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Evolution in Higher Education
By Maury Seldin

> The most difficult subjects can be explained to the most slow-witted man if he has not formed any idea of them already; but the simplest thing cannot be made clear to the most intelligent man if he is firmly persuaded that he knows already, without a shadow of a doubt , what is laid before him. (Leo Tolstoy)[1]

Introduction

The Scholastics were guilty of obscurantism.[i] Their initial premise was revealed knowledge. Reason was used within the paradigm constrained by that premise. It impeded the development of knowledge that facilitated the advances of higher education through both the Scientific Revolution and the Age of Reason (The Enlightenment). This appendix is exploring an innovation in higher education that may facilitate a New Age of Enlightenment. It serves as some support for the trilogy, *American Democracy Endangered*, of which it is part.

The Scientific Revolution raised the level of the quality of knowledge through a series of progressions. However, the advancements were predominantly in a reductionist approach that heavily relied on linearity in analytics. A New Age of Enlightenment would be facilitated by a greater use of nascent disciplines in the analytics. It would better able reasoning to deal with the uncertainties of nonlinearity in complex adaptive systems.

The breakthrough in the social sciences germinated from the radicals in the coterie that featured Spinoza and, of course the work of Descartes.[ii] That breakthrough heavily relied on the source of authority being visualized as the individual with the capability to reason. It evolved with what developed as social sciences as well as physical sciences.

The linearity of the analytics prevailed throughout the centuries from the dawn of the Scientific Revolution through the twentieth century. The hierarchical structure of science is well discussed by Edward O. Wilson in his book *Consilience: The Unity of Knowledge*.[iii]

His fellow evolutionary biologist, Steven Jay Gould, took issue with him making two significant points, contingency and limits of reductionism. He did so in his book *The Hedgehog, the Fox, and the Magister's Pox: Mending the Gap Between Science and the Humanities.[iv]*

The contingency and reductionism come into play in complexity science, heavily built upon ideas that include self-organization as in *the invisible hand* of Adam Smith. There was some grappling with the explanations of what turned out to be recognized as nonlinearity. The discussion of that early grappling with ideas on it is in a book, *Invisible Hands: Self-Organization and the Eighteenth Century,* by Jonathan Sheehan & Dror Wahrman, two historians approaching the topic from different perspectives, both with

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[1] This quote from Tolstoy's writing was used by Michael Lewis as an epigram in his *The Big Short: Inside the Doomsday Machine.* The subprime bubble leading to the Great Recession was widely misunderstood because complexity science was not used as the lens for understanding change. The same may be said for a variety of societal issues faces in contemporary American Democracy. This essay leads to an examination of one potential strategy that could make better use of our human resources in dealing with some fallouts from some misguided beliefs, but also averting unnecessary discontinuities that relate to by bypassed opportunities in education.

a deep "… shared passion for the question of order in the origins of modernity [p. xiii]." [v]

Educational institutions are among the longest surviving institutions in Western civilization because those that adapted to the changing process of enhancing knowledge were able to contribute to the emerging structure for the development and dissemination of knowledge. Part of the adaptation was in technology as with the invention of the printing press and the innovation in digital technology. But part was in a paradigm shift that had a disproportionate concentration on the use of linear analytics of the physical sciences as compared to a better balance that included the greater use of the nonlinearity drawn from the biological sciences in dealing with the social sciences.

The advancements in Western civilization, aided by education and innovation, sharply rose in recent centuries because of the greater productivity of the traditional resources of land, labor, and capital. The capital, however, goes beyond that traded in markets for financial considerations as calculated in Gross Domestic Product (GPD). It goes to *social capital* as well.[vi]

Primitive societies relied heavily on social capital, including drawing on the wisdom of the elders. Modern society doesn't even calculate the contributions made by the elders to what is narrowly viewed as standard of living, but broadly viewed as quality of life. Although some of that contribution may estimated by valuing unpaid social services, this discussion is not about quantifying contributions, but rather about identifying opportunities and fostering their evolution to making a greater difference in the quality of life, in this case focusing on life in American Democracy.

An Interdisciplinary Approach

Part of the adaptation of educational institutions, particularly in the last half of the twentieth century, has been moving from the silo structure generated by the reductionist approach in science to an interdisciplinary approach when faced with societal issues that are most effectively viewed as parts of a complex adaptive system. The transition has been impeded by leading experts in disciplines not willing to make the investment necessary to retool as beautifully articulated by Thomas S. Kuhn in his *The Structure of Scientific Revolutions*.[vii]

An earlier view is a famous quote from Max Plank: "A 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."   For something more recent than Plank and Kuhn consider a quote from a cancer researcher, Dr. Mina Bissell, about whose research and ideas a NY Times article was written. The statement is "**The people who are successful become vested in their ideas**." [viii]

I personally encountered these difficulties in the development of a research program sponsored by the Homer Hoyt Institute (HHI), a think tank type organization of which I was founding president forty-some years ago.   At the time of the Subprime Crisis and Capital Market Freeze, I was serving as Chairman of HHI. At my request, the HHI created a program to foster research on the issues. It budgeted an initial $100,000, but it was later supplemented by contributions from industry. It was headed by two former

Assistant Secretaries for Policy and Research at the Department of Housing and Urban Development (HUD). Progress was made; more than I thought at the time, but less than what I hoped for.

In trying to integrate a multiplicity of disciplines I found greater success in starting a Seminar in Strategic Decisions at ASPEC (Academy of Senior Professionals at Eckerd Colleges). Prior to the discontinuities of the Housing Bubble and Capital Market Freeze that preceded the Great Recession I was focusing on what people were thinking, especially in the context of the 9/11 debacle. That terrorism issue was foundational to the first focus of the Seminar, moving to a new age of enlightenment.

The transition of focus for my work included an essay published as a supplement to the newsletter of the Hoyt Group that included HHI, its wholly owned subsidiary Hoyt Advisory Services, and its supported organization, an advanced studies institute.[ix] That essay, linked as Supplement – *"Influencing Outcomes in Housing Policy"* contains a footnote that identifies a diversity of talent assembled in the Seminar. It reads as follows:

> This essay was prepared as the basis for a presentation at the Seminar for Strategic Decision-Making, this year focusing on Some Applications of Complexity Theory in Our Changing World. The seminar, in its ninth year at ASPEC (Academy of Senior Professionals at Eckerd College), has presentations ranging from personalized medicine to societal issues with substantial emphasis on organizational issues. The presenters, all with doctorates, come from diverse fields including physics, chemistry, psychology, medicine, a hybrid of education & management, information technology, and business administration; that last one focused on interdisciplinary applications to real estate. An electronic version on the HoytWiki site (on http://wiki.hoyt.org/wiki/Discipline_Development) has endnotes and links to additional material.
>
> The material draws heavily from work done by its author related to the Homer Hoyt Institute's Subprime Crisis Research Program, started in 2007, now known as the HHI Research Initiative. [Fall 2011 - The Hoyt Group]

This experience indicates a potential for lifelong learning institutes to foster interdisciplinary approaches to complex societal issues. Although lifelong learning institutes are relatively young in the evolution of higher education, their potential role may be best explored by picking up from some of the introductory remarks and focusing on developments after World War II.

The Evolution of Higher Education Since WWII

The evolution of higher education since WWII may be reviewed by starting with Clark Kerr's book, *The Great Transformation In Higher Education: 1960-1980*. After brief comments on the earliest period in America that drew on "the classical curriculum from Oxford and Cambridge, there was mention of the first of two great transformations." It was in the 1870-1910 era and was characterized on numerous counts. The first was "science began to take over from religion and the classics..." This led to specialization utilizing departments and graduate education. The land-grant universities focused on

service, especially to agriculture and industry. It recruited students preparing for roles in society in a broader range of occupations "...that lay beyond the old professions of theology, medicine, law, and teaching." [x]

This discussion led to a summary introduced as follows:

"The third historic period, and the second great transformation, was from 1960 to 1980, and once again higher education entered a new stage in history:..."

The summary described a great structural change that included growth in total size, growth of public share including community colleges and graduate schools with research orientation. Of particular interest is student revolts, politicalization of the campus, governance and "The greatest public effort to achieve equality of opportunity to attend college with results that did not match the effort."

Interestingly enough, the lifelong learners that an earlier version of this essay was focusing on were educated during that era. Furthermore, the hope for our American Democracy rests on the millennials and its successor generation with whose education this essay is really concerned about. On this count, I will move on from Kerr's book with one more small excerpt:

"That universal-access education is essential to the workings of a democracy. 'I think by far the most important bill for our whole code is that for the diffusion of knowledge among the people. No other sure foundation can be devised for the preservation of freedom, and happiness' (Thomas Jefferson)

"That the quality of education is one major determinant of the quality of a society."

In 1992, a year after the Clark Kerr book was published, Martin Anderson's book, *Imposters in the Temple: American Intellectuals Are Destroying Our Universities and Cheating Our Students of Their Future.* His point may be summarized by the opening paragraph on the book's flyleaf. It is as follows:

"Imposters in the Temple is a hard-hitting, eye-opening book about the decaying moral and intellectual state of American universities and colleges today - about why things have gone wrong, and what we can do to set them right."

The chapter of particular interest to me is titled "The Glass Bead Game." In my (2003) monograph, *The Challenge to Our Though Leaders* I wrote the following:

"That academics have gotten carried away in the game of publishable research focusing on rigor of analyses may be better understood by the analogy to the glass bead game discussed in the novel by Herman Hesse titled *The Glass Bead Game*.[xi] "

This is in line with my advocacy of research being stimulated by relevance with whatever rigor was feasible rather than the goal of publishable research. Or in the words of Edward O. Wilson from his *Consilience: The Unity of Knowledge,* "Grants and honors are given in science for discoveries, not for scholarship and wisdom….The same professionalism atomization afflicts the social sciences and humanities." [p.42]

Higher education's institutional structure has certainly changed in the three-quarters of a century just discussed. Current discussion focuses on the exceptionally high cost of education and the associated debt as well as the dramatic shift in technology. Additionally, education for career development by some for-profit colleges has been a subject of scandal. That is aside from the mismatch of education and job opportunities. All of this is aside from the difficulties faced by the liberal arts in the role of humanities losing out to specialization.

Early in the era covered was a 1969 book titled *Struggle and Promise: A Future for Colleges*. The authors, Morris Keeton and Conrad Hilberry, wrote in their preface that their thinking about the book was influence by a 1964 address by Dean DeVane of Yale College. The quote from that address is as follows:

> There are prophets abroad in the land today who foresee the early demise of the liberal arts tradition in higher education in America, and the consequent end, or at least dramatic revision, of the college which has been the home of that tradition....
>
> 'What is most needed now ... is for some of our most eminent universities and strongest colleges to take time and make a major effort to understand the situation the college is in, and from that understanding to set up models of their conception of what the college ought to be and how it must function if it is to justify its position in the total plan of the country's educational establishment."

Fast forward to a book published in 2014, *Excellent Sheep: The Miseducation of the American Elite & The Way to a Meaningful Life*, by William Deresiewicz. The quote that I have selected is from page 235. It is as follows:

> "The system isn't working anymore, no matter how just or good or inevitable it seems to those who it flatters and benefits. It has lost its authority. It has lost its legitimacy. It is time to imagine what a different society   would look like, and to gather the courage to get there."

My penciled note in the book after that paragraph reads "change in structure". My thinking is that it is time to innovate to spread of liberal education among the voting public in order to preserve some semblance of American Democracy. On that account, there is not only the technological capabilities of education, but the vast underutilized resources of a great diversity of experts in the retirement community who by joint efforts could foster the interdisciplinary education, both in development and dissemination.

Some Ideas for Exploration

An earlier version of this essay was triggered by a casual conversation with a colleague at ASPEC having to do with an educational institution's basic premise for a strategy dealing with the potential of a unique lifelong learning institution. However, it quickly evolved into being an appendix to a pilot project titled the *Declaration and Transformation Enterprise* in which two books have been drafted. The principal book is *American Democracy : Declaration, Pursuit, and Endangerment.* It is supported by an introductory book titled *Perspectives for a Sense of Place.*

Although it occurred to me it might be adapted to becoming a supplement to the newsletter of the Hoyt Group on the occasion of the HHI's celebration of its fiftieth anniversary, I chose to adapt it to serves as an appendix to what was then the first chapter of this book, but in the books evolution has become the fourth chapter.

However, during those years in which I led the Homer Hoyt Institute and its affiliates, we (the leadership) created what one of the Fellows of the Weimer School of Advanced Studies in Real Estate and Land Economics called "a continuing education for the leading academic research faculty members in academia and others developing the discipline." That is not an exact quote, but it was in words to that effect. That Weimer School program is the main activity of what has now become the Maury Seldin Advanced Studies Institute.

That is relevant to the essay because it was an innovative educational institution founded to provide post-doctoral education in an environment outside of professional meetings. Rather than just presentation of research papers with a panel of critical reviews (sometimes more oriented to highlighting the reviewer than the paper), it was designed to foster interaction in a network of the elite. It emerged to be and advanced studies institute in which the Fellows received the distinction of being selected to an elite group that was in a sense certified as brilliant. So while there is always some competitive spirit, the culture of the organization has always been benefit from interaction in which the intent was to help each other in the development and dissemination of the body of knowledge.

After many years, one of the Founding Fellows came up with the idea of converting the Homer Hoyt Institute's Advisory Board, composed of industry leaders, to a counterpart of the Weimer School Fellows. That was done and that group, now known as the Hoyt Fellows, also numbers over one hundred.

Those innovative contributions to real estate related disciplines through the formation of new educational structures were at least of some partial responsibility for the ideas that are herein set forth in the rest of the essay, but discussed in somewhat different detail in the main pilot project for the web, titled the *Declaration and Transformation Enterprise.* That too book project in the exploration wiki has morphed into the trilogy, *American Democracy Endangered*. So, this essay is now an appendix to the fourth chapter (Denominations in Science and Religions) of the trilogy's second book, *Perspectives for a Sense of Place.*

Process for Progress

The process for progress in education includes ideas and adaptation to changing environments. In Matt Ridley's latest book (in 2015) titled *The Evolution of Everything: How New Ideas Emerge*, he has a chapter titled "The Evolution of Education." In the opening pages of the chapter he discusses how compulsory class-based education in preparation for exams "is one of those universal things nobody ever questions." He traces the idea back to Napoleon's defeat of Prussia in 1806 that sparked "...compulsory and rigorous education, the purpose of which was mainly to train young men to be obedient soldiers who would not run away in battle. It was these Prussian schools that introduced many

of the features we now take for granted."

It turns out that such a process has a design for preparing students to be substitutable parts as in mass production as was the format in the Industrial Revolution of the latter part of the same century. It worked reasonably well for industry in the first part of the twentieth century, at least for General Motors that dominated the automobile industry. But technology and the environment changed. So, at General Motors, the well trained engineers, in their discipline, when faced with a faulty ignition switch, and their managers, well trained in cost/benefit analyses, had knowledge of the defects, opted not to make the corrections. Deaths resulted.[xii]

It takes a paradigm with a broader perspective than a single discipline focused on a single component of the system to understand potential implications in complicated systems such as an automobile with an airbag that does not operate with an ignition failure. But even more so in a complex adaptive system that includes individuals who are harmed by the airbag failure; and though who report injuries, are nevertheless denied the presence of wisdom of management and regulators to connect the dots.

The process goes beyond interdisciplinary education; it goes to learning in the context of self-organization. There are many ways to learn. As Ridley wrote "We learn by reading, by watching, by emulating , by doing. We learn in groups of friends, we learn alone. Yet almost none of this is called 'education' - which is always a top-down activity.

I have told my grandchildren "Don't let school interfere with your getting an education." And, they are all well educated. They graduated from fine universities. However, they understood that getting education was their responsibility and the formal instruction was only part of the process. Education is best achieved as a bottom up process with the instruction only as an aid. A great deal is done today in network communication.

The Underutilized Resource

The most underutilized resource may well be in the retirement community. As previously noted, "the vast underutilized resources of a great diversity of experts in the retirement community who by joint efforts could foster the interdisciplinary education, both in development and dissemination. When I started the Seminar on Strategic Decisions my particular interest was in getting an education on what people were thinking.

It was not a new interest. When I had been conscripted to serve on an interim basis as dean of the American University School of Business Administration I was interviewing a psychologist for a position in the management program and I asked the question about the process of people thinking. I was particularly interested in the knowledge as applicable to the graduate seminars that I taught, alternately on analytics for investment strategy and policy for the public sector related to land use and housing issues. It helped a little. But what really started a turning point was when I took an early retirement from the university. HHI had been given a gift of a mile of ocean front land in Florida and was demanding additional time that I could not provide while keeping my position at the university.

In relocating our primary residence to Florida I found myself even more involved in community organizations serving on a couple of commissions. I was astounded at the difference from the quality of decision making in Palm Beach County as compared to Washington DC where I had serve on some national as well as local committees. That raised again the question of "What were they thinking?" When we relocated to the west coast of Florida, and I became a member of ASPEC, I found an excellent resource reservoir. I was able to tap into it by drawing an array of experts from a variety of disciplines in the seminar which started off with a requirement to make presentations in order to be part of the seminar. That requirement was later relaxed to permit participation of ASPEC members who were only interested in edutainment.

Further exposure to lifelong learning came to me when Rachel and I bought a summer residence in North Carolina and I began to participate in The UNC Ashville Center for Creative Retirement, now an Osher Lifelong Learning Institute (OLLI) at UNC Ashville.   Shortly after becoming a member I joined the Strategic Planning Committee.. There, I also found a fine selection of talent, but in a much larger program. Both experiences convince me that there is an ample reservoir of talent and willingness to self educate, educate others, and engage in civic activities that can favorable affect the quality of life. Both experiences also indicate the interest in intergenerational education.

Both of those experiences are still in the model of in-person contacts. What appears as an idea for exploration is to make the contacts on an electronic basis. The idea has reached the form an Academy in the Cloud Enterprise (ACE) as a web based educational institution. The goal is to enhance the quality of life in American Democracy. The vehicles are to develop and disseminate knowledge.

The pilot project, the *Declaration and Transformation Enterprise* (DATE), is an interdisciplinary liberal education venture focused on utilization of nascent disciplines in dealing with societal injustices, especially those that have suppressed progress toward the American ideals noted in the Declaration of Independence. The component project, *American Democracy: Declaration and Transformation,* contains nine essays and a prolegomenon that may be considered as a tenth essay. That component was started as a two book work. As is noted elsewhere in the trilogy, the pilot project, the *Declaration and Transformation Enterprise* has morphed into the trilogy project that is exploring the use of a multiplicity of apps instead of the wiki.

The strategy for the development of an *Academy in the Cloud Enterprise (ACE)* was built upon the assembly of a team of experts in a variety of disciplines that may be blended to increase the effectiveness of American Democracy in facilitating Americans in improving their quality of life. The objective of that blending of disciplines is the development and dissemination of knowledge that would better enable Americans to exercise of their unalienable rights espoused in the Declaration of Independence. That strategy has simply adapted to the potential use of apps for linking within and among the three books in the trilogy to be published digitally as well as in hard copy. More on the evolution of the project is elsewhere in the trilogy.

So, we are building on what was a start to communicating a view of the nature of the situation. That pilot project was called the *Declaration and Transformation Enterprise* (DATE). In its new form it still is is an interdisciplinary liberal education venture focused on utilization of nascent disciplines in dealing with societal injustices, especially those that have suppressed progress toward the American ideals noted in the Declaration of Independence.

The enterprise could draw heavily on those from the retirement community, but ideally would contain many of the authors of the books cited in the discussions. It could be coordinated with MOOCs (massive open online courses). [Massive open online course –](#)

<u>Network Structure</u>

Some ideas for network structure are contained in the treatises and the appendices. From the fifth chapter in the volume titled *A Sense of Place in Perspective*, with the essay titled " The Sciences and Religion Matter," in the section titled "<u>It Starts with Individuals,"</u> we have the following**:**

> The quality of life of individuals starts with individuals, but is greatly impacted by the societal structure and other environmental conditions in which the individual seeks to thrive. The environment, including the societal structure, is a complex adaptive system in which interactions produce emergent properties or characteristics of the evolving environment.

> Diversity and interaction are key elements in the process of that evolutionary societal structure impacting the quality of life of the individuals at the foundation of the structure. It is the interaction of the individuals that generates the social capital that is a significant factor in the resulting quality of life. The individuals are greatly influenced by the results of scientific advancements and their faith in the results of science and their commitments to religion, if any.

> This trilogy of essays started with a discussion of a linking science to religion based on nascent disciplines dealing with self-organization and emergence in complex adaptive systems. It has done so by shedding light on the nature of the process known as *emergence* from *self-organization* that was represented by the metaphor of the ***invisible hand.***

> The key is in the choices made by individuals. There are three major areas impacting the ability of the individual to impact the evolution of the societal structure. One is the individual's initial stage in the sense of the assets provided by the evolutionary process, the genes and memes of one's ancestors. The second is the stage of personal development from childhood to adult realizing that not all individuals really reach their potential of being a mature individual. The third is one's participation in the processes of democracy, especially in the evolution of social capital. That speaks to personal choices of interrelationships as in networks.

That section is elaborated on in an appendix authored by Jack Lillibridge (co-leader of the Seminar) and Maury Seldin. The side heading is the same, but the text is as follows:

<u>It Starts with Individuals</u>

It starts with individuals[xiii] refers to the drama that unfolds when the political-economy of a society is examined in order to better understand how the environment constrains an individual's exercise of rights to *life, liberty, and the pursuit of happiness*. That drama is the evolution of the societal structure as an emergent property of the interactions in networks of people and organizations.

One important way individuals, whatever their capabilities, can gain empowerment is by networking with others who have a sufficient commonalty of interests. As a team member or by belonging to a particular community or human kind, the individual is challenged to do her or his best. To be so challenged requires that the individual have a sense of belonging and being committed. It is the interaction of the individuals in the relevant network that produces emergent properties, which are characteristics of power in the team or community that are not present in the individual members.

Empowerment enables the process of a capable and willing agent (person or organization representing itself) to exercise power intentionally, acting to increase the power of another agent or acting to increase one's own power. The agent may be an individual or an organized cohesive grouping of individuals; in either case, it is a complex adaptive living system.

To be capable of exercising power, an agent seeking to influence another agent needs to be capable in the sense that she has a net positive of power base relative to the agent to be influenced. An agent seeking to add to her own power from another agent needs to be open to being influenced by the other agent. The agent's sense of place contributes to the mental processing that is her personal part of becoming empowered.

The process is complex. Not all individuals start with comparable talents in genes and memes, and other resources. Each faces her or his own challenges for personal fulfillment, or flourishing. Each individual is a member of multiple interpenetrating networks. The layers of hierarchical networks are many, but the mobility of participation exists through education and commitment to the causes in which there is commonality.

There is more in a supplemental document titled *ACE Development Strategy* that starts off "The Academy in the Cloud Enterprise (ACE) is planned as a web based educational institution. The goal is to enhance the quality of life in American Democracy. The vehicles develop and disseminate knowledge." Later it contains the following as a conclusion to the strategy:

<u>Building on the Closely Related Project</u>

The strategy may build on the closely related project, **Plato's Cave Unites Americans,** (drawn from the prolegomenon essay (Plato's Cave) written for what was then a two book work. That work consisted of what is now the trilogy second book: ***A Sense of Place in Perspective*** (in the trilogy's third book: ***American Democracy: The Declaration, Pursuit, and Endangerment.***

The pursuit of the goals alluded to would be facilitated by the formation of a faculty that included authors of the books cited in the narratives of the now three book series. (The **Plato's Cave Unites Americans** could be a docent led tour as an appendix **A Sense of Place in Perspective.**

In that original vision, in addition to faculty, the Academy could also have fellows - persons who have achieved enough depth of knowledge to as practitioners communicate with eligible voters the knowledge they seek without their having to directly delve into the literature. They would be free to do so, but many just want to know the answer without having to navigate the reasoning.

These fellows would have gone beyond receiving a certificate evidencing their grasp of the subject matter, but would be active is some network that gave them an opportunity to share their education. The nature of this structure still needs to be developed. But, it is where the main treatise is leading. The idea is that there would be a call for a Declaration of Reform, as a supplement to the Declaration of Independence, and the voting power of an educated electorate would get better results than they are currently getting.

It is an Interdisciplinary Team Building Mission

The series of chapters by different authors is a vehicle designed to build an interdisciplinary team that could operate as a network in the process of building layers of networks. The layers of networks are essential because the typical voter has neither the time nor inclination to pursue the level of knowledge necessary for a rigorous analysis of the issues upon which representation is sought. The idea is to get a more realistic understanding of the complex adaptive societal systems in which there are many issues, all of which get impacted by societal structure. The voters' decisions as to representation impact the emergent societal structure. So, although the voters need not agree with the preferences of the professionals that combine to present an explanation of how the system operates, they can get a more realistic view of the world than the shadows on the wall of Plato's Allegory of the Cave.

The misunderstanding of the *invisible hand* phrase used by Adam Smith is a classic case. Smith's use of the phrase, first appearing in his book *The Theory of Moral Sentiments,* was about the reciprocity embedded in ethical behavior. It assumed a level of social capital. Its famous use in his second book, *The Wealth of Nations,* was based on advocacy of international trade in his opposition to mercantilism. That misunderstanding has led to some very destructive structuring of America's political-economy.

It is a Leveraged Approach to Empowering the Electorate

The docent led tour as well as the rest of the literary contribution is designed as a leveraged approach to educate the educators. Those educators could in turn pass on the knowledge. That applies to informal educational structures as well as the education that takes place in formal courses.

The access to the knowledge is to be readily available to the voting populace. Those that wish can read the material for themselves. Some will so do, and then share their understanding with others in their social networks. Those leaders my find themselves in a network macro to the micro-network just noted. It is uncertain as to how many layers will exist on an issue between a voter and some authoritative expert, but whatever the number, it is a superior process to reliance on pundits who start with their conclusions and spin the analyses to sell their point of view.

Conclusion

All of this is part of an evolutionally process. For America it started with the self-organization of the American Revolution and progressed from a confederation to a federation. The system got to be a lot more complex. In so doing it lost the representation character feasible in the smaller scale political structure. Some innovation is required to deal with the increased complexity. The strategic approach taken here is to try to facilitate that innovation through the development and dissemination of knowledge as an approach to empowering the electorate to have a better chance of the structure facilitating liberty and justice for all, not just for some.

Conclusion

This essay, "Evolution in Higher Education," was not designed to serve as a promotional piece for the ACE project. It just happens to be an illustration of a kind of innovation that could be pursued in fostering the evolution of higher education. It now needs some adaptation to the evolution of the project.

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i The following is an excerpt from a work in progress, Chapter 7: The Middle Ages in Europe: Scholastics and Reason:

In our quest for the pursuit of social justice, it is noted that the quest for knowledge is a key ingredient. The previous discussion of the Middle Ages focused on (1) understanding revealed knowledge as a competition in the early part of the Middle Ages among rival Abrahamic based faiths on the defense of their respective faiths, exemplified in the case of Judaism by the writing of Saadya Gaon, and then (2) the evolution of knowledge as applied to blending reason from secular knowledge with faith based knowledge as an understanding on how to live; in some extent exemplified in the work of Ibn Rushd (Averroes), but certainly in the work of Maimonides; both a couple of centuries after the perplexity in Babylon, but still in the Middle Ages.

Understanding history may be pursued by attempting to view it from the paradigms that prevailed in the then current era. Alternatively, one could use the lens available in 21st century science in order to gain a better understanding of the operation of forces that generated the information and the energy to process it. By taking the latter approach, it may be possible to extract principles from the operation of the then organic societal system that generated the then prevailing social justice so as to apply the same principles to ameliorate the shortfall of social justice faced in America in the 21st century.

This process takes us back to the first part of this treatise, "Introducing the Perspective Starting with Ancient Times," including the appendix on *consilience*, explaining that what is true of part of nature is true of all of nature, and the Steven Jay Gould criticism of Edward O. Wilson's *Consilience: The Unity of*

Knowledge. In short, although we can't drill down in complex adaptive systems as one might with reductionism, we can see what emerged from one level of networks to a macro level of another network, and then with the macro level as a micro level, what emerged it the next macro level.   Translating this for our application to social justice, what emerged from the thinking processes of an individual that provided the emergent process of the individual's behavior; then, based upon the interactions of the individual with others in her or his community, what emerged in community structure that impacted social justice. It is a feedback loop process that evolves and applies to the next level, the societal structure. The major difference in the operation of the process is that the authority structure in the Middle Ages was hierarchical, with the authority source being royalty or church, and severely limiting the self-organization, although revolts did occur; whereas, in contemporary America, the authority structure emanates from the individual with the emergent structure constrained by governmental authority elected by the citizenry. In both cases patterns emerge that provide some clues as to potential outcomes.

These patterns are heavily impacted by the quality of knowledge available and selected, and by the paradigms within which the selected information is processed. This takes us to the two areas of knowledge of really great impact on social justice. The first of these is blending two sources of knowledge; one rooted in revelation and present in the form of faith, and the other rooted in secular knowledge and present in the form of reason.

The second area of knowledge of great impact is also composed of two sources. The first is the well established prevailing paradigm, along with such models or analytics that are used in the reasoning process. The second source goes beyond the prevailing paradigm; it goes to speculation beyond the limits of the prevailing paradigm. This latter source has the potential of shifting the paradigm as was the case of astronomy when Nicholas Copernicus, speculated that the planets revolved around the sun (the heliocentric theory) in contradiction to the prevailing theory of the earth as the center of the system. That will be discussed in the next chapter, the topic of which is the Scientific Revolution.

That Scientific Revolution was the first of two great bursts of knowledge. The second came in an overlapping of time in which the eras flourished. The second was the Enlightenment, also known as the Age of Reason. Both were located in Europe. The first dealt with the natural sciences with a range that included the atoms of Democritus, Epicurus, and Lucretius (the Roman poet who wrote the key work *On the Nature of Things*) and ranged to contradict the theory of a second century Egyptian astronomer Claudius Ptolemy, a Roman citizen.

The second dealt with the social sciences. It focused on applying reason to the source of authority, especially the shift of authority from royalty and church to the individual. It dealt with societal structure and included the American Enlightenment that undergirded the American Revolution, the great experiment which is the destination to where our historical journey is lead us.

In both cases we are back to the discussion of the quality of knowledge and the relationship between science and reason. The thesis running through the spine of the journey is that social justice, although viewed differently through the ages, can be conceived of as an idea arrived at through both belief rooted in revelation and belief rooted in reason, the great difficulty being at the extremes of belief that deny pluralism - a denial that is an injustice. We get to the pluralism in the discussion of Modernity when we get to the philosophy of Isaiah Berlin.

This chapter is serving as the transition to the fourth chapter in Part II, "The Middle Ages and Spinoza in the Transition that Followed," the precursor in ideas for modernity; the chapter which is in turn the segue the chapters on the Scientific Revolution and the Enlightenment that lead off the Part III, "The Transition to Modernity and the Great American Experiment.

This is about the power of ideas in which social just is nested and the obscurantism that delayed the progress of Western civilization for decades starting in the Middle Ages and then again in the 20th century structure of academics in American universities, a variation of the *déjà vu* of the universities in which the scholastics of the Middle Ages started an evolving pattern of scholarly work, a pattern that

picked up on only part of the rediscovered work of Lucretius - work to be discussed in the closing chapter of this Part II, right after this chapter...

[ii] The following is from a descent led tour on Liberal Education:

With some exception (especially dualism) Spinoza was a Cartesian. The salient ideas espoused by Descartes were as follows:

- "…Reason is a more dependable path to knowledge than experience or observation." [ps. 98 & 133 of Rohmann] The field is known as *Rationalism.*
- Although reason was not new, and the Scholastics used it, but within the constraints of the paradigm of received religion, Descartes rejected the Scholastic method that started with the basic assumptions of faith.
- He set the framework for the Scientific Method, focusing "…on *how* we know rather than what it is possible to know…" [p. 98 Rohmann] And,
- Dualism, the idea that mind and matter are two separate varieties of substance.

Obviously, these ideas were not viewed favorably by the prevailing power structure, especially the church.

Europe, in the 100 years preceding 1648, had been in battles over ideas. Most of this was "ideological and political rather than physical." [Page 23]

A new philosophy came on the scene. The salient ideas of Descartes were part of the New Philosophy. The "new sheriff," not yet arrived, was the power of ideas that challenged the prevailing authority. [The trilogy unfolds what happened.] So, the confessional debates were being upstaged by the philosophers of the Enlightenment, especially the Radical Enlightenment.

[iii] It starts the hierarchical rank with mathematics, then on to physics, chemistry, and continuing into the social sciences.

[iv] That is briefly discussed in an essay titled *The Collective Mind,* a copy of which is provided as Appendix E to Volume II of this series.

[v] It is a book published in 2015 that "… charts how eighteenth century Europeans learned to imagine an order that moved beyond both the mechanical worldview and traditional providence." Its focus is on what is called *self-organization* in the context of what is known as *emergence* in the nascent discipline known as *complexity science*.

[vi] The concept of *social capital* is well discussed by Francis Fukuyama in his ***The Great Disruption: Human Nature and the Reconstruction of Social Order.*** The *great disruption* as identified on the flyleaf of the book is the "... transformation from industrial to information societies; knowledge has replaced mass production as the basis of wealth, power, and social interaction." Fukuyama defines social capital as "..a set of informal values or norms shared among members of a group that permits cooperation among them [p. 16]." A couple of pages earlier he writes "*Social capital* can be defined simply as a set of informal values or norms shared among members of a group that permits cooperation among them." He continues the discussion noting the relevance of *trust* among the members.

[vii] The quote and context is as follows:

"Few people who are not actually practitioners of a mature science realize how much mop-up work of this sort a paradigm leaves to be done or quite how fascinating such work can prove in the execution. And these points need to be understood. Mopping-up operations are what engage most scientists throughout their careers. They constitute what I am here calling normal science. Closely examined, whether historically or in the contemporary laboratory, that enterprise seems an attempt to force nature into the preformed and relatively inflexible box that the paradigm supplies. No part of the aim of normal science is to call forth new sorts of phenomena; **indeed those that will not fit the box are often not seen at all** [emphasis added]. Nor do scientists normally aim to invent new theories, and **they are often intolerant of those invented by others** [emphasis added]. Instead, normal-scientific research is directed to the articulation of those phenomena and theories that the paradigm already supplies." [See Kuhn's, *The Structure of Scientific Revolutions*, 2nd edition, Chicago, The University of Chicago Press, 1970, p. 24.]

And now for one more:

"Philosophers of science have repeatedly demonstrated that more than one theoretical construction can always be placed upon a given collection of data. History of science indicates that, particularly in the early development stages of a new paradigm, it is not even very difficult to invent such alternates. But that invention of alternates is just what scientists seldom undertake except in the pre-paradigm stage of their sciences development and at very special occasions during its subsequent evolution. So long as the tools of a paradigm supplies continues to prove capable of **solving the problems it defines** [emphasis added], science moves fastest and penetrates most deeply through confident employment of these tools. The reason is clear. As in manufacture so in science – retooling is an extravagance to be reserved for the occasion that demands it. The significance of crises is the indication they provide that an occasion for retooling has arrived."

[viii] The article by Gina Kolata appeared in the NY Times on December 29, 2009 titled Forty Years War: Old Ideas Spur New Approaches in Cancer Fight.

[ix] The advanced studies institute was renamed after i retired from it having led it for twenty-five years. It is now known as the Maury Seldin Advanced Studies Institute in Real Estate and Land Economics, linked as Advanced Studies Institute.

[x] See Kerr's "Prologue -Transformations" for this and some subsequent discussion.

[xi] I further wrote " That classic image may be better understood by considering the following quote.

"The parody that Hermann Hesse wrote in his 1947 novel, *The Glass Bead Game,* was the author's view of the world as he "saw it then, and is remarkably prophetic of our own time." So writes Martin Anderson in his *Imposters in the Temple: American Intellectuals are Destroying Our Universities and Cheating Our Students of Their Future* [1992]. Consider the following paragraph. "The glass bead game in Hesse's book was exactly that – a game. But it was played with such intensity that gradually took over the professional lives of the intellectuals who played it. As they played the game with increasing skill and fervor, they retreated further and further from the concerns of the world, in effect, the intellectuals in Hesse's *Glass Bead Game* created their own fantasy world that transcended reality, and as they earned respect and honor for their game skills, as being the highest possible level of intellectual achievement, they soared off into ultimate irrelevance." [Page 63.]

[xii] This is discussed in the principal treatise, *American Democracy : Declaration, Pursuit, and Endangerment* in the section and chapter titled Part III: Making Progress, Essay/Chapter Five: **Building a New Paradigm.**
[xiii] The phrase "It Starts with Individuals" is used as the section title for a major section of the third chapter of the book *A Sense of Place in Perspective.* This essay was designed to serve as an appendix to that chapter in order to delve deeper into understanding the process by which individuals, with their sense of place, may become empowered to better influence outcomes. It was also designed as foundational material for a presentation at ASPEC's Seminar on Strategic Decisions.