

# SUPPLEMENT TO ASI NEWSLETTER

## Winter 2004

### Preface to Wisdom Series

There is wisdom within each of us. It is developed from the knowledge and experience we acquired and combined with the judgment with which we are blessed. It may be unique, or it may be patterned with some resemblance to that within others who have similar backgrounds.

The wisdom within each of us may provide a great inspiration. But, that inspiration may be beyond the power of realization. The extent of the realization is heavily dependent upon the receptivity of others in their willingness and ability to grasp the wisdom.

The capacity (willingness and ability) of others is, in turn, based upon their attitude and intellect. As an illustration of attitude or willingness, consider the following quote;

"A new scientific truth does not triumph by convincing its opponents and making them see the light, but rather because its opponents eventually die, and a new generation grows up that is familiar with it." [Planck as quoted in *The First Moderns* by William R. Everdell.]

As to ability, that is what the intellectual capacity is all about. It is about the mind and reason. But reason may not rule. It may be trumped by emotion. Understanding how this system works is the subject of this series of essays.

My intention is to share with my colleagues some of the wisdom within me. Much of it has emerged from an attempt to get an answer to the question of what others were thinking; a question that repeatedly arose when I saw what I believed to be wisdom-challenged decisions.

The essays are planned to appear as successive inserts to the Advanced Studies newsletter under the following titles:

- Thinking Changes Over Time
- The Mind, Brain and Heart: A Paradigm for Predicting Outcomes
- Visions and Values: Western and Islamic Heritages
- Education: The Notion Potion
- Developing a Strategy to Change Academic Behavior

These essays were developed as an outgrowth of my book in progress, *Improving Decisions: Toward a New Age of Enlightenment*.<sup>\*</sup> They started out as capsules matched to sessions of the 2005 Seminar on Improving Decisions at the Academy of Senior Professionals at Eckerd (ASPEC). Here is the first of the Wisdom Series.<sup>\*</sup>

<sup>\*</sup> The working draft of the book is available on the ASPEC Center for Scholarly Enterprise (ACSE) website, <http://www.spicequest.com/acse/index.htm> . Click on "Improving Strategic Decisions."

<sup>\*</sup> The Wisdom Series was developed as inserts for the Advanced Studies Institute's newsletter while being part of a larger series oriented towards a strategy to deal with terrorism. That larger series, for the seminar, contains two preceding essays. They are as follows: *The Longest War* and *Winning Peace*. They are also on the ACSE website.

<sup>\*</sup> The context of this essay is the 2005 Seminar on Improving Decisions at the Academy of Senior Professionals at Eckerd (ASPEC), which, in turn, is in the context of the book in progress, *Improving Decisions: Toward a New Age of Enlightenment*, available on the ASPEC Center for Scholarly Enterprise (ACSE) site, <http://www.spicequest.com/acse/index.htm> . Click on "Improving Strategic Decisions."

## Thinking Changes Over Time\*

By Maury Seldin<sup>†</sup>

As academics, we are enthralled by science because, as an approach to gaining knowledge, the scientific method improves our thinking. Actually, it is our reasoning that is improved. Our thinking, which we may consider the “brain at work,” goes beyond reasoning in that the brain is not simply a reasoning machine.

More will be said about this in another essay. For now, our attention is turned to the idea that over time there have been changes in our thinking and in our human natures. Of particular interest is the rise of the role of reason and the absence of reason in many decisions.

Understanding the system, and systemic changes, helps us to improve the accuracy of forecasting outcomes. While we can never really know what someone else is thinking, the better we understand their paradigms and schemas, the better we can forecast their decisions that influence the outcomes of our policies. Furthermore, we should be mindful that paradigms and schemas change over time and are different for different cultures and even within cultures.

### Nature via Nurture

In biblical times, cognition was more closely related to a broad degree of focus than to the sharper degree of focus that we are accustomed to in modern science. The mind is attuned to analogies.<sup>1</sup> The degree of focus in cognition (cognitive spectrum) is important for our discussion because it reflects different ways of thinking about things.

The cognitive spectrum contains a “continuous range of different ways in which to think.” This “mental focus” tends to be high early in the day, but as fatigue sets in it tends to be lowered, i.e., less analytical. As a child develops, mental focus tends to move across the spectrum in the opposite direction, from low to high. Similarly, over “the millennia of humans’ existence the modern mind [has gradually emerged], and the character of thought [changed].”<sup>2</sup>

Differences Emerge. Jared Diamond, in his *Guns, Germs, and Steel: The Fates of Human Societies*, addresses the question, “Why did wealth and power become distributed as they now are, rather than in some other way?” [Page 15.] The answer, in a single sentence is, “History followed different courses for different peoples because of differences among peoples’ environments, not because of differences among peoples themselves.” [Page 25.]

Out of differing environments, differing cultures emerged. But cultures change – as do the human natures that are embodied in the cultures. There is no such thing as human nature independent of culture, according to the quotation of anthropologist Clifford Geertz as cited by Ehrlich in a footnote reference. But cultures may be segmented, and some segments change more than others. Those segments that change the least are typically identified as fundamentalists.

Paul R. Ehrlich, in his *Human Natures: Genes, Cultures, and the Human Prospect*, writes,

“Permanence is often viewed as human nature’s key feature; after all, remember, ‘you can’t change human nature.’ But, of course we *can* - and we do, all the time. The natures of Americans today are very different

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A major theme in that book is the application of the concept of consilience to enhance our social science disciplines in their use of forecasting outcomes of different policies. The two areas of particular attention are dealing with terrorism and dealing with a variety of real estate issues.

<sup>†</sup> Dr. Seldin, a chair professor emeritus from The American University, Washington, DC, is leading a seminar at ASPEC that relates to his work at the Homer Hoyt Advanced Studies in Real Estate and Land Economics, where he is President and Chairman of the Board of Directors. The previous footnote tells more about the context of the essay.

from their natures in 1940. Indeed, today's human natures everywhere are diverse products of change, of long genetic and, especially, cultural evolutionary processes." [Page 13.]

The Roots of Western Civilization. Consider the following quote from a book by Thomas Cahill, *The Gift of the Jews: How a Tribe of Desert Nomads Changed the Way Everyone Thinks and Feels*:

"But to understand ourselves - and the identity we carry so effortlessly that most 'moderns' no longer give any thought to the origins of attitudes we have come to take as natural and self-evident - we must return to this great document, the cornerstone of Western civilization. My purpose is not to write an introduction to the Bible, still less to Judaism, but to discover in this unique culture of the Word some essential thread that runs through it, to uncover in outline the sensibility that under girds the whole structure, and to identify still-living sources of our Western heritage for contemporary readers, whatever color of the belief-unbelief spectrum they may inhabit." [See pages 7-8.]

Cahill continues with his text,

"The Jews were the first people to break out of this circle [referring to '...a vision of the cosmos that was profoundly cyclical' in that events and people perpetually returned – no event was unique], and to find a new way of thinking and experiencing, a new way of understanding and feeling the world, so much so that it may be said with some justice that theirs is the only new idea that human beings have ever had." [See page 5.]

The key to our making progress, to use Cahill's phrase, "... is to find a new way of thinking and experiencing, a new way of understanding and feeling the world." And if we can't find a genuine new way, at least we may be able to find a better way for us. That would be a major step toward a new age of enlightenment.

Ethics at the Heart of It All. Behavior, not belief, is at the heart of civilization. Nature and nurture may generate forces for behavior, i.e., human conduct, but with free will there are choices. The range of choices may be constrained by the belief in a deity or by the law of the land, or by both.

The actions taken are based upon values. But some values may conflict, e.g., justice and mercy, or freedom and equality. The conflict makes the choices more difficult. The more that is given up, the harder the choice. But, this is what value is all about. Values are what one cherishes so highly that one is willing to sacrifice something in order to pursue something else of higher value.

The relevance of this is that ethics reflect the values of society, and it is not the same for all societies.<sup>3</sup> Furthermore, ethics or behavior is tied to nature, and human natures differ. The evolution of human nature, especially from the Enlightenment on, has given us a different way of thinking about things.

For Muslims, ethics – indeed the law – is proscribed in the Koran. However, there are various interpretations of the Koran and different ethics may be associated with the different interpretations.<sup>4</sup>

Bernard Lewis, in his book, *What Went Wrong: Western Impact and Middle East Response*, focused on the decline of the world of Islam, relative to the Western world, in the arena of human achievement. The quote from the book's conclusion is as follows:

"In the course of the twentieth century it became abundantly clear in the Middle East and indeed all over the lands of Islam that things had indeed gone badly wrong. Compared with its millennial rival, Christendom, the world of Islam had become poor, weak, and ignorant."

The environment of Islam developed differently than the environment of the West. As a result, some Islamists see reality differently from the way most Westerners see it. While the brain may function as an information processing machine, the way people think is a result of cognitive habits. The fundamentalists of Islam are apparently rooted in a lower focus than that of their modern Islamic brethren, and certainly rooted in a lower focus than that those of the Western culture. For the Islamists, the balance of emotion and reason of the in the thought process is tilted towards emotion; thus, the role of reason is diminished.

## The Rise of the Role of Reason

Perceptions of the Development of Reason. There are at least two views of the nature of the development of reason in mankind. What may be the minority view is that of David Martel Johnson, as expounded on in his book *How History Made the Mind: The Culture Origins of Objective Thinking*, [published in 2003]. The following series of excerpts from one paragraph captures the essence of the view:

“...someone could consider human history from the point of view of cultural developments. [B]egin by noting the appearance of stone tools...between 2.5 and 2 million years ago...After that, one could mention the development of bifacial tools (so-called Acheulean hand axes) which were the first to conform to an explicit plan or ‘mental template.’ They were apparently developed by the species *Homo erectus*, about 1.7-1.5 million years ago...this species might have been the first to use fire, and to live in caves in addition to open sites...the Neanderthals were the first hominids to wear clothing..., and to bury their dead...Next...one could point out the innovations of art; complex, syntactical speech; of religious consciousness; of long distance trade...after an event that took place between 60,000 and 30,000 years ago...and later still...there came **the beginning of what we commonly call reason** [emphasis added], which in my view took place in Greece between 1100 and 750 B.C.E.” [Page 165.]

He takes exception to the view that “reason is a genetic endowment that belongs to every human without exception.” [Page 34.] He continues, “...I shall defend the view that there was no such thing as reason, strictly understood, or the special sort of mind that makes reason possible, until after approximately 1000 B.C.E.”

He describes a roughly complementary view, compared to his cultural development perspective, as that taken by the evolutionary biologists with a narrative listing the main “speciating events.”

The biological view, as expressed by Donald B. Calne in the preface of his book, *Within Reason*, is as follows:

“...reason is a biological product, with biological purposes and biological limitations. We are motivated by instinctive urges and emotions linked to cultural forces – **reason is their servant and not their master.**” [Emphasis added.]

Indeed, the quote starts as follows: “The task of this book is to remind us that reason is a biological product, with biological purposes and biological limitations.” The point is again made in the introduction, as follows: “Reason is simply and solely a tool, without any legitimate claim to moral content. It is a biological product fashioned for us by the process of evolution, to help us survive in an inhospitable and unpredictable environment.” Then, to open Chapter 2, “The Definition of Reason,” Herbert A. Simon’s statement from *Reason in Human Affairs*, is provided as follows:

“Reason is wholly instrumental. It cannot tell us where to go; at best it can tell us how to get there. It is a gun for hire that can be employed in the service of any goals we have, good or bad.”

Whichever of the two views of reason that one may take, including a hybrid, the idea is that the reasoning powers of mankind developed over time. Furthermore, they developed differently in different cultures and are so reflected in human natures.

Coming of Age. Reason as a tool came of age as a result of the Enlightenment, also known as the Age of Reason. Its philosophical roots led to some blossoms as a result of the ancient Greek philosophers. But the difficulty there was that the reasoning was *a priori* alone, rather than by inclusion of observation. Calne makes this point and notes that after “a few centuries of achievement, the first Age of Reason went into a prolonged decline in Europe.” He further notes that:

“Intellectual innovation in the West slowed down for over fifteen hundred years, although in the East reason was burgeoning. The Islamic world made notable advances in mathematics, astronomy, medicine, and architecture.”<sup>5</sup>

Consider *a priori* reasoning being combined with the results of observation.<sup>6</sup> Kant, in his *Critique of Pure Reason*, wrote “That all our knowledge begins with experience there can be no doubt...But although all our knowledge begins with experience, it does not follow that it arises from experience.”

The quoted combination of the opening sentences of the first two paragraphs of Kant’s *Critique of Pure Reason* is a pivotal point in the development of contemporary disciplines. It is retrospective in indicating the emergence of the modern approach to research in that our Western heritage of philosophical roots is built upon the *a priori* reasoning of the ancient Greek philosophers, especially Plato and Aristotle.

It seems that we expected too much of reasoning, even combined with observation and experience. As quoted in Chapter 2 of the monograph<sup>7</sup>, under the side heading “The Enlightenment, A Philosophical Shift,” Edward O. Wilson asserts in the second paragraph of his Chapter 3, *The Enlightenment*:

“...that the essential nature of the Enlightenment and the weakness that brought it down ...can be said to be wrapped up in the life of the Marquis de Condorcet.”

Then on page 24, Wilson continues, “Science was the engine of the Enlightenment...” [It provided an organization of the body of knowledge utilizing laws that dealt] “...with entities that can be measured and arranged in hierarchies...”

Among the scientific achievements that were the precursors to the Enlightenment were the pioneer applications of mathematics to the social sciences. Condorcet’s work in this area was a distant forerunner to current decision theory. It was not only the scientific developments that made progress possible, it was the applications to social change.<sup>8</sup>

### Enlightenment

The Enlightenment: A Philosophical Shift. The progress of the Enlightenment of the 17<sup>th</sup> and 18<sup>th</sup> centuries was in part manifested in the advancements in the natural, physical, and social sciences. More important than the technology, at least in my view, is the freedom brought about by the Enlightenment. People today think about things differently than did people a few centuries ago.

Reason brought, through freedom and science, a dramatic progress to the quality of life in Western civilization. This thought, grounded in the Scientific Revolution, has migrated from the physical sciences to the social sciences.

This migration of thought is noted in Wilson’s opening to the third chapter of *Consilience: The Unity of Knowledge*, to wit:

“The dream of intellectual unity first came to full flower in the original Enlightenment, an Icarian flight of the mind that spanned the seventeenth and eighteenth centuries. A vision of secular knowledge in the service of human rights and human progress, it was the West’s greatest contribution to civilization. It launched the modern era for the whole world: we are all its legatees. Then it failed.”<sup>9</sup>

To quote Wilson again, “The French Revolution drew its intellectual strength from men and women like Condorcet. It was readied by growth of educational opportunity and then fired by the idea of universal rights of man. Yet as the Enlightenment seemed about to achieve this by means of political fruition in Europe, something went terribly wrong.” [Page 16.]

Wilson goes on to explain that Rousseau’s “Social Contract” of 30 years earlier, while inspiring the later slogan of “Liberty, Equality, Fraternity,” also “invented the abstraction of ‘general will’ to achieve these goals. ...Those who do not conform to the general will, Rousseau continued, are deviants subject to necessary force by the assembly. There is no other way to achieve a truly egalitarian democracy and thus break humanity out of the chains that everywhere bind it.” [Page 16.] Wilson continues:

“Robespierre, leader of the Reign of Terror that overtook the Revolution in 1793, grasped this logic all too well. He and his fellow Jacobins across France implemented Rousseau’s necessary force to include summary condemnations and executions for all those who opposed the new order...

“...Thus took form the easy cohabitation of egalitarian ideology and savage coercion that was to plague the next two centuries...

“...The decline of the Enlightenment was hastened not by just tyrants who used it for justification but by rising and often valid intellectual opposition. Its dream of a world made orderly and fulfilling by free intellect had seemed at first indestructible, the instinctive goal of all men. Its creators, among the greatest scholars since Plato and Aristotle, showed what the human mind can accomplish. Isaiah Berlin, one of the most perceptive historians, praised them justly as follows, ‘The intellectual power, honesty, lucidity, courage, and disinterested love of the truth of the most gifted thinkers of the eighteenth century remain to this day without parallel. Their age is one of the best and most hopeful episodes in the life of mankind.’ But they reached too far, and their best efforts were not enough to create the sustained effort their vision foretold.” [Pages 16-17.]

Had Rousseau spoken of general reason rather than general will, events might have unfolded differently. Wilson puts the end of the Enlightenment as March 29, 1794, the date of the death of the Marquis de Condorcet. The imposition of “the general will” had left no room for reasonable differences.

Imposition of will uses tools different from reason. Reason is a tool of choice for a substantial portion of humanity, but not necessarily a part of human nature. Consider the following quote from a book by Frederick Raphael about Popper, *Karl Popper: Historicism and its Poverty*:

“At the same time [referring to Popper’s support for reason], he insisted that the use of reason is a human choice, not a natural characteristic. The point had been brought home to him when he accused a Nazi of lacking sound arguments. His opponent flashed his revolver and said, ‘This is my argument.’” [Page 27.]

Toward a New Age of Enlightenment. Differences, reasonable and unreasonable, exist and may be expected to continue to exist. Indeed, differences among cultures are part of the way of the world. Furthermore, civilizations as cultural entities “...refer to the overall way of life of a people, and a civilization is a culture writ large. They both involve the ‘values, norms, institutions, and modes of thinking to which successive generations in a given society have attached primary importance.’”<sup>10</sup>

There has been a great deal of controversy about the potential of a clash of civilizations following the Huntington article from *Foreign Affairs* (Summer 1993) titled, “The Clash of Civilizations?” and the ensuing book, *The Clash of Civilizations and the Remaking of World Order* [1996].

The original article offers the hypothesis that “... the fundamental source of conflict in this new world will not be primarily ideological or primarily economic. The great divisions among humankind and the dominating source of conflict will be cultural. See the box that follows.

**The Clash of Civilizations?** [Samuel P. Huntington](#)  
From *Foreign Affairs*, [Summer 1993](#)

THE NEXT PATTERN OF CONFLICT World politics is entering a new phase, and intellectuals have not hesitated to proliferate visions of what it will be - the end of history, the return of traditional rivalries between nation states, and the decline of the nation state from the conflicting pulls of tribalism and globalism, among others. Each of these visions catches aspects of the emerging reality. Yet they all miss a crucial, indeed a central, aspect of what global politics is likely to be in the coming years.

It is my hypothesis that the fundamental source of conflict in this new world will not be primarily ideological or primarily economic. The great divisions among humankind and the dominating source of conflict will be cultural. Nation states will remain the most powerful actors in world affairs, but the principal conflicts of global politics will occur between nations and groups of different civilizations. The clash of civilizations will dominate global politics. The fault lines between civilizations will be the battle lines of the future.

<http://www.foreignaffairs.org/19930601faessay5188/samuel-p-huntington/the-clash-of-civilizations.html>

Whether or not there is or will be a clash of civilizations may be uncertain. Indeed, whether or not it would be ideological or cultural is also uncertain. But, what is clear is that there is a threat to our way of life from the terrorists, and that the war against terrorism may turn out to be a long war.

Reason, or the absence of reason, may be crucial to the unfolding of events. Philosophically, we may best view the situation in the context of pluralism. Pluralism, according to Isaiah Berlin, is:

“...the conception that there are many different ends that men may seek and still be fully rational, fully men, capable of understanding each other, as we derive it from reading Plato or the novels of medieval Japan – worlds outlooks, very remote from our own. Of course, if we did not have values in common with these distant figures, each civilisation would be enclosed in its own impenetrable bubble, and we could not understand them at all; this is what Spengler’s typology amounts to. Intercommunication between cultures in time and space is only possible because what makes men human is common to them, and acts as a bridge between them. But our values are ours, and their values are theirs. We are free to criticize the values of other cultures, to condemn them, but we cannot pretend not to understand them at all, or to regard them simply as subjective, the products of creatures in different circumstances with different tastes from our own, which do not speak to us at all.” [*The Crooked Timber of Humanity*, Page 11.]

It is a problem of how to live with the differences. In the opening chapter of *The Crooked Timber of Humanity* by Isaiah Berlin, he writes as the beginning of the final paragraph:

“Of course social or political collisions will take place; the mere conflict of positive values alone make this unavoidable. Yet, they can, I believe, be minimized by promoting and preserving an uneasy equilibrium, which is constantly threatened and in constant need of repair – that alone, I repeat, is the precondition for decent societies and morally acceptable behaviour, otherwise we are bound to lose our way.” [Page 19.]

The hope for a New Age of Enlightenment may be based upon an acceptance of pluralism. But, fundamentalists by definition are not pluralists. In that case, tolerance will do. The lack of tolerance will lead to conflict. Peaceful co-existence requires pluralism or tolerance. Thus, the mission may be defined as facilitating conditions that would breed tolerance, and thwart intolerance if there is an absence of pluralism. That is different from attempting to impose our values or political system. All of this calls for wisdom.

Since wisdom is based upon judging what is true and right, as well as having the judgment to discern what will work, it makes sense to realize that there are various concepts of true and right. This idea is discussed in a follow-up essay, as are the habits used in the reasoning system. In short, the reasoning processes – through repetition of application become part of the habits of the mind; and the emotional and cultural practices may become habits of the heart. We need some perspective to understand how others see the things that we see, and how they miss seeing the same things. We also need to find out how to see that which they see, and to understand what they see the way they see it. We can get a realistic perspective by reviewing some aspects of our organization of knowledge. We need to consider blending the disciplines to better understand what others were thinking when they reached certain decisions. Furthermore, we need to drill down to the commonalities as in consilience.<sup>11</sup> Reason is a necessary tool, but it is not sufficient by itself. Others may see things differently, and if we want better predictions of outcomes of our policies, we need to apply a better understanding of habits of the heart as well as habits of the mind. That is the subject of the next essay.

<sup>1</sup> See discussion of cognitive spectrum (the degree of focus in cognition) by David Gelernter in his book, *The Muse in the Machine: Computerizing the Poetry of Human Thought*. [See page 5.] He has looked at the issue in the context of simulating thought using the computer. Gelernter utilizes research represented by recent psychological texts and his own research on ancient biblical text.

<sup>2</sup> See David Gelernter's book, *The Muse in the Machine: Computerizing the Poetry of Human Thought*, Pages 4-5.

<sup>3</sup> See *A Companion to Ethics*, edited by Peter Singer. Malden, MA, Blackwell Publishing, 1993.

<sup>4</sup> Much of this essay is drawn from the book in progress, *Improving Decisions: Toward a New Age of Enlightenment*. It is on the ASPEC Center for Scholarly Enterprise (ACSE) website, <http://www.spicequest.com/acse/index.htm> The site may also be reached with the following hyperlink: [spicequest](http://www.spicequest.com). Click on "Improving Strategic Decisions" and then select "Part II: What Were They Thinking?" In Chapter 4, the discussion of fundamentalism [under the subheading of "Toward Understanding Islam," under the side heading "The Terrorist War on America"], there is an identification of some stark differences among Muslims. Then, at the end of Chapter 5 [under the subheading of "Behavior of Participants in the Political Arena"], there is a further discussion of diversity among Muslims. Ethics is again included in Chapter 6 in the section on value systems.

<sup>5</sup> Donald B. Calne, *Within Reason: Rationality and Human Behavior*, page 9.

<sup>6</sup> See the opening chapter of the monograph, *The Challenge to Our Thought Leaders*, which is the first part of the book in progress from which much of this section is drawn. The monograph is on the Hoyt website, [www.hoyt.org](http://www.hoyt.org). The relevant discussion is under the side heading of "Evolutionary Progress in Disciplines."

<sup>7</sup> See *The Challenge to Our Thought Leaders*, referenced in the preceding endnote.

<sup>8</sup> The endnoted paragraph, taken from my monograph, speaks to the strength and weakness of the Enlightenment in the form of its essential nature. A quote from the Wilson book [not in the monograph] is as follows:

"In particular, no single event better marks the end of the Enlightenment than his [Marquis de Condorcet's] death on March 24, 1794. The circumstances were exquisitely ironic. Condorcet has been called the prophet of the Laws of Progress. By virtue of his towering intellect and visionary political leadership, he seemed destined to emerge from the Revolution as the Jefferson of France. But in late 1773 and early 1774, as he was composing the ultimate Enlightenment blueprint, *Sketch for a Historical Picture of the Progress of the Human Mind*, he was instead a fugitive from the law, liable to sentence of death by representatives of the cause he had so faithfully served. His crime was political. He was perceived to be a Girondist, a member of a faction found too moderate – too reasonable – by the radical Jacobins. Worse, he had criticized the constitution drawn up by the Jacobin-dominated National Convention." [Pages 15-16.]

<sup>9</sup> See the previous endnote for the quote about the end of the Age of Enlightenment.

<sup>10</sup> The quote is from Samuel P. Huntington in *The Clash of Civilizations and the Remaking of World Order*, page 41. The quote within the quote is referenced as Bozeman, *Civilizations Under Stress*, page 1.

<sup>11</sup> See *Consilience*, by Edward O. Wilson. The idea, in Wilson's words, is that, "everything in our world is organized in terms of a small number of fundamental natural laws that comprise the principles underlying every branch of learning." Chapter 6 of the book in progress, cited in endnote 3, discusses the idea. Here is an excerpt from the beginning of that chapter:

"There is a unity of knowledge in the understanding of the system as a whole in that some fundamental laws of the system are applicable to various disciplines even though they focus on different parts of the whole. This unity of knowledge is known as the concept of consilience."