 16-19, 1998.

[82]DeRivera, "Love, Fear, and Justice."

[83]Shotter, op. cit. Speaking of providential spaces, I want to thank those among whom I work who read and commented on this paper and an earlier related paper, especially Suzanne Phillips and Bruce Webb, but also Harold Heie, Russell Bishop, John Mason, Charles Drebing, and Malcolm Reid.