

# Noetics

*Lawrence Krader*

## Editor's Introduction

Lawrence Krader passed away on November 15, 1998, after having produced what he considered to be the antepenultimate draft of his magnum opus on noetics. He planned to prepare the final draft for publication in the following year. In August 1998, during our last face-to-face meeting in Berlin, he reviewed the theory of noetics with me and felt confident that the manuscript he had completed to that point contained all the major ideas that he wished to present to the reading public. It was then a matter of fine-tuning.

In preparing this manuscript for publication, I have exercised my editorial privilege and decided not to second-guess the author in terms of clarifying ambiguities in the text, smoothing out cumbersome constructions of language that would have surely been changed in the final draft, eliminate repetitive thoughts or passages, or adding and specifying further bibliographic detail that might be of help to the reader. I've performed some light editing, correcting spelling and grammar mistakes such as they were, and obvious errors, for example, where one thinker was identified in the text when it was clear that another was meant. I decided upon this strategy not only because I didn't want to second-guess the intention of the author in matters of detail; in addition, I felt that the reader should wrestle with Krader's words as he left them. The book will be a "rougher" and less elegant read, but the reader will hopefully benefit from this encounter with a manuscript *in statu nascendi*, a whole lacking the finishing touches and some elegant turns of phrase in a polished draft of which the author could say "this is my final product." In a strange way, as the reader will discover, the lack of synthesis is a theme of noetics.

In Krader's short preface to the book, he explains that the work is divided into two parts, the first, in which "the general principles, scope and aim of noetics are set forth," and the second, which is concerned with problems of other disciplines related to noetics, including science, language, social theory and art and how they have been taken up historically, philosophically and anthropologically. The structure of this introduction will not follow the order of the two parts of the book outlined by the author. Rather it will take up several major themes across the two sections of the book, which represent Krader's unique contributions to noetics, contributions which are derived from the philosophy of mathematics and science, the history of philosophy, linguistics and semantics, philosophical and empirical anthropology,

psychology and neuroscience, the sociology of knowledge, the history of chess, the philosophy of art and music, aesthetics, and great literature and poetry.

Krader proposes that we consider a new science, elements of which have been developed by the great philosophers ancient and modern, scientists of all ages and traditions, the great poets, playwrights and novelists, and the great artists of every era. He calls this science noetics, which is the science of thinking and knowing. By science Krader means:

“a kind of knowing that is identified as empirical, systematic, critical, objective, and cumulative; it is developed as secular and professional.” (p. 308)

If we approach science from the point of view of its historical development we discover that it was always and everywhere in its origins intertwined with myth, cult, mysticism, speculation and metaphysics. It was also developed within a theoretical and practical matrix, especially in connection with the advancement of tools and technology, and their application in economic, cultural, aesthetic and artistic creation.

As the science of thinking and knowing, noetics treats thinking and knowing empirically and historically in an asymmetrical fashion. There is no evidence to support the view that there has been any development in human thinking. The profound intellects of the classical world such as Plato and Aristotle were as great or greater thinkers than any since, and we find evidence of the power of mental abstraction even in the magnificent cave drawings from the Upper Paleolithic period, some 30,000 years ago. On the other hand, there has been an enormous development in knowing and knowledge, the latter increasing in quality and exponentially in the modern period. Although there has been no evidence of a qualitative shift in thinking per se, the extensiveness and depth of our knowing has provided far more grist for thinking’s mill:

“The judgment of the non-advancement of our capacity to think during the past four to five millennia is to be modified: for while there is no discernible difference in quality with regard to our processes of thinking, the quantity of thought has been extended; mathematical, physical and taxonomic sciences provide the criteria for affirming the advancement of knowing and of knowledge; they are abstract, cumulative, critical, objective, generalizing, systematic, and interactive in ancient and modern times; thinking in these sciences is increasingly extensive in its scope, in inseparable relation with knowing; it is made more accurate through all kinds of knowing and thinking.” (p. 30)

The science of noetics has as its field thinking and knowing, thought and knowledge, which concern mental operations, processes, states and products, largely through the data of the written word. Other aspects of mentation such as feeling, the emotions, sentiments, memories, unconscious acts are taken up in noetics only insofar as they are related to or carried by thinking and knowing, thought and knowledge. There is an inextricable link between noesis and aesthesis. One of the primary sources of noetic science is the work of authors who have engaged in the study of noetics in the past. Their works are both elements in the historical development of noetics and examples of the highest level of thinking and knowing. Although the science of noetics has a subject matter *sui generis*, it does not contribute directly to other disciplines, although the history of these disciplines, such as the history of philosophy, of the arts and sciences, forms part of its object.

### **Noetics and the Scientific Revolution of the 20th Century**

Krader uses the word science in a way that is incompatible with positivistic notions derived from the Enlightenment tradition. From Enlightenment science to the beginning of the 20th century the accepted view was that of a unified nature that was orderly, whose laws were universal and expressed in mathematical terms. Like nature, science was considered to be a unitary whole, empirical, mechanistic and reductionistic. The positivists joined the unified science movement, and there are still those who champion this view today. The human sciences, for the positivists among their practitioners, were to emulate the model established by the physicists, chemists and biologists, for their subject matter was part of the same unified nature of the universe perceived by the senses.

But early in the 20th century a new order of science arose which did not seem to conform to the unified model and the attempt to bring the two into some common framework led to a series of paradoxes. Results of efforts to probe aspects of nature at the sub-atomic level seemed to violate certain established laws within the super-atomic level. For one, the mathematics that described quantum behavior was probabilistic and not causal. Action at a distance, which violates Einstein's special relativity theory, was 'observed' in the quantum universe.

The paradoxes of relativity and of the quantum world called into question the bedrock of positivistic science in the Enlightenment tradi-

tion. The quantum realm seemed to be qualitatively different from the material order of nature. The unity of nature and of the science that studied it was called into question.

“We have already seen that Galileo, Newton, Laplace, and Einstein were guided by the same thought, of the unitary world system, whereby it is presupposed that the world has a system which is unitary, and is given mathematical expression; the system is regular, with linkage of the parts, and subject to laws. This system of the world dominated thought about the cosmos until the beginning of the 20th century, when its general features, of Euclidean space, absolute space and time, a universal coordinate system having metrical significance, deterministic location of bodies large and small, and universal lawfulness of everything, were called into question...In the next stage of scientific advancement, it was shown that the actual or potential mathematization of nature is still affirmed, but the unitary universal system is not...There is no known, unitary system of mathematics. All the mathematical systems mentioned are valid, physically meaningful and relevant. Physical scientists are guided by previous theories, empirical observations and experiments; the different approaches to nature that they pursue all operate within the validity and applicability of mathematics. Nevertheless, their approaches to nature fundamentally differ, the one being termed universalist, down to the period of the quantum theorists; thereafter, they are particular, insofar as they adhere to physical theory.

Mathematics has the two chief characteristics of precision in numeration and measurement, and of formal-deductive system; the adjuncts of natural universality and internal unity are assigned to it by an older tradition that is now passed by; it is now held to be applicable in segmentary fashion to fragments of nature.” (p. 363-64)

Physics itself had arguably split nature into two orders, and quantum and astrophysics had demonstrated that nature was not all continuous and orderly but contained within it disorder and chaos, and mathematicians such as David Hilbert developed a non-Euclidian n-dimensional space, which accorded well with various aspects of quantum physics. When Hilbert’s student, Saunders MacLane, had developed a purely formalist mathematics based on abstraction from the world of the senses, and David Ruelle showed how chance and randomness play an increasingly central role in our understanding of the nature of things, the older view of unitary nature and unified science seemed in need of a radical rethinking. For Krader, the old debate between materialism and idealism in philosophy in general and in the philosophy of science more particularly has been rendered moot by developments in science itself. Matter and mind are both in nature

(there being nothing outside of or above nature,) but even so they do not constitute all of nature.

### **The Human Order of Nature**

With his working through the writings of Marx and Hegel from 1937 to 1975 (see Editor's Preface in this volume,) combined with his work in empirical anthropology from 1950-1963, and with his expertise in the history of philosophy and philosophy of science, and in linguistics and semantics as well, Krader came to the slow realization that the object of the human sciences was different not only in degree from that of the sciences of material nature and from quantum physics, but that the human sciences had as their object a different order of nature, which required a different conceptual apparatus and methodology than those of physics, chemistry, biology and the like. One of the keys was found in Hegel who wrote: "*Der Mensch geht vermittelnd zu Werke*" [man goes mediately to work]. For years Krader had worked through the texts of Hegel and Marx, and he considered their theory to be one with few exceptions. In his memoirs he wrote:

"I assumed that the philosophical doctrine of Hegel and Marx is one, in theory one, however much in practice they diverge, particularly in respect of the state. But their theoretical expositions of nature, human history, and civil society do not diverge. On the contrary, the teachings of Hegel with regard to the place of the human kind in nature and in the human world, the course of natural and human history, natural and human science, and the science of human society are given practical significance by Marx; we read the one through the eyes of the other and the other through the eyes of the one." (*The History of My Times*. p. 276.)

What Hegel and Marx both advanced was a theory of the human kind in nature in which it interposes between itself and the natural field a cultural grid, which includes the organization, division, and specialization of labor and the formation of society all in its historically specific forms. Marx, following Darwin, banished teleology from nature, but like Hegel re-introduced it into human history. Krader thus refers to Hegel and Marx as,

"Ptolemaic, and not Copernican cosmologists of the mind; that is, the human world is their cosmos, and the mind is the center of the world." (p. 277)

Krader takes up the importance of the human world and history as its own order of nature, connected to the material and quantum

orders, through nexus and difference. The material order of nature is thingly, composed of relations that are direct and indirect, whereas the human order is subjective and objective, whose relations are mediate and immediate, abstract and concrete. These dyadic elements: *Direct—Indirect*, *Subjective—Objective*, *Mediate—Immediate*, *Abstract—Concrete*, and many such others, have their origins in pre-classical and classical times as the expression of balance within mental economy. The dyadic oppositions of

“Reality and illusion, the true and the false, good and evil, the light and the dark, rest and unrest, externality and internality, the one and the many, freedom and constraint, debit and credit, purchase and sale, the concept and judgment of balance, and a mental operation with both that is developed over five millennia, for they were first drawn up in ancient Sumerian, entering into our historical consciousness and Weltanschauung.” (p. 46)

The dyads are an expression of real mental operations and not simply metaphors; they are generalizations, as opposed to universals, and are part of our taxonomic capacity and strategy. They are part of a larger theory of the henad, which forms a dyad with monad when the concept ‘one’ is analyzed:

“The one is analyzed into the dyad, *Monad—Henad*. The monad is the one without parts, and without internal and external relations. It is a human construction, and is not a particle of matter, but is the point in space and the instant in time. It has the relation of identity, and no other. The henad is the one which is a system of parts, relations of difference and nexus between parts, and internal and external relations; hence it is part of series, successions and sequences together with others of like kind. Equality is a relation of henads, not of monads. The henad is the one that forms a dyad with many, and with other; the monad forms a dyad with neither; but also, *One—Other—Many* form a triad.” (p. 98)

Krader provides an ample but by no means an exhaustive list of dyadic couplets that are both parts of the noetic process and products of the same. They are found within both the Occident and the Orient in different forms and hence are not specific to determinate cultures. As Krader writes:

“The dyads appear in many cultures. Thus, while the Chinese have *Yin—Yang*, the Bible has *Chaos—Order*, and *Light—Dark*, the Chukchis, together with many peoples of North America, have *Creator—Trickster*. The dyad, forthcoming in many cultural settings, is therefore not bound to any

one of them. Whether it is universal in the human kind is a speculative concern." (p. 88)

The question of the cultural limitations of thinking and knowing is linked to the larger question of human nature and human being, for we are not human beings in general, save as a potentiality. In actuality we differ according to environment, language, economic activity and relations, social structure, customs, belief systems, etc. With regard to language, there is no universal grammar, save as an abstraction from existing languages. (See Krader's critique of theories of universal grammar, in the section entitled "Human Universals, Universal Grammar" on page 426.) Appeals to humanity have been given expression in political ideologies, social movements and philosophical theories, and real existing institutions have inscribed the watchword of humanity on their banners. But humanity exists only as an abstraction and even the common problems of humanity are common only in their concrete particularity:

"The party of humanity, the church universal, and the world revolutions are expressions of such speculative unity; one of the products of this speculative expression is the idea of a world history from the standpoint of a world citizen. We can conceive of a world standpoint, party, church, revolution, and citizenship in the imagination, in speculation and in abstracto, but concrete issues arise out of particular experiences, problems, and solutions, leading in these and in other directions. To be sure, history bears not only on the concrete particular; general problems of the human kind are also concrete, and by considering them critically we go beyond our individual and particular formations. But the general is concrete only in the particular, and is not concrete in general, either in human history or in natural history. The human particular is sifted through the worldwide or the local perspectives, and this particular is critically treated." (p. 105-106)

Hegel and Marx took up the cause of human freedom since they each recognized that freedom had only been achieved in the modern world as a matter of form but not of substance. Each wrote during a period of great hope in Europe, sharing a common teleology of history that Krader rejects as speculative.

The great artists, writers, and poets gave expression to their *Zeitgeist*, shaping and enriching it, exploring and deepening it, stirring the passions and expanding the mind. The greatest of them continue to make an impression on their spectators, readers, auditors and audience because they have produced works of art that transcend their own *Zeitgeist* tapping both into that which is generally human and

edifying and reaching people across time, space and culture in ways that speak to their own particularity and to the ever developing world culture that has come into being in the twentieth and twenty first centuries. To be sure, the meaning that we find in the works of Aeschylus, Euripides and Sophocles is not the same that Greek audiences discovered in classical antiquity. Beethoven, Schiller, Goethe, and Hegel took up the cause of freedom at a time in which there was great hope, and their various works both gave expression to that hope even as it shaped and advanced it in Europe. Their art continues to edify us even though we no longer live in a time in which hope is palpable and the culture pregnant with expectation as it was at the end of the 18th and beginning of the 19th centuries when they were producing their masterpieces:

“I have stated elsewhere in this work that we listen to Beethoven with temperaments different from those that inspired his audience in his time. His “Eroica” and the “Fifth Symphony” proclaimed a new day of hope, celebrating the hero in abstract anonymity; however, the public acclaimed Beethoven as the hero, and the series of his triumphalist announcements culminated in the “Choral Symphony” with its “Ode to Joy.” As to the difference and commonality between Beethoven’s contemporaries and ourselves, we do not share the optimism of the listeners in his time, yet we find our own way to the love of his music, while noting objectively that at one time people really believed in his musical expressions of hope and joy.” (p. 488-489)

There is no progress or development in thinking, except in relation to the quantity and quality of knowledge and thought, and there is no progress in art. Art in the context of hope and optimism may be deeply appreciated in a different time and context but without the same significance and without immediate access to that dimension of the work:

“The triumphant sounds proclaiming the new age of hope in Beethoven’s symphonies are not repeated by the composers in our time. Our sentiment in response to his music is that of listeners who enjoy great works of art, but have lost access to his musical program of hope. These explanations are derived not from culture as a whole but from psychological and ideological evaluations of art, which are partly objective and external, partly subjective and internal. If a new era of hope in progress were to come forth, then a new Beethoven would proclaim it in a new musical style; this is a political and an artistic question, however, and a noetic one, that is therefore derivatively judged and answered by all these means together.” (*The History of My Times*. p. 570)

### **Evolution of Homo Sapiens and Human Development**

One of the great turning points in Krader's thinking had to do with a re-evaluation of the theory of evolution in relation to the human order of nature. Krader had been fascinated with the theory of evolution ever since his attendance as a boy at lectures on the topic given at the Museum of Natural History in New York City (see Editor's Preface.) Krader's interest in empirical anthropology had focused on the indigenous peoples of Central Asia because he felt that they had represented an evolutionary stage of development that he could study empirically. His interest in transcribing Marx's ethnological notebooks was driven in part by the same interest in evolutionary stages. In his memoirs Krader recounts the development in his own thinking about stages of human evolution:

"Anthropology, as I understand it, is an empirical science, not a branch of philosophy, as Kant takes it up; it solves empirical problems, not philosophical ones. The philosophers at Harvard in 1950 asked me to join their department, and take the Ph.D. there, but I refused, for I wished to work on an empirical problem, of evolution. I leaped into the field too precipitously, without separating carefully human development from biotic evolution. To understand this distinction took me 15 years of teaching and research, from 1947-1962...I am still considered to be an expert on the peoples of Central Asia...However, I have long given up this field because I first began to study it in order to master the life of the pastoral nomads of the Asiatic steppes as a problem in cultural evolution; but this is wrong, because it confuses the development of a cultural system and the evolution of the organism. There is no evolution of culture, hence no evolution of pastoral nomadism. At the time that I studied this field and problem, V. Gordon Childe, Lesley White and Paul Kirchhoff were prominent writers in the field of evolution in its supposed application to culture, and I took over their thoughts uncritically. But as I studied the problem further, I perceived that it rested on a fundamental confusion...I received a grant from the National Science Foundation to study the evolution of pastoral nomadism, and this ended up as an article on the subject for the International Encyclopedia of the Social Sciences. However, all these things are by-products of my original idea, which I abandoned around 1960." (*The History of My Times*. p. 203-205.)

The confusion to which Krader refers above relates to the problem of the relation between two orders of nature, the material, more narrowly the biotic, and the human orders. There is both nexus and difference between the two orders and the relation between the two is understood by the difference, already proposed by Aristotle, between generation and constitution. The animal species *Homo sapiens* evolves in the material realm out of which the human order is generated. But

once generated the human order is constituted on a different basis and cannot be understood by means of reductive operations to the biotic order out of which it had been generated. There are connections here between Krader's thinking and the ideas contained in the works of the pragmatists, William James and John Dewey, and especially of the social idealist Charles Horton Cooley and social behaviorist George Herbert Mead. Krader has taken up the cudgel not only against the unified nature and science protagonists, but especially and more narrowly against the sociobiologists such as E. O. Wilson who sees human society in terms not qualitatively different than the societies of the ants that he studies and for which he has justifiably received a Nobel Prize. A key precept of Krader's work is paying due attention to both the continuity between the species *Homo sapiens* and the discontinuity between the human being and order and the biotic evolution of species. There is continuity and discontinuity, nexus and difference between these two orders of nature. As *Homo sapiens* we have direct, concrete and thingly relations within the material order of nature; as human beings (as opposed to our species-being as *Homo sapiens*) we stand in relations which are mediate and immediate, abstract and concrete, subjective and objective to the material order and to one another. Yet there is no break between the two orders of nature in which we find ourselves as biotic and noetic beings. Our relations in and to both orders are simultaneous, although the systems of space and time have nexus and difference between them. Our relations to material things, which are both thingly and subjective and objective, may be given expression as a primary reification (such as we find in myth) and a secondary reification in society. We extrude a human world enveloped within the material world that can only be fathomed as such by means of the arts and the human sciences. What we study from a historical point of view in the human order is development not evolution, that is to say from within the human order we speak of development while within the material order we evolve as a biotic species, *Homo sapiens*.

"The theoretical problem concerns the difference and nexus between the human processes of the human kind and the animal processes of the species *homo sapiens*, while setting aside the animal processes of human beings and the human processes of *homo sapiens*. Failing this, we diminish the value, both objective and subjective, of our scientific and technological achievements, and the attainments of the poetic, musical, visual and speculative arts." (p. 332-333)

Krader begins with cosmological and biotic evolution, from within which the human kind develops. It develops out of a variety of animal capacities to which it is related and from which it is differentiated at the same time. In the very first chapter of the book Krader outlines the origins of the noetic processes in which he characterizes the generation and constitution of the human kind and being:

“Matter is generated and then constituted as orderly, life is organized in species, and evolving. The human species has evolved bipedal locomotion, binocular vision, binaural audition, left-right near symmetry, erect posture, the enlarged cranium, and certain dispositions of the animal nervous system...The human kind undertakes and undergoes development, the original process of which is the working out of the direct material and animal-material propensities and dispositions, transforming them into mediate human capacities, physical and mental, of our work and labor...The mind, thinking, and knowing, form part of the human transformational process that is brought to bear on our animal capacities.

The transformation is a human development that can be discerned in our system of space and time. We have taken the *Space—Time* system of material nature and have converted it into the human system of space and time. Matter and mind are both natural, but do not make up all of nature. Our noetic processes are located in the human order of nature, and have relations to other orders; they have their place in nature, existing variously, both mediate and directly, in relation to all these orders, and in relation to the random processes and parts of nature...Thinking and knowing are abstract in relation to their origins in animal doing and human making, but concrete in relation to their objects; they are direct relations of nature, and thus direct in relation to their origination, but mediate acts of the human kind, both within the human order and in relation to external nature.”(p. 3-6)

Asymmetries in nature are internalized by the human kind and constitute the basis upon which paradoxes arise within the human order, which in turn serve as the basis for projections onto nature itself. Our noetic capacity lies entirely within the human order having thus a mediate relation to mind and a direct relation to the brain. From the point of view of the material order of nature, there is an asymmetrical relation between brain and mind; from the point of view of the human order, the relation of mind and brain creates a series of asymmetries on the side of the brain and paradoxal relations from the perspective of the mind. The *Mind—Body* or more narrowly the *Mind—Brain* problem in philosophy can best be posed in terms of the theory of different orders of nature and their corresponding systems of space and time. Noetic processes exist in a different space and time configuration than

that which is found in the material order of nature. The so-called “hard problem” of consciousness cannot be solved at present (whether it can ever be solved is a speculative question) and the difficulty is related to the fact that the material processes of the brain exist within different orders of space and time than do the noetic processes of the mind.

The human kind as opposed to the species *Homo sapiens* comes into being through the construction of a medium, which it interposes between itself and the material order of nature. The interaction within this medium and through the medium to external nature by means of a process of internalization leads to the constitution of the self and self-relation. Self and medium in relation to the internal and external relations of the human kind, objectively and subjectively, abstractly and concretely, mediately and immediately, constitute the bases of mind and noetics. The self relation is constituted not only by thinking and knowing but by thinking and knowing about thinking and knowing:

“Here I open up an old chapter in the history of our intellection of the self, of self-consciousness, and of noetics. For it is both knowing and thinking about thinking, knowing, consciousness, self, self-consciousness, the thinking and knowing subject and the object of thought and knowledge that lead the way to progress of thinking and of intellection in this regard. In entering into our human condition, in its internal processes of the mind, the path was taken, out of animal learning, animal knowing, animal awareness, animal sensation, animal evasiveness, animal tool-using, and animal communication, by these very processes, out of which the mind, language, noesis, and aesthesis of the human kind are built up. It is a process, from-to that we now direct, albeit only in part. We make thinking itself into a medium on which we work; it is the object of our labor, and we are conscious of the mediate and objectifying, self-objectifying and self-subjectifying process.” (p. 28)

Human consciousness is a development of the human kind on the basis of animal awareness. Internally, it has self-relation, and externally, relation to objects. As part of its process it transforms the things in the material world into objects within the medium of mind, noesis and material culture. It is not only conscious of objects, but of the subject and of the self. In seeing the consciousness as an agent, a hypostatization is made; a further hypostatization on the first is made when the consciousness is seen as independent of the individual invested in some ideal realm (e.g., Plato) or in society itself (e.g., Durkheim.) Krader suggests that the first hypostasis is practically inevitable and to a point useful, the inevitability arising from the propensity of mind toward abstraction; the utility is related to the agentive quality of consciousness and self-consciousness, which is real. Krader opposes an

intuitive consciousness, an absolute consciousness, or any notion of consciousness that treats consciousness apart from consciousness.

### **Self-Knowledge and Thinking about the Self**

The self is generated by a process of internalization of aspects of the cultural medium and externalization of aspects of the nascent self. The medium is both material and mental, both of these elements being social and cultural, and hence variable. The individual is generated out of the triad *Subject—Object—Thing* where the subject is the object and the object is the subject, in the human order of nature in which they stand in an asymmetrical relation to the order of material nature, which is neither subjective nor objective, but “thingly.” Feminist thinkers have long argued that many men (and women) have ‘objectified’ women as ‘sex objects’ and thus treated them in an inhuman way. But women and men, in the human order are both subject and object and object and subject. It is not treating other humans, men or women, as objects, but as things, or as part objects as the psychoanalysts say, that reifies them and thus degrades them. When the subject passes into the object and the object into the subject freely, there is no process of reification. It is when the *Subject—Object* dialectic is broken, when the subject does not pass freely over to the object and the object does not return to the subject, that the process of reification is constituted.

With the generation and constitution of the self and medium, self-consciousness and self-knowledge, along with thinking about self-consciousness become part of noetics and the science of noetics. This raises the questions of self-knowledge and identity, which play an important role in noetics. This leads in two directions in the book:

- the one takes us back to the great thinkers (Kramer pursues those primarily in the Western tradition, and he acknowledges that there were other great thinkers in other traditions) who provide us with (1) theories about the nature of thinking and knowing (2) examples of thinking and knowing within a magnificent architectonic that is intellectually and aesthetically pleasing and (3) empirical elements contributing to noetic science albeit inextricably bound up with myth, speculation and metaphysics.
- The second direction in the book is toward a consideration of the great works of art, music, literature, sculpture, painting and poetry. There are two reasons why the book devotes considerable space to art, the philosophy of art and aesthetics. First, although we think of aesthetic experience as primarily having to do with feelings, senti-

ments and emotions, there is also a strong noetic component in our experience of art. Second, we learn about ourselves, who we are, the nature of our sensuous experiences, the meaning of our lives, human purposes and goals, social and individual ideals, morality and conscience in our experiences with music, painting, theatre, dance, sculpture and poetry. They also teach us about the experience of experience and bring us to think about aesthetic experience. We take up the line of thought that Krader develops in relation to the great thinkers.

### **Speculation and Architectonic, Art and Literature**

The three areas that Krader explores in the noetic writings of the great thinkers are those of speculative philosophy, mathematics and science. Krader introduces aspects of the greatest philosophical thinkers in the book in relation to various aspects of noetics: Plato, Aristotle, Descartes, Leibniz, Spinoza, Locke, Hume, Kant, Hegel, and Husserl among the most important. Some of these thinkers created a magnificent architectonic whose glory exists independently of the truth-value of their speculation and metaphysics. Although Krader has taken up a position explicitly in opposition to Plato and his philosophy, finding truth rather in the shadows on the walls and floor of the cave, he marvels at the noetic and aesthetic beauty, ingenuity and power of Plato's philosophical architectonic:

"The poetry is not the way to truth, nor is the speculative architectonic of Plato. This does not diminish the aesthetic pleasure of poetry, or the noetic pleasure of Plato's work. However, the noesis has the two elements, thinking and knowing. Plato's thinking is grand, inspiring awe in the reader; but its scientific knowledge led in a dubious direction in its own time, and is useless today; therefore we read it only for its thought, which is not to be confused with scientific knowledge; the thought is expressed in an art form that inspires great positive feeling even today. Who can be consternated thereby?" (p. 132)

On the other hand, Leibniz' philosophy did not constitute an architectonic in spite of his contributions to mathematics, his critique of Descartes and of Locke, his theory of apperception, and his contribution to the anti-mechanistic theory of mind. When it came to philosophical works that are equally works of great art, Krader considered the philosophies of Plato, Aristotle, Kant and Hegel.

The great authors and poets have contributed to noetics in significant ways. Through their art forms they have pleased us with their use

of words, enlightened us with regard to the human condition, which we grasp through the particularity of our own determinate culture, helped us understand human predicaments, clarified our own choices and conflicts, helped us to fathom the nature of love and sacrifice, aided us in bearing tragic losses and defeats, forced us to recognize the role of fate or accident in our lives, and so on. The closer we are to their own world in time and culture, the clearer their words and thoughts are to us. There are meanings understood by the classical authors and their readers or audiences; some of their meanings we are still able to grasp; other meanings are lost to or rather on us:

“Our relation to ancient tragedy differs from that of old. The Greek spectators understood in their way the action of the *Oresteia* by Aeschylus, but our understanding differs from theirs, for we grope for the reason why Athena comes to favor Orestes over his mother, and we do not understand why in the tragedy by Euripides *Medea* is uplifted, and Jason is left in misery; for this, taken as proof of the irrational in ancient Greece, appears as inexplicable to us. The work of art, however, is not the same when measured objectively and quantitatively over the millennia, or over great changes in cultural orientation which are qualitative; but it has a central theme and meaning, which change with slow time, at an unhurried and majestic pace.” (p. 550)

Noetics includes thinking and thought, knowing and knowledge of two kinds: worded and wordless. The great systems of speculation, the great poetry of all traditions, the great literature and theatre, science itself, are mostly worded. Painting, sculpture, architecture, the dance and music are without words and yet many painters, composers, architects and other ‘wordless’ artists have written about their own work and about art in general. The same is true for worded artists:

“The data for noetics are taken from the writings of those who examined the mind, thinking, thought, knowledge, knowing, words and their meanings; the data are and at once represent not only words, thoughts, and knowledge, but also images, figures, reasonings, imaginings, speculations, and systems of the same; the poets Dante and Shakespeare, the novelists, Cervantes, Tolstoy and Mann, the architects Alberti and Palladio, and painters Leonardo, Michelangelo, Dürer, Mondrian, and Klee have put their thoughts about their art into words.” (p. 52)

### **Language, Linguistics and Semantics**

But along with the wordless arts, noetics is centrally concerned with words, their meaning, the change of their meanings over time, the

conveyance of meaning by means of language, the structure and history of languages, theories of language, and so on. The sciences of linguistics, semantics, lexicography, philology, etymology, study the various aspects of language, meaning, units of meaning, vocabulary, derivations and history of words, the composition of monolingual and bilingual dictionaries, the structure of language, grammar, syntax, tropes, and so on. All of these are relevant to the science of noetics as Krader shows the connections between them and various aspects of thinking and knowing. The contributions to noetics from the language and logo-centric disciplines are not generally human since no people speaks "language" and the problem with the theory of universal language structure is related to the fact that it is a construction post hoc of professional linguists, which is presented as a deductive starting point rather than an inductive end point. Language, vocabulary, syntax, the history of words, changes in meaning, are linguistically specific bound to particular traditions. We then abstract ourselves from the particular traditions and treat our subject in a way that links the general with the particular, the abstract with the concrete, subjecting our thinking to criticism and self-criticism. Through the latter processes, we are capable of rising to the general while remaining rooted in the particular.

There is a deep connection between language and culture, including material culture. Many of the words in Indo-European languages have roots that betray their origins in different kinds of labor, bearing testimony to their practical and theoretical provenance in the division of labor in society. Thus, in addition to being conveyors of symbolic meaning, words are social hieroglyphs in themselves bearing aspects of the relations of labor in ancient societies.

"By studying these words and their roots we gain an insight into the organization of labor among speakers of Indo-European languages, and into noesis from the historical perspective. Greek *techne* is linked in its etymology to the term for the house builder's, and the shipbuilder's crafts, to Sanskrit and Avestan *taks-*, carpenter, and Old Irish *tal*, axe; further, it is cognate with Latin *texo*, weave, *textor*, weaver; *techne* further means skill, craft in general, having to do with material production, later extended to include artistic skills, and the mental and linguistic capacities related thereto. Latin *ars*, art, covers the same general band of meanings; the artistic skills are of all kinds, material, mental and fine. *Organon*, work tool, is cognate with Greek *ergon*, labor, Avestan *varz*, tillage, Armenian *gorc*, Germanic *werk*, work. *Organon* further has the meanings of sense organ, body organ, musical instrument." (p. 198)

Krader creates a broad survey of the various areas within linguistics and semantics plotting the various contributions of the most bril-

liant pioneers in the field. Bloomfield suggested that linguistics study the actual movement of the sounds of speech; Michel Bréal (who gave us the word *semantics*) focused on the meaning of words and groups of words, while Bickerton suggested that we consider the meaning of clauses. Krader considers the noetic aspects of language intrinsically, extrinsically, historically and structurally, lexicographically and philologically. He writes about the impact that technological advances have had on language from the invention of the printing press by Gutenberg in the 15th century to computerized printing and publishing in the late 20th.

Dictionaries are a step forward in the standardization of languages, a process that occurs at a varying pace within different linguistic communities for reasons that are mostly extralinguistic. The first dictionaries were bilingual in that they served as a bridge and a guide between two or more linguistic communities. These bilingual dictionaries were the points of origin of historical lexicography and served as models for the development of monolingual dictionaries that played an important role in the linguistic counterpart of nation building, providing a standardized language in the areas of law, administration, education, science, business and commerce and many other key areas of culture.

Edward Sapir took up the question of language as a particular way of human being in the world for, in addition to the objective world in which we live and the social activity in which we engage in that world, we also inhabit the world of our particular language. We constitute our particular world by means of the specific unconscious habits of our linguistic community, representing to ourselves and to others the uniqueness of our understanding, reflections and judgments of our world. According to Sapir, every language is a "*collective art of expression.*" Sapir, in conjunction with his colleague Benjamin L. Whorf, developed a provocative hypothesis, which states that our mode of thinking and our perception of reality are constrained by the particular grammar of the language that we speak. Krader proposes a softer version of the hypothesis according to which particular grammars interact with different world views in different ways. Yet language is not a fixed system but something fluid that changes over time, as do the world views with which it interacts. Human reality, including language and world views, are eminently historical.

Krader's modification of the Sapir-Whorf hypothesis is taken together with its opposite, namely, the influence on and impact of mental structures on grammar and other linguistic forms. Citing the

works of Wilhelm von Humboldt, Ferdinand Brunot, Leo Weisgerber and Eino Mikkola, Krader calls attention to the mental world, which creates a general medium, as a particular construction of the human kind, which comes to bear on the linguistic form, another human construction, which affects the general medium:

“Humboldt regarded language as a world which the mind sets between itself and the objects through its inner labor. Brunot through his work on French, Weisgerber through his on the German language, and Mikkola through his on Latin, show that the mind intussuscepts different worlds between itself and its objects. To this I add that the mind is not an abstract, unitary entity, but a composite, one part of which is the abstractive capacity, and another the linguistic capacity, both of which are generally human; both are realized variously in the different languages, even within the same language family. Thus we do not speak of one abstract mental world, but of many, even in one individual. Moreover, the abstractive capacity enters into the linguistic capacity, and vice versa.” (p. 403)

With the advent of the computer and the widespread use and expansion of information technology several new challenges to noetics were introduced. Among other things, thinking produces meaning with knowledge. Information, however, is not in itself meaningful. On the one side, Krader has taken great pains to separate human from animal thinking and knowing and on the other he carefully separates human thinking from computer processing and the generation of information. Krader cites the seminal work in communications and information theory written by Shannon and Weaver who clearly draw a distinction between information and meaning.

“The information is a mechanical and electronic datum, whereas knowledge is a human factum; the one is given, the other the process and product of human intervention; in this sense, animal knowledge is both a datum and a factum, becoming combined with the latter when it is given meaning, and thus humanized; the same is said of cosmic information, which is a datum of external nature, without meaning as such, but is given meaning and thus humanized.” (p. 50)

Krader has taken up the question of *meaning* and made it into a central concern in the book. The science of meaning is semantics and Krader provides the reader with a learned overview of the main ideas and theories in the history of semantics including the contributions of Michel Bréal, Derek Bickerton, Edward Sapir, Benjamin Whorf, Lev Vygotsky, Alexander Luria, Nikolai Trubeckoy, Ferdinand de Saussure, Roman Jakobson, Wilhelm von Humboldt, Charles Peirce, George

Miller, among the most important. Krader considers the various aspects of meaning as taken up by the foregoing authors in relation to the problems of thinking and knowing within the noetic frame.

One of the fundamental aspects of thinking and knowing is based on the capacities of abstraction and representation. (Other aspects of thinking include: concretion, which stands in a dyadic relation to abstraction, generalization, differentiation, conceptualization, and projective action.) We know from the cave paintings of the Paleolithic period that human beings employed this capacity in an artistic modality. We cannot know the substance of the representation, what the artistic rendering meant to its creators and audience, but we can see in the form of the art, the activation of these human capacities. We find these capacities not only in the field of art, which includes all the art forms, worded and wordless, but in mathematics, in all the sciences which formulate general laws, in speculation, in symbolic and metaphoric expression, in personification, in identification, in the technological realm and in the process of everyday life.

Not everything involved in artistic creation and the advancement of the sciences is noetic, but it is impossible to separate out the elements of thinking and knowing from those of feelings, sentiments, sensations, memories, emotions, and unconscious acts, which are considered only in their interconnections with noetic processes and states. Noetics differs from the epistemology, the philosophy of science, mathematical logic, and other disciplines in that it looks at all kinds of ways of thinking and knowing, fallacious as well as valid, productive as well as unproductive, ideological and mystical as well as scientific, speculative as well as empirical, and so on. It follows the paths of false theories, speculations, side paths, meanderings, insight and genius.

### **Noetics and Neuroscience**

The mind-body problem, more narrowly the mind-brain problem, has been a perennial interest of philosophers. Until recently, the brain has been conceived of as a machine, which is fixed in the operation of its parts. If one part becomes diseased, injured or disabled, the function is permanently impaired. In modern thought this model of the brain derives from the philosophy of Descartes and it has had, until the last few decades, a retarding effect upon the advancement of brain science and of our understanding and treatment of brain and neuropathology. In his award-winning book *The Brain that Changes Itself*, my friend Norman Doidge has decisively shown that the brain is not a

machine with fixed parts but an organ, which is neuroplastic in that lesions, abnormalities, small infarctions, physiological aberrations, which interfere with the normal functioning of areas of the brain, lead to a reorganization of structure and function in such a way that elements of the brain, which are normally not involved in a particular function assume the function normally subtended by the diseased or damaged or missing elements.

Neuroscience is of great interest to noetics and Krader has taken notice of the work of some of the leading neuroscientists including: Antonio D'Amasio, Marcus Jacobson, and Joseph LeDoux. (Krader's work, which was essentially completed in 1997-98, could not have taken into account subsequent research in neuroscience.) Krader's approach to the mind-brain problem is neither a simple-minded monism, nor a simple-minded dualism. He accepts Jacobson's assertion, an assertion which is widely, but by no means universally shared in neuroscience and within the philosophy of neuroscience, that

"We shall never be able to show that a mental and a physical event are identical." (p. 64)

Neuroscience deals with neural events, which are physical events in the space-time of the material order of nature. For Krader,

"The non-identification of these events [neural and mental – C.L.] does not exclude their common natural existence. They are both in space and time, but not in the same system of space and time; in this sense therefore identification, conformity and like interrelations to which Jacobson refers are excluded." (p. 64)

The brain subtends the mind in a different order of nature, yet both the brain and the mind exist in nature:

"The brain, as an organ of the body, has connections to the senses as part of the nervous system; it is located in the *Space—Time* of the material universe and has a visible contour which is detectable in the living by x-ray photography and magnetic resonance impulses. It is of known chemical composition, and is fed by a system of arteries and cleansed by veins; it suffers lesions and infarctions, and it marks its shape by sulci on the skull. However, the mind and the brain are not the same, although they are interconnected; from the presence of the human brain one may infer that the mind exists, and from the acts of the mind we conclude that the brain provides a material base for the mind. The relations of mind and brain are asymmetrical, for the brain has a direct relation to the mind in its nervous, electrical and chemical impulses, whereas the mind has a mediate relation to the brain. The mind, its states and

processes, is in its material origination seated in the brain of the individual. Particular locations in the brain are linked to our ability to reason, to recollect, to speak meaningfully, and to fill in by our keen sight the missing parts of a photograph. Neuroscience has investigated the normal operations of the brain, and the operations and locations in which particular mental functions take place; moreover, injuries to known localities have in consequence impairments as forgetting, aphasia, speaking meaninglessly, epilepsy, etc. The mind exists in a *Space—Time* system which differs from that of the brain; the space and time of the mind are *n*-dimensional, separable, and variable. The mind is not fed by mortal elements, for it is not bred in the heart or in the head." (p. 159)

It is important to note how Krader has reframed the discussion concerning the relation between mind and brain in terms of the traditional arguments. Within the old Enlightenment positivist view of nature and science, all phenomena are considered to be within the same frame of reference, which is the *Space—Time* system of the material order of nature. With the discovery and introduction of the quantum order to the discussion, a different order of space-time than the material was recognized in which neither of these orders could be reduced to one another. Building on this bridgehead, Krader has posited the human as another and different order alongside the material and quantum, neither of the three being reducible to one another. Nature is the over-arching category, which includes all three, potentially *n*-orders of nature, there being nothing beyond or above nature. The concept of nature, which follows from the foregoing, is a nature of continuities and discontinuities, paradox, order and disorder, chaos, randomness, law and lawlessness. It is a nature of pieces in which the bits fit together in more limited ways (according to our current understanding) than were conceived of in the 19th and early 20th centuries.

Neuroscience looks at the thinking process and state from the outside, from the point of view of brain and neural physiology. Noetics concerns itself with neuroscience from the point of view of the material order of nature. But there is an inner process and state of thinking and knowledge that is found in the human system of space-time, which is abstract and concrete, subjective and objective, mediate and immediate. The relationship between the inner and outer processes and states of thinking and knowing remains unknown and constitutes the so-called "*hard problem*" of consciousness. At this point in our knowledge the thinking about this problem remains speculative, as does prognostication concerning any possible future solution.

### **Thinking and Computation, Noesis and Aesthesis**

The question of brain and mind has arisen within a new branch of science related to electronic computational processing. If the brain is considered to be a machine — and the new ‘neuroplasticity’ has created a revolutionary doubt in our thinking about this image — then those within this new field writing about the computer in terms of ‘artificial intelligence’ have extended the brain as machine metaphor to the mind as well. But this metaphor is misleading for machines of any sort exist only in the material order of nature whereas the mind exists within the human order and in its system of *Space—Time*. There is no mechanism of the mind, nor of the brain, at least in the classical conceptions of the brain as machine, according to the tenets of neuroplasticity.

“Many who write on the theory of consciousness, have used the organism of the brain as an analogy or metaphor for the mind. It is sometimes argued, either dualism or monism, but not dualism, therefore monism. The organic world is a mighty metaphor for the mind; the entire organism, parts thereof, or functions of the organism, or of its parts, are likened to the mind. Without criticizing these gifted people, I propose that the phrase, “*somehow, the brain must be the mind...*” is the beginning of an extended metaphor. The concept of artificial intelligence posits the metaphor of the mind as a machine. In the place of these metaphors, I advance a new theory of nature, space and time, in which the mind and the brain have their distinctive attributes and places.” (p. 159-160)

There are further confusions arising out of the concept of artificial intelligence. For one, noetics recognizes that human thinking and knowing are concretely interrelated with feelings, emotions and sentiments. Hence they must be taken into account by noetics to this extent. The reverse is also true; an intellective process almost always accompanies the experience of feelings and emotions:

“These are complex matters, some of which have been raised in recent discussion by Antonio Damasio, *Descartes’ Error*, who shows that emotion is inseparable from our reasoning, and by Joseph LeDoux, *The Emotional Brain*, who studies fundamental emotions in all mental activity, cognitive, thoughtful, memorious, and other, from the standpoint of neuroscience; no noetic process arises without an element of feeling, emotion and aesthesis in it, and all attempts to separate them from one another are vain in the normal, healthy mind and brain; for their diremption is an indication of a psychopathological state in the human individual; moreover, no emotional process appears without a rational component in it in the human kind...Emotion forms a part of a process in decision-making, in which thinking and knowing

participate; the noetic processes direct the decision-making when we are most rational, otherwise not." (p. 280-81)

With the advent of the modern computer and its mass acceptance and use in the last four decades, artificial intelligence has entered into computer science and human psychology as a legitimate subject of study and research, and into the public consciousness in more sporting ways. The matches between master chess players and supercomputers are cases in point. They appear to be matches between human and machine thinking. But once again, as Krader points out, the machine doesn't think but computes by means of algorithms in the material world of nature (the algorithms themselves constructed by means of human thinking,) while the human chess champion thinks within the human order of nature, such thinking involving elements of feeling, emotion, sentiment as well.

The advent of the computer, a machine that can carry out a very large number of computations in a very short period of time according to algorithms or series of mathematically expressed rules, has given an enormous spur to the development of all the taxonomic sciences. This has, in turn, led to the development of information theory. Information is different than knowledge, for, as we have seen Shannon and Weaver point out, information must not be confused with meaning. Information, which in itself is not meaningful, may become knowledge when it is humanized. It is not unlike a piece of land in the wild. It lies outside the human frame until it is demarcated and worked upon in which case it becomes cultivated and brought within the human field and culture. Animal knowledge stands in a different relationship to human knowledge than does information, for animal knowledge is the evolutionary basis within the material-biotic order out of which human knowledge is generated. Once generated it is constituted within the human order of nature:

"The meaningful element in human knowledge distinguishes it from animal knowledge on the one hand and from information on the other. Others affirm the existence of independent reality; the information in the cosmos transmits both kinds of bits, human and other. There is information loss in black holes, which does not return in reality. One applies the distinction between knowledge and information in stating that only the latter is lost in reality. The information through radiation loss from the black holes is in the form of mass, which is really lost; the bits transmitted in communication are likewise twofold, as units of information and as meaningful entities which are sent, received and interpreted by human beings as units of knowledge. If the black hole disappears, it takes the information with it, but the knowledge pertain-

ing to this information remains. The knowledge, however, is stored as information, and solely as potential, not actual, knowledge. The information is a mechanical and electronic datum, whereas knowledge is a human factum; the one is given, the other the process and product of human intervention; in this sense, animal knowledge is both a datum and a factum, becoming combined with the latter when it is given meaning, and thus humanized; the same is said of cosmic information, which is a datum of external nature, without meaning as such, but is given meaning and thus humanized." (p. 49-50)

### **Durkheim on the Social, Weber on Value**

In Part IV of this book, *Noesis and Society*, Krader takes up numerous themes related to different aspects of noetics. Several of these themes he discusses in relation to the writings of Emile Durkheim and Max Weber, two pre-eminent thinkers in the sociological tradition. Durkheim developed his conception of human nature as the Homo duplex, one part consisting of the individual psycho-biological element, the other, the social, derived from society and superimposed on the former. The latter represents everything 'higher' in the individual – language, morality, reason, law, religion, etc. Durkheim believed that his social realism provided a definitive solution to the debate between the rationalist (apriorist) and empiricist schools in epistemology. Durkheim's critique of Kant focuses on the latter's individualism, for the intuitions and categories that Kant derives from the individual, are social for Durkheim. By deriving religious beliefs and rites from the social, Durkheim and his school also participated in the process of secularization in intellectual life.

But Durkheim succumbed, in Krader's view, to his own brand of Platonism, and instead of seeing the social in the individual and the individual in the social, he hypostatized the social, giving it a life of its own outside of the individuals who make up the collectivity.

Weber, on the other hand, was concerned with questions of meaning, rationality, subjective value and rationality and irrationality, form and substance in law. He also introduced the concept of a value-free social science. Krader lays out Weber's significant achievements in these matters but criticizes him at the same time for his diremption of subjective from objective value, his idealization of a value free social science which seeks to detach the study of social action from historical conflicts and choices.

"Weber sought for a 'value free' social science, which brought about on his part some idealized utterances, which he contradicted in other more critical utterances in references to themes of his own times. Thus, Weber took up a

critical position on the ideology of legitimacy in consideration of the legal order, cloaking his antipathy toward that ideology." (p. 451)

Krader also criticizes Weber for his one-sided emphasis on the individual in his *Verstehende Soziologie*, neglecting the objective and social sides.

### **Identity, Persona, Self**

Krader brings his extensive and intensive knowledge of great literature, poetry, music, painting and sculpture to bear in relation to that aspect of noetics that is concerned with thinking and knowledge about the human condition or self-knowledge. There are many themes that he takes up in relation to the works of the great poets, novelists, playwrights and artists from the time of the Paleolithic cave art some 30,000 years ago through the thinkers, writers and sculptors of classical antiquity, the authors, painters, composers, poets, playwrights, philosophers of the early modern and modern periods. We will briefly consider only the theme of identity, persona and self by way of example, which in no way can do justice to the depth and breadth of Krader's erudition.

The self is a human development out of and on the basis of the reflexive relation in material nature. It is constituted by the subjectification of the object and the objectification of the subject whereby the human being is constituted as the identity of the human subject-object in the human order of nature. It was the tragic poets and novelists that took up the question of self-identity most deeply and incisively. Krader considers the example of Clytemnestra in Aeschylus' immortal trilogy the *Oresteia*. In the play, she loses her identity by losing her life, her nation, her place in the after life and her quest for justice. She is scorned by the gods and the dead. Clytemnestra stands contrasted to the Erinyes or Furies, chthonic deities originally menacing to Orestes, are granted a new and benevolent identity by Athena.

Krader sees a parallel in Cervantes' character Don Quijote, who is called by many different names, creating a sense of uncertainty about his true identity throughout the book. Truth and certainty are hard to discern. But Clytemnestra and Don Quijote are the creations of Aeschylus and Cervantes respectively and this raises the question of the relation between the authorial character that of characters of the authors' creation.

“The real human being in poetry and the novel is the author, Aeschylus, Cervantes, Pushkin, Dostoevsky, Dickens, Proust, each of whom has a personal identity, but Clytemnestra, Quijote, Onegin, the man from the underground, the damned souls in hell, none save that which the author bestows upon them; but also the reader participates in the construction of personal identity. The fiction is not reality, but behind, before, within, and without the fiction is reality, and beyond the reality is the fiction, which calls the reality into question. The mental image, the I as subject and as object, the deep I and the historical I, are not fictions, but socially real, hence real in the human order of nature.” (p. 483-484)

The persona is the mask which is internalized and never loses its character of externality. Hence, we engage with the characters of the poets and playwrights, externalizations of aspects of themselves, from whom we learn who we are. But in addition to the dyad of *Internal—External* there are those of *Surface—Depth* and *Formal—Substantial* aspects of persona to consider, according to Krader. But the boundaries separating the dyadic couplets in relation to identity are not fixed but fluid:

“The relations of form and substance, externality and internality, surface and depth are not absolute, for processes are distributed along the axes, and are not exclusively one or the other. The external tends to be formal and surface, the internal deep, and substantive, in general. We not only internalize matters that are external to us, but make the surface events into deep ones; forms are made into substances, and the latter into the former.” (p. 486)

Identity is not only something that is revealed by the poet but something which is also hidden.

“Clytemnestra, Don Quijote, Iago, Karamazov, and Joseph K. are personae who display their proper identity, negation and problems of identity, but also hide it.

Iago declares,  
Were I the Moor, I would not be Iago.  
In following him, I follow but myself;  
Heaven is my judge, not I for love and duty,  
But seeming so, for my peculiar end;  
I am not what I am.

Identity is here real in dissemblance, the native is true because it is the hidden, and the self is not for show; the externality is dirempted from the internality as the form from the substance. The resolution of the paradoxes of identity lies solely with the poet in relation to the spectator; we know who we are, by what we are not; we learn from the tragedy that we are not Iago. He is

the devilish opposite of Yahveh who asserts, I am what I am. For the ancient Hebrews placed being and definite identity of being before knowing and thinking, whereas Descartes began, "I think, therefore I am." (486)

Krader then historicizes the question of self and identity, showing, for example how the self was twisted in relation to the possessive individualism during the rise of capitalism in Europe. Furthermore, he argues, that poets and novelists of this later period evinced the same sensibilities as the characters they authored. The artists not only separated their authorial self from those of their characters but at times externalized themselves by means of the same characters:

"This way was denoted by Pushkin, in *Evgeny Onegin*, by George Eliot, in *Middlemarch*, and by Rodin's statue of *The Thinker*; one might feel that all this is posing, but at that time it was taken as a declaration of who one really is, and as a guide for others; one finds one's identity by loss of self in thought; Dostoevsky's man from the underground raised his glass to the true, the good and the beautiful; Schopenhauer prided himself in constantly reading Homer; he felt himself to be immeasurably superior to Hegel who read the literary accounts of sentimental journeys; in all these cases the point at issue concerns sensibility, a theme as prominent in Mme. de Stael as it was in Jane Austen. The feeling of fraternity, brotherly love, which was separated by mode, fashion, and custom, had another meaning in the 19th century from that which we give it and the words today. Above all, the reading of novels, poetry, and sentimental journeys showed the way to the representation of one's character, and thus to the revelation of the sensibility as the way to discovery of the self. This representation is neither fanciful nor idle posturing; the poetry and the novels that I have mentioned here, the poets and the novelists, served a different purpose in the lives of the readers from their present one. Their work was not merely admired, it was lived, as Mme. de Stael's, Byron's, and Pushkin's lives attest, and it was lived by their readers as well, for Dostoevsky was proclaimed a prophet, and Tolstoy a seer. Some today dismiss Mme. de Stael, who does not suit the modern temperament. But she, as well as Pushkin, Goethe, Schiller, Victor Hugo, Dickens, Robert Browning, and Henry Wadsworth Longfellow were cult figures in their time, as Gorky, Mann, Joyce, Faulkner, T. S. Eliot, and Gide are not. A different relation to literary reality is to be noted, as it was perceived not only in the cults and clubs, but also in the meanings of words, from the 19th to the 20th centuries." (p. 488)

Krader follows other dimensions of self-identity, considering as he does the relation of the individual and social self, and he considers in some detail the question of identity as it is portrayed by Velasquez' famous painting *Las Meninas*. This section of the book is one of the richest in that it allows Krader great scope to demonstrate his great

learning in relation to the significance of the great artistic works of the Western tradition, capacity which is unusual in one who has also mastered the vast bodies of literature in the history and philosophy of science and mathematics, linguistics and semantics, anthropology and the classics of sociology, and mathematical logic.

### **Obiter Dicta**

One last matter to be treated in this introduction concerns the importance that Krader assigns to the obiter dicta of the great thinkers across the disciplines. Associated with the general thoughts and positions of the leading jurists, Krader believes that the great thinkers in all disciplines have issued their obiter dicta in terms of general principles and guidelines, which both survey the developments within the discipline and outline directions for further investigation and research. He presents the nature and scope of the obiter dicta as follows, showing how they differ on the one hand, from specific contributions to the discipline of their issuer and the popularization of the discipline, on the other:

“Obiter dicta are made by scientists who seek to sum up and pass judgment on their own work, or the status and tasks of a particular field; or they may make obiter dicta on science in general. These dicta are not formulated as statements of popular science, philosophy of science, or history of science, but may appear as such. The obiter dicta I have in mind may be brought out in conjunction with an attempt at a grand synthesis, and may often be difficult to distinguish from the latter. T. H. Huxley, Helmholtz, William James, Boltzmann, and Poincaré wrote obiter dicta, which are masterpieces of writings about science in their respective fields, judging, summing up, and pointing the way into the future for a general audience of their own professions and the scientific public. In a later generation, Franz Boas, Edward Sapir, Hilbert, Einstein, Born, Feynman, and Weinberg composed both syntheses and obiter dicta in anthropology, linguistics, mathematics, and physics; Weyl, Kac and Ulam, MacLane, Ruelle and Altmann performed a like task, in regard to the relations of mathematics and logic, symmetry, chance and chaos. All these works are studied today as carefully by scientists as the obiter dicta by great judges are studied in the law.” (p. 526)

In preparing the introduction to this learned book, I knew from the outset that no introduction could touch upon all the themes developed between its covers. From the point of view of alerting the reader to what he or she may expect to find, no introduction could do the reader and the book justice. Krader distinguishes between a whole and sum. A musical masterpiece, a great novel, an exalted poem represent

wholes; remove one note, one word and the entire piece is changed. I have already written that the author did not finish this work, which the reader is about to embark upon, for presentation to the public. Following the author's general guidelines, a junior colleague and collaborator lightly edited the work.

In keeping with Krader's own views, this book presents us with a paradox. On the one hand, it represents a kind of synthesis of the findings of noetic science across disciplines, the arts and sciences, speculative philosophy and mathematical logic, linguistics and semantics, myth, world view, etc. But at the same time it is a limited synthesis because the theory of nature and science upon which it rests is not unitary or capable of synthesis, at least not at this stage of our knowledge. It brings many pieces together but the pieces do not constitute a unity or a whole.

In *A Difficulty in the Path of Psychoanalysis* (1917, Standard Edition, Volume 17, pp. 137-144) Freud wrote about three blows to our narcissism, which the march of science in the modern era has inflicted upon us: the cosmological, the biological and the psychological. Copernicus showed us that we are not the center of the universe; Darwin showed us that we are not the crowning achievement of creation; Freud himself showed us that we are not masters in our own houses. In the *Future of an Illusion* (1927, Standard Edition, Volume 21, pp. 5-56) he contrasted the God of religion with Logos, the God of science. The former produces great miracles; the latter is a weak, partial and puny sort of deity. But the latter has one great advantage over the God of religion — it is based in reality.

In the work that follows, Krader continues this tradition of the weak God (an anthropomorphic trope, grist for Krader's mill.) The mind is a mighty but limited force, generating knowledge by human thinking and doing incrementally, piecemeal, now slowly, now more quickly, but always partially, incompletely. Krader has shown us that we have come up against, for the time being at least, an insurmountable obstacle in our capacity to synthesize with the discovery of the different orders of nature, where the one is not capable of being reduced to the other, nor the other to the one. To suggest that this is an absolute limit would be speculative, since all questions of the absolute, the universal, and the eternal, belong to the realm of speculation. But at this point in our science, it is a general limitation.

In covering many of the vast areas of noetics with great learning and erudition, Krader has called attention to further limitations of our thinking and knowing, causing us to experience yet another blow to