3 The human animal and its ascendance from ignorance

But there is another perspective we can take about the jumbled up complexity we have faced in times past. And that perspective is simply to see it all as just a part of that general ignorance that we all have about most all of the things that surround us. We have no notion of the scale of it, nor do we have any precise measurement or definition of it.

But in opposition to this view of mine that focuses on ignorance as a way of seeking and trying to define what we know, there are all those people who want to deal with complexity in objective and realistic terms, who think complexity as something objective and existing outside of us. They seem naturally to believe that there is a world existing outside of us, even though that world is beyond our wildest imaginations. They think of it as a definite or as a determinate world despite the fact that they have no conception of it. Nor do they have any adequate way of describing it.

Note how the terms *subjective* and *objective* have a way of reversing their meaning in ordinary ways of speaking. What is subject of concern is sometimes thought of as outside of us. And also what is subject also could be something that exists inside of us. But in another way of speaking a subject can in general said to be an object of our concern. When we are concerned about something we find in one manner of speaking that we can be both concerned about a subject or concerned about an object. Given this duality of senses of the two terms *subject* and *object*, what is both structurally and potentially definably as real can be thus thought of as a subject or as an object, something that can be within us or can exist outside of us.

Topologically then our sense of place is subjectively and objectively defined by what is fundamentally either inside or outside of us. There is an inner sense in which there is something psychological that exists within our skins. We feel our heartbeat inside of us. And what we see beyond our eyeballs is outside of us. And what we sense to be outside is the concern of what is on the inside. The problem in speaking of realistically or objectively is to decide what is the difference between what is inside and what is outside.

Note the expression 'being in touch with your feelings'. Is this a metaphor or a literal way of speaking about feelings? Note doctors, when they place their hands on you, can touch you to locate your pains. Touching in one sense as a feeling is about what is outside. It is about contact, such as two billiard balls touching. Note how figurative it is to say that billiard balls can touch each other. But note we can keep in touch by telephone. Note too how some want to talk about being in touch with your feelings. But it seems laughable to some to hear the pathetic expression, 'I feel your pain.' We all have heard it said that a man can never know the pain that a woman feels in child birth. But such a statement leads to the paradox of one never being aware of somebody else's pain when in fact we can be more or less empathic about how we feel and care about somebody else's misery.

Our experiences tell us then what we can sense of what is both inside and outside of us. Both sides are equally complex. Both sides are not very well understood as we know there are things inside and outside of us that we cannot see or feel. We have limited ranges of vision and limits to feeling. Some of us have better visions and hearings. And we find some people such as psychotherapists that have much more sensitivity to how others feel and what they themselves feel than do most other people. There are those then who are said to be in touch with their own feelings. They feel sad. They feel glad. And there are others who are more sympathetic and empathic about others. They see pain and sadness in faces. Note the problem of actors separating their personal feelings from the roles that they play.

But when we begin intellectually to extend our limits of thinking about what is inside or outside, we try to frame these regions of vision and inner feeling in physical and biological models. Optics is about what happens in our seeing of what is external. Physiology is about what happens internally. But what is there on the outside that seemingly exists outside that is completely independent of what is inside? Many hold a dualistic view of things existing independent of what is inside. That view has been described technically in philosophy as *ontological realism*. What we know according to this view is that there is something that is complex and structurally real that we can interpret and designate as being the causes and effects inside that are coming inside from the outside.

But traditionally in philosophy the view that our source of knowledge is outside of us, and that our perceptions of it can be real, is technically been called *epistemic realism*. Often this view is termed *empiricism*. It is the view that the source of our knowledge is made up of bits and parts of sensory experiences that tell us what is cosmologically structured and externally real that is the causal source of these experiences. And there are now communications specialists who hold the view that computers will eventually be able match with using its sensors and bring into itself bits and bits of digital memory that matches with the reality which is only itself bits and bits. The computer then would be a robotic epistemic realist.

However my view is, in contrast, that the complexity that we see and that we talk about in objective terms is actually a feature of our own complex linguistic, generative, innovative development. Such a development of language is both a product of our own physiological interactions and a product of our evolving culture. Our modes of communication have been shaped and formed in various types of social situational contexts. Such complexity of what is real then becomes simply a problem about the adequacy and complexity of our communications and our ways of understanding each other and our communications.

We create generatively the language we use, which in turn frames the systems of reference whereby we speak of complexity. In doing so we seem to be confronted about what goes on the inside and on the outside of what we speak of as our bodies. Complexity as we sense it in one sense then derives from our sense of the limitations

that we have in communicating and interpreting the ways we have of dealing with what we think of as our world.

We find the complexity in our lives from the way humans have developed by artifice the expertise, which includes our ways of thinking using as tools complicated mathematics and complicated ways of visual mapping, especially by engaging in constructive drafting. This sense of complexity is a reaction we find in the work of experts who are able to do complex structural constructions. They find it in their models and graphics that map out their observations and inventions to be able to create their own innovative designs. We also see this sort of complexity in all those lists of details in all those charts and maps that we make. We see it in the immense variety of observations and measurements that we embed into various types of frames in order to remember and keep track of them. Our cultural world is full of such prosthetic filing cabinets.

It is in the displayed contents of communication that complexity seems to become a problem for us. We begin to be more aware of such difficulties when we generate new frames of reference and the numerous new models and mechanisms that we have invented to schematize complexity. We see this graphic complexity magnified in our thinking, especially in all those new computer programs that we design. And we see it too in the recursive expansions that we generate endlessly in all those infinite extensions that we find in the aggregated progressions that we can sum up and integrate into our mathematical systems.

We thus fail in our thinking about complexity to realize that this sense of complexity that we have about the world is mostly a sense and a product of our linguistic and graphic constructions. They are as structures generated by rules that in turn generate formal patterns that can become almost infinitely expansible. Our theories of numbers are largely responsible for much of this sense of this complex sense of numerocity in how we visualize the world in our measurements.

Those who believe complexity is something real in the world, such as we find in the work of Nicholas Rescher (1999), treat our ignorance as a failure to understand the reality of an already existing complexity in the world or universe. It is a complexity that we cannot in its entirety comprehend. Ontological and epistemic realists such as Herbert Simon (1996) and Rescher presuppose that what we are ignorant about has a definition and has features that are ultimately existentially real. Although in their view we may never know all those features of that complexity, presumptively that complexity has *a priori* existing features potentially incapable of discovered. It has features that are capable of description of what exactly actually is existing out there in the realm of nature if only we can find ways of observing it and describing it. It is worthy of note that both Rescher and Bertrand Russell have written extensively on the epistemic and ontological problems that we find the work of Gottfried Wilhelm Leibniz.

Realism such as that of Simon's and Rescher's makes no clear distinctions about what is inside or outside when it comes to talking about the complexity of what is real.

And they contend that they are able to represent and describe the ultimate external reality of it with their models and frames that they use. It is with their formal systems of logic and mathematics in all their beauty that is ultimately realistically descriptive. But they fail to realize as Kant did that human life as it has evolved has created its own forms of structured complexity. This dualistic realistic view of human artifice and thinking about an external world is incoherently expressed by Simon in his work, *The sciences of the artificial* (1996). Note my quote in the appendix where Simon presumes that what exists straight down the dark lit hall has fixed definable descriptions that he is not able to see.

And I especially have found this view expressed by Rescher (1998) in his work on complexity. Both Simon and Rescher believe complexity is something real, and it is not something that is being artificially produced by human creation, nor is it a form that is constructed through linguistic systems and through logical and mathematical languages of enumeration. But contrary to what they maintain, I contend that language and graphics are not mind-independent as I promise later to further illustrate. I shall maintain that these frames and models of reference, which they use to talk about what is real, are products of human artifice, and in that sense contrary to what they maintain. They are mind dependent. They are graphic conventions whereby people reach out and seek to understand things beyond their human limitations to cope with matters that they cannot control. That inability to cope is what helps define our ignorance.

In sum, these two authors maintain the complexity of things has a natural and real existence. These ontological realists do not think of complexity, as I am doing, as a failure we have in dealing effectively with our ignorance. For them real complexity that is external to us and internal in us is a thing that we have simply failed to develop any accurate and precise terms to describe it. I find to the contrary that there is confusion in what they think of as existing in reality. Both authors fail to clarify what it means to exist independently of subjective expression or what it means to be mind-independent. Theirs is a failure to communicate in a language about things whose usage is fraught with figurative ways of speaking, full of ambiguity, and imprecision.

The real sense of complexity I see is thus not as an objective but a subjective response to our sensations, thoughts, and feelings. It is what we encounter in the complexity of our linguistic frames and in the complexity of the human interactions that we see taking place in human communicative situations. It is this sense of complexity that generates the sense of our limitations and that seems to define the boundaries of these felt limitations that both Simon and Rescher appear to recognize. Language for them represents what is external. The failure to know for them is a failure to discover the reality of what is external. This realistic presumption is in large part just a failure to comprehend the perplexity we have in entertaining the very complexity of our rhetorical expositions and the complex interpretive ways that we use rhetorically to describe the meanings and interpretations of the applications of our complex formal and graphic systems.

Let me further examine Rescher's view that complexity is open to positive realistic descriptions of structures and patterns that he thinks of as real: 'The pursuit of cognitive objectivity - with its injunction to align our thought with our best judgment of the demands of reason - calls for a *commitment* to *ontological* objectivity, requiring *the supposition* of real-world objects whose true character is independent of what any of us happen to think [emphasis added].' (1998: 36)

Note his need to presuppose the supposition of real-world objects. That need to presuppose is simply an argument from ignorance. I want to contrast this expressed view with that of mine where no presupposition is needed. Complexity arises in the rhetorical attempts to put words and language together to describe actions and to describe the creations that we make in attempting to resolve our problems and our issues. But Rescher in contrast expresses his overall line of thought by saying instead the following:

> Complexity is a profoundly characteristic feature of the real. The world we live in is an enormously complex system - so much so that nature's complexity is literally inexhaustible. This circumstance is reflected in the inherent limitedness of our knowledge of nature; the descriptive/explanatory project of natural science is ultimately incompletable. In fact, our recognition that reality is indefinitely complex - that its nature extends beyond the horizons that it can possibly know or even conjecture about - betokens the objective *mind independent of the real* [emphasis added]. (1998: xiii)

My contention then in opposition is that knowledge does not come from discovering what we are ignorant about in the complexity that overwhelms us. We find knowledge after the fact. We find it after we have performed our linguistic deeds. We find that knowledge through discovering first what others conjecture to be true. But then those conjectures we discover to the discomfiture of those who believe them that what they believe can be shown to be demonstrably false. What we claim to know are things that others claim to know that actually are not so. I take this to be the view of Karl Popper (2004). We discover truth by disconfirmation or refutation of things people believe to be true.

There is then a simpler explanation of our ignorance. Ignorance becomes simply thinking we know something that is not so. There is a political ground illustrating this sort of ignorance. We find it is in the politics of denial. We find this sort of ignorance in the politics of debate over what can be shown to be demonstrably false. It becomes a double sort of ignorance for people to recognize politically what they think they know to be demonstrably false, and then in turn stubbornly refuse to acknowledge their disbelief in what is true as actually false. This is a self-willed ignorance about ignorance. It is a form of ignorance that is not willing or able to question itself.

To re-quote an anonymous bit of religious cynicism that I once heard about such intellectual forms of stubbornness of willful denial from an old cynical colleague, 'Faith is a way of knowing things that you damned well know are not true.' It is simply

difficult to deal with this sort of ignorance if people refuse to acknowledge what others have found them to be ignorant about. Bernard Williams (2006a) suggests that the proper way to deal with such ignorance is to **alert others** especially the audiences of such purveyors of such falsehoods that they are without question ignorant about what they claim to know and their claims are demonstrably false. To me this is the social and political value of critical thinking. It manifests to others what others fail to recognize as fallacious, and from that we then can go on to display to others how they stubbornly deny what is demonstratively fallacious.

But there is another way of confronting any ignorance that ignorantly refuses to question itself. It is about the proper rhetorical way of dealing with the ignorance of fools. Aristotle is frequently quoted to have said that 'it is demeaning to argue with fools.' Rhetorically given this quote, the proper stance to adopt towards such fools is not to talk to them. But such a form of condescension creates its own deleterious reciprocations. Elite pretensions have a way of destroying communications that are based on openness and equality as proper attitudes to take towards other participants in a conversation or discussion. Openness is necessary for politics to work. One way to deal with fools is to humor them and not to humiliate them in order to create openness to what the other person has to say.

But again there is another sort of ignorance that we all possess. It is the grand state of personal ignorance that we all have about our own personal worlds and the personal worlds that all of us live in. We can never truly know everything about our own little personal worlds. Such ignorance follows from the limits of our own bodily and psychological limitations of knowing what is going on inside of us. That world for us takes its subjective description unfortunately from our very unreliable memories and their distortions and inerrancies. It comes about from our lack of awareness of our own feelings and desires. It comes about from lack of clear definition of our hopes and expectations, and even of our true aspirations if we have any. This same deficiency holds alike for all human beings. We all alike suffer from these same personal limitations and cognitive deficiencies.

But to play the grant skeptic, and say we can never truly know anything, is disconfirmed by the fact that we assuredly know things that we were once ignorant about. And again assuredly we can know what others have been ignorant about. We cannot be skeptical about the fact that we continue to know things so long as we continue to have our wits about us in seeing what is demonstrably false. We need not be skeptical of many things so long as we continue to know how to disprove things about what others claim to know and about which we are able to demonstrate that they are totally ignorant about.

We surely know what it is to be ignorant about things that we thought we once knew. We cannot be skeptical about that. But it is an unwarranted presumption, such as Rescher maintains, that there are things that we will never fully know. 'Fully' is his way of projecting infinity into the finite and projecting it into our limited modes of knowing. Infinity takes its meaning from the properties we find in logistic and

mathematical systems about progressions. It is a mere type of progression analysis that we find in mathematics that becomes useful in making aggregating and integrating summaries of calculations that approach known limits and known boundaries. But we need boundaries to interpret and to define limitations.

To grasp and understand the extent of our ignorance we need to begin to imagine the scale of expertise and its limits and the global extent of it. But that scale and scope has no defined limits and boundaries. It is on such a grand scale that we have no way of measuring it, let alone knowing how we can model it. What we know has its limits, but yet in our ways of measuring of expertise there is no sure way of measuring and defining our methods of knowing expert knowledge as our expertise is always open to innovative improvements. The expert knowledge that we find in expertise is always expanding. Given the creativity of experts and their design improvements, there will always be room for greater improvement.

Even if we are able to recognize what we know only in part only about what has been working and failing us, there is no unit we can use to itemize and quantify what are the distinct boundaries and forms of improved expertise. Nor do we in our expertise know what in the future what purposes it will potentially serve us. Expertise merges and blends with other forms of expertise. We can see where we think we have knowledge, but we also see that same sort of knowledge may exist in many other sorts and types of expertise that exist in different walks of human life existing across this planet. It is only by social aggregations and mutual recognitions of experts that we can talk about any numbers in talking about the extent of anyone's expertise.

How can we then integrate and measure any totality or any a sum of knowledge? Some expertise is personal and some of it is institutional. Some of it is locked up in trades, professions, and especially in various types of businesses. Much of it is to be found in the academic disciplines, which as disciplines keep altering, dividing, expanding and multiplying in different directions around the world. Most of this diversified expertise lies hidden from us to be found in the secrets of guilds, and much of it is held in privacy by persons and corporations for fear that others would profit by it if they revealed it.

And too there are the many complex functions and interlocking modes of production in corporate organizations with layers and layers of departments and divisions that innovatively create products and professional services that are kept hidden from spying eyes. This sort of ignorance about who knows what can potentially be revealed, but usually it is discovered to be or not to be the case only within the frames of those people who have mastered these sorts of specialized expertise to make judgments about it.

Sometimes only experts have the background knowledge that can disconfirm what some people think to be the case. Importantly too it can be shown to be the case that there are questions about those who claim to have expertise that they know about, yet they cannot describe or explain it. Certain kinds of expertise can be embedded in bodily and feeling skills. Note how many experts with musical

instrumental skills have expertise as a part of their physical reaction to the music that they play. Trombone players have their sense of tone in their muscles. Pianists have the sense of tone in their touch. Violinists have their feel in their use of the bow. In such cases they are ignorant about the existence of any correct answers to questions about how they are able to do what they do so well when their performance is part of their bodily skills and inner feelings.

Some of the questions we put to experts, or some of the questions that experts ask themselves, may appear to have ways of answering them. But what they know with their bodily senses of correctness may have no ground in any physical or mechanical explanation. There may be some mechanical answers, but some of the questions that we put to experts may simply be verbal questions that seem to being going nowhere. The many who fail to see this emptiness in some questions about expert skills are trapped as a result in their own verbal confusions. All too many fail to see that their issues are merely verbal as such. It is at this point that experts run up against the limits of language in interpreting the questions they are being asked about things that they are doing. But then in the end they ground their confidence in their expertise in the results they achieve.

And again it is at this point that experts are running up against rhetorical constraints in arguing and explaining about what they are arguing for or explaining about. They are I suggest failing to come to terms with their own terms in addressing such questions (Yoos, 2009). There is thus then the ignorance of asking dumb questions and not knowing that they are dumb questions. There are questions logically and rhetorically that can have no answers. This un-answerability to certain types of questions reduces to another type of ignorance that just keeps trying to pursue questions that logically can have no possible answers.

Note that paradoxes are not simply the province of philosophers. In mathematics and logic it is part of their game. We find paradoxes in economics, physics, astronomy, biology, politics, statistics, and decision theory. And what many see as the stupidity and the futility of much of philosophy is the continuous pursuit of paradoxical questions by philosophers that logically can have no possible decisive answers. But it is not just philosophy which has a reputation for asking dumb questions. It is equally if not more prevalent to be found in many of the sciences. Many of the questions and presumptions and interpretations of scientific theory are treated as real questions, that is, as questions that have real answers in terms of what is presumed to be factually and externally real, that is, independent of mental functions.

But without language it is difficult to gain such independence. Much of institutional and professional expertise in the sciences and technologies has limits to be found in their applications not understood even by those who manage to apply them. And again too there are an almost endless number of inquiries to be found about questions that shape the grounds of research where specialists are evolving and developing new disciplines, especially developing new disciplines through interdisciplinary exchanges that keep developing and expanding around new kinds of expert knowledge.

It is at this point that rhetoric and views on communication enter into the discussion about how experts and scientists express their views about truth and reality. Since they are experts about what they do, they have rhetorically an advantage in using their technical language as their fallback position in explaining what they do, which makes it difficult for the non-expert to participate in their discussions about their alleged theoretical rectitude. But in the end they cannot disconnect the use of their technical jargon from our ordinary ways of speaking. It is in their interpretations of their own theories in ordinary language that rhetoric becomes an issue in how they interpret their theories, their meanings, and their applications.

This is especially so in the newly developing programs that they are now integrating. It is in this shaping of the different and evolving disciplines that we find a need for new and different interpretations. It is amongst those who are involved in developing new lines of scholarship and new lines of research that we find the shifts in the language we use with new and different types of interpretations, especially using new developments in the use of newer graphic models and mathematical frames as we presently see going on in the multiplication of sciences and technologies.

It is in these shifting paradigms of what constitutes a discipline that we see the new transformations happening in academic institutions that presently are becoming the important research centers around the world. It is there that we hear questions about the logic and the interpretations of their questions about what their expertise is, and it is there where we hear questions about what constitutes their disciplines. Such questions are serious questions that are notoriously open questions in academic and bureaucratic administrative considerations about what fields and disciplines need support financially within scientific and technological research institutions.

'Is what they are doing a worthwhile human enterprise?', 'What sorts of answers are being provided about the value of what they are doing for matters of social and public policy issues?', 'What questions do we need to answer to discuss the importance of various fields and disciplines in the acquisition of public knowledge?' These are questions about public policy issues that are about the maintenance and support of scientific and technological research centers. The Rand Corporation as a consulting institution illustrates how government development funds for research goes when politics is guided by corporations with a vested interest in defense policy. It is no accident that the Rand Corporation had its beginnings in the self-serving interests of the generals of the 20th Air force.

The scope and scale of these research institutions where knowledge is imbedded is spread into multiple isolated islands of distinct disciplines. And our knowledge producing institutions continue to break down over the value of what their self-serving cliques claim about their expert knowledge. It is these failing reconsiderations of disciplines and their purposes that act as a surfactant in multiplying, changing and spreading over into new and other disciplines. These new directions of inquiry then spill over and continue to break down further into newer multiple islands of newly

developed types of expertise, which again become isolated from each other again into a new regime of separate islands of inquiry just as they were isolated before.

It takes only a few hours of exploration on line on *Wikipedia* to see the scope of so many different sciences and technologies, and to see the scope of so many forms of research and scholarship about so many diverse and different subjects. Such a surface survey gives one a sense of the immense magnitude of the diversity and the complexity of what many of us think of as scientific and expert knowledge. We see in it a marvelous complexity that keeps growing continually, multiplying into the various tangential spin offs from the various developments occurring within the multitude of the different disciplinary units.

Given the fact that *Wikipedia* touches only the surface of what its contributors advance as knowledge and given the fact that such articles serve the authors and the rhetorical purposes of vested interests rhetorically, rhetorically these contributors to public knowledge are seeking public resources from economic and political sources power. And, just as encyclopedias and handbooks have done so in the past, we lose all sense of the magnitude of what it is that we do not know about these disciplines rhetorically. Much of the surface spin that is spun superficially off those multitudes of topics and surveys of what is going on in disciplines reflects the need for all their own self-serving time spent by them on public relations (PR). Actually we are ignorant of most of those things these people claim to know and understand. We are ignorant of so much of what there is out there in those small inquiry groups in society. We do not understand and do not know about it, nor do we know even the extent of it, nor know what their aims are in spinning it. Not everyone wants to tell you what they are into, nor why are interested in doing it?

But not knowing about something is not the sort of ignorance where we make claims about knowing something when actually we do not. But it is the sort of ignorance such that the very scale of not knowing overwhelms us in thinking about our severe limitations in knowing things others seem or claim to know. It overwhelms us to think about the amount of all the different kinds of specialized knowledge that exists within individual minds and in the institutions that have been built around different professional specialties and vocational skills. It is an ignorance we have that we can only lament not knowing its practical limitations.

But it is a limitation we need to live with. Those who are not experts tend to shy off and are given to accepting that extensive ignorance they have about what others can do without commenting about it. It is taken for granted that there is a large scale complexity of what goes on in all those expert fields of knowledge. We tend not to question that sort of ignorance. We cannot be blamed for not having it. We tend to give experts the legitimacy that they claim for themselves. We tend to accept what they say that is going on in those professional black boxes.

Note the American Council of Learned Societies (ACLS) is only an umbrella support group that gives some legitimacy to all those doing research in those black boxes. But how much does the ACLS know about some of the emptiness of scholarship

and research that is going in those black boxes that they have in their supposedly careful prior judgment sanctified as learned societies. To illustrate the isolation of learned societies, just examine the bibliographies of any of those in those specialized fields that have some recognition of legitimacy. What is striking when we examine the bibliographies of experts in other fields is that their bibliographies are empty of authors preeminently listed in one's own fields of specialization. What we find are multiple islands of inquiry and multiple fields of specialization not communicating with each other. The popular metaphor for these isolated fields of inquiry is that they are silos. I tend to think of this specialization isolation as in *Alice in Wonderland* as separate rabbit holes.

And to add to this problem about how we treat and consider expert knowledge, we have no conception of how much and to what extent that expertise we see surrounding us can be trusted. Not only do we have no conception of the extent of the number of claims, conjectures, theories, hypotheses, and histories that are accepted and held by so many that we have no way of telling whether they are wrong or even misleading. We can only say that we are ignorant of most of what their claims are, and that we are ignorant about what is true in them. And we are even ignorant of the probabilities of these specialists being right about any or all of their claims. And in many, if not most cases, we have no way of knowing how to go about efficiently to access, assess, or evaluate the results of most of it. Just think of the extent of the misconceptions and misinformation that dominates so much of the contemporary politics that appraises the importance of expertise as a source of good reasons for public policy formation.

Certainly, the computer has changed and increased our ability to access what we do not know of what would be relevant for policy formation. It has increased the transparency and simplified how to sort out and to develop new models and frames for exchanging information and it has developed new ways of verifying beliefs about this and that. But numerous societies have developed around groups of people who have a vested interest in profiting from their expertise. How legitimate is the research and scholarship that goes on in all these vested interest groups that are subsidized political producers of public policy recommendations.

But we also do not have any real sense of the extent that these vested interest research groups are overpopulating the earth, nor do we have any conception of how many have combined and have exercised their influence on the politics that frames the laws governing the uses of the expertise in so many fields. Some of these groups are private and secret. Some are hidden behind fences to protect their self-interests. There is no significant canvas we can make of all this vested interested diversity such that we cannot generalize about or give a fair estimate of the scope of their corruption of politics, nor can we give a fair estimate of the unreliability of much of what they contribute to public discourse.

We have no way of knowing about the extent of privacy that hides what so many know. We do not know the extent of how much of what is known that is protected by law, nor do we have a concept of the extent of the property rights of those who

have patents or have copyrights on it. Intellectual property is something that requires lawyers to define it in the courts that interpret the laws within our different legal systems. There is something mindless about those who talk about property rights as being defined within their own legal system. Why is there so much concern for the rule of law about property? Is it that the law protects the intellectual property of so many different vested interests in different sovereign states? Note the conflicts over intellectual property that many in the United States have with what is being produced in India and China.

One supreme answer to our quest for making sense out of politics is that we seek by means of it the protection of what you and I have, and the protection of what you and I think we know from those who would want steal and profit from what we profit from the most. Note the difference in legal systems that sustain intellectual property. And note the difference between corporations existing in different societies. It is no wonder then that some want to think of the rule of law as singular entity, grounded in the laws of nature that sanction property rights. They just want to protect the form of the legal system that grants them the legal rights and privileges that they have that are derived from that self-same legal system that they defend.

The major problem that we have in our lives is in understanding ignorance and having a modest and decent sense of humility about all those things that we are ignorant about. The major problem we all have is to find what we think to be true that is actually false. That social awareness of being in error is a true demonstration of the extent of human ignorance in so far as we know the extent of the fact that so many have not escaped from it. But I have found in my desire to escape my own ignorance of so many things that what I think of as a pursuit of knowledge is not a pursuit of knowledge at all. Rather instead I think much of it is actually an attempt to escape from the ignorance that pervades our lives and our social contexts.

But Confucius's proverb that 'knowledge is knowing the extent of one's ignorance' does not seem to recognize that we have real limits in knowing the extent of it to escape from it. In a reversed way knowledge comes to us when we find our beliefs demonstrably false. We do not find knowledge by just looking for it ourselves, or in mostly deriving it with the help of others. We find it rather in the discovery that we are ignorant about much of what we thought to be true. We get knowledge in a way that it is upside down. We do not get it directly from those who claim that they know because they have good reasons to know or from those who just claim they have evidence to prove it. Actually, the case is that what people truly know they obtain it from those who were able to expose so many falsehoods about topics and conjectures that they were curious about.

This view of knowledge that I am presenting is upside down in a way. It is comparable to the way we reverse the image that falls upside down on the retina of the eye. The brain reverses it. Just so our brain reverses our way of seeing knowledge. It does not come, as many suggest, from limited instantiations or generalizations from our perceptions of particulars by induction that generates convictions about their

certainty. Rather it comes from demonstrating that certain **conjectured correlations** are demonstrably false. We find it in a reverse way by finding that our beliefs thought invariantly true turn out not to be the case.

When we generalize and accept the certainty of law like repetitions of things that we observe occurring in nature, we are only enhancing our acceptance of such notions by induction from probabilities. But I suggest that we gain certainty not by probabilities, but from what we can logically demonstrate to be false such as that certain defined probabilities of observed correlations turn out not to be the case. When we observe things to be true we think that what we observe directly is something that is true of the world, but in actuality the brain has reversed it. We know that certain things are not true of the world. What we are doing instead in acquiring knowledge is finding falsehoods in our systems of conjectures and systems of belief. We are shrinking our ignorance. Our reasons for our conjectures are inherently pragmatic. But practicality never in the end can be a ground for certainty. That things always seem to work does not make for certainty that it will always be the case. What makes us certain is that if you say that it will always happen and it does not, it is surely certain that it has not worked!