SHORTCOMINGS OF ECONOMICS

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ABSTRACT

Many economists have gained unprecedented power and wealth in the world today, through a combination of circumstances and a skilled public relations posture. At the same time many economists are involved in powerful moves that have brought tremendous financial losses to organizations and individuals. This combination of ascension to huge power and incredible misapplication of power is testimony to major shortcomings in economics that cry out for elucidation.

Six critical shortcomings in economics at this point in history are:

- **1.0 Linguistic Escalation:** The lingering association of economics with individuals, as opposed to the disassociation from theory in favor of its replacement with science in the historical sense of the term

- **2.0 Blurred Distinctions:** The absence of understanding of the distinction between strategic foundations in economics and tactical connections to those foundations

- **3.0 Mathematical Myopia:** Failure to recognize the significance of formal logic as an underpinning to reason, and as the key branch of mathematics for strategic economics

- **4.0 Absent Graphics:** The failure to establish the significance and utility of graphical communications that unveil key patterns of relationships among multi-causal sets of factors

- **5.0 Hermit Mentality:** The construction of a moat around the discipline of economics that prevent economists from drawing in valuable discoveries in other areas of study

- **6.0 Incompatible Variety.** Ashby's Law of Requisite Variety is a major finding from systems science. It describes the necessary relationship between any system that is to be controllable and the controller; the variety of the system and the variety exercisable by the controller must be the same. When the system variety exceeds the variety available to the controller, this incompatibility opens up the system to instabilities, unpredictability in the large, and manipulation in subspaces–precisely what is presently occurring internationally.

Each of these shortcomings is explored, and valuable consequences for economics of correcting these shortcomings are set forth.

INTRODUCTION: THE ASCENSION

Few, presumably, will be familar with the Sveriges Riksbank Prize in Economic Sciences. Many, presumably, will have heard of the Nobel Prize in Economics. Some will know that the two are one and the same.

When we speak of these, we may suppose that we are looking at perhaps the most egregious instance of identity theft that has taken place since the term became familiar to us. Why would the name of Alfred Nobel be attached to the Sveriges Riksbank Prize?

While various reasons might be given, if we follow the dictum known as Occam's Razor, we may say, perhaps, that it is designed to achieve what it has achieved: to attach great prestige to economists. And surely it has done that. University presidents now go out of their way to attract Nobel Prize winners in economics from other universities to their faculties. As one humorist put it, they are looking for "fashion accessories for top management".

And perhaps it is no coincidence that we now see such terms as G-7 and G-20. Here we observe international gatherings of powerful bodies, largely comprised of economists who are gathered together with elected officials for the purpose of advising them on measures that should be taken having to do with economic activity. And how many of these economists have been elected by the public? Zero.

In the United States of America, it is commonly said that the most powerful individual is the Chairman of the Federal Reserve–an organization that is not Federal and is not Reserve. While the Chairman is appointed by the President of the USA, the Chairman is not elected, and is not answerable to any public body. Moreover, the Board of Governors of the Federal Reserve is comprised of bankers who are not elected and who are largely economists.

When the stock market had a bad day in 1987, President Reagan was induced to sign Executive Order 12631–Working Group on Financial Markets. Dated March 18, 1988, this order empowered four people or their designees to engage in activities having great power over what at one time was a relatively free market. These four were:

- The Secretary of the Treasury, acting as Chairman of the Working Group
- The Chairman of the Board of Governors of the Federal Reserve System (FRS)
- The Chairman of the Securities and Exchange Commission (SEC)
- The Chairman of the Commodities Futures Trading Commission (CFTC)

This group, known collectively as the “Plunge Protection Team”, was given powers to collect data on markets and to “determine private sector solutions”.

Since that time, these agencies and the US Congress have taken many steps that seem to go well beyond what appears in the Executive Order.

For example, the CFTC has permitted large banks to suppress the price of gold and silver using what may appropriately be called “naked shorting” in the sense that futures trading is used to the point where the quoted price (spot price) of silver in November of 2008 is well below what people are willing to pay for the metal in the open market.

Many argue that this is done to fool the public into believing that all is well in the market, that the fiat currency is in good shape, that there is no inflation; because the public will only believe that there is inflation if the prices of the precious metals skyrocket. Yet it is clear that the prices of the precious metals have risen rapidly during the past few years, in any case, and that Mr. Brown of England sold about half of England’s gold supply at its low point, even though he was elected prime minister in spite of this strange action.

So it is that the public is regarded as economically uninformed. Perhaps bankers and hedge funds are also uninformed, which would explain why American financial institutions

and rating agencies were able to package so-called toxic mortgages with good mortgages and sell so-called “credit default swaps” all around the world. Apparently the sellers themselves were not too well-informed economically, since they seemingly could not predict that by doing this they threatened the very existence of the institutions which they were serving at the time. On the other hand, many of the top executives were wise enough to accumulate large personal fortunes; hence one can say that their ignorance stopped at the gateways to their personal bank accounts.

None of the foregoing remarks are sufficient to say that economics is a defunct body of knowledge; only that, even if it is not, it is not being used to govern economic behavior. On the other hand, a cursory investigation to connect the actors who were involved in the activities that brought about the economics crisis of the year 2008, and who stated publicly that they did not understand what was happening, with the institutions of higher learning from which they graduated; will reveal that the majority were graduates of institutions known as the “Ivy League”. These institutions pronounce themselves to be the pinnacle of education. If they are correct, they become the benchmarks against which the subject matter is measured. They are also the institutions to which presidents turn when they are looking for high-level governmental appointments.
Q. E. D.

THE WARFIELD SEXTET (WS)

The shortcomings of economics can be treated first as a diagnostic, i.e., what are they? Then they can be treated prescriptively, i.e., what can be done about them? For both purposes, enlightenment can be facilitated with reference to what is referred to here as the Warfield Sextet (WS), which consists of six books published in sequence over a 30-year period. This set of books is listed in the References to this manuscript. While the reader can scarcely be expected to read this set of six books in preparation for the rest of this paper, it may not be too much to expect to ask the reader to study the Preface to the last book in the series (WS-6), which was published in 2006. At the time of this writing, the

entire Preface was available on the internet at this URL:

http://www.worldscibooks.com/compsci/6058.html

If this writing is no longer available, perhaps a library can provide access. The Preface describes the contents of each of the six books in the series.

DIAGNOSTICS OF THE SHORTCOMINGS

1.0 Linguistic Escalation. Linguistic escalation occurs in two principal ways. In the first way, a concept is given a name of a person that is already honored (doing what one might call "identity theft" or seeking a "halo effect"). The second way is to give the concept the name of its category of which it is a component. Thus one might call the head of Frederic Chopin the composer and say that the composer is buried where his head is buried.

Theory in Place of Science. Justifiably, the term "unindicted co-conspirators" has attained a certain status today. The one institutional type that should have accepted responsibility for stewardship of the term "science", the university, has failed utterly to do so. Probably not one in a hundred university faculty members can cite the history of thought concerning the term. Virtually every university catalog now lists numerous "sciences". Curiously, the disciplines that deserve the term typically do not use it in their names (e.g., physics, chemistry), while those that do not deserve it typically use it (e.g., computer science, management science, systems science). Yet there is literally a literature flow, a kind of river flowing through time with names that carry with them the mantle of growth of the idea of what constitutes a science. Most of today's "scientists" will not even recognize the name of Charles Sanders Peirce (1839-1914) who was regarded by C. P. Snow as one of America's two greatest thinkers of the nineteenth century, the other being J. Willard Gibbs.

Peirce studied the scientific river beginning with Aristotle, and basically summarized its

development through time. He recognized the components that were necessary and sufficient to constitute a science. Yet today such fields of study as “systems”, “cybernetics”, software and economics are prone to discuss theory as though it had the same status as science.

To put it bluntly, theories are a dime a dozen. As one satirical columnist suggested, economics theories can be (and possibly are) generated sitting around a table at Starbucks.

Economists frequently talk about the “economics sciences” in plural as though there are multiple economic sciences. There is a society called the International Society of Systems Sciences.

Here are two questions to be asked in sequence:

- Please list these sciences
- Please explain how they meet the conditions set forth by C. S. Peirce (who drew on the thought of Aristotle and those who followed)

Where are the answers to be found?

We may speak of “linguistic escalation”, by which the following is meant: use language to give something a name that is undeserved in order to make it sound better than it deserves. Or to treat something with a certain name as though it has the properties of something with a better name. Thus when the word “theory” is used as though it had all the properties normally thought of as attaching to the word “science”, linguistic escalation is being used.

Taking the Name of Alfred Nobel. Similarly, when the Sveriges Riksbank Prize in Economic Sciences or, in English form, the Bank of Sweden (B. S.) Prize in Economics,

is called the Nobel Prize in Economics, linguistic escalation is being used. It is said that this is being done to honor Alfred Nobel; but one must suppose that there is another reason: to enhance the status of economists, helping them to attain world wide power that will help them avoid the necessity of being accountable to the public through voting booths.

The universities stand as unindicted co-conspirators in failing to be stewards of the integrity of the language, helping to cement linguistic escalation.

Finally, it is worth noting that a classic case of linguistic escalation occurred in 1913 when J. P. Morgan and other bankers finally managed to trick a U. S. president into agreeing to initiate a central bank with the misleading name of the Federal Reserve (as though it actually had some significant connection with the U. S. Federal Government). If one went back to the days of the old west, perhaps the term “word bandits” might be used instead of the more academic-sounding term “linguistic escalation”.

2.0 Blurred Distinctions (Strategy versus Tactics).

It is only a slight oversimplification to say that strategy and tactics are designed. Further one may say that the components of strategy are ideas, while the components of tactics are found in the earth and the atmosphere. Thus, e.g., in a manufacturing business, top management is concerned with such things as product ideas, protection of ideas, enterprise locations, distribution channels, finance, recruitment and retention of good people, possible acquisitions and where to obtain raw materials. Those involved with tactics deal with moving materials around, keeping machinery functioning, putting items in boxes, shipping orders, billing, getting payments, paying taxes, and scheduling production.

Strategy. In economics, strategy has to do, e.g., with human roles in a system (but not merely as consumers), definition of the system or systems that are involved in exchanges, anticipation of changes that may take place in those systems, understanding system dimensionality, understanding what can be controlled and what cannot, knowing what is

available as outputs and what is potentially available as inputs; understanding competitive forces. All of these matters involve definitions of components of a situation, of interactions among the components, and of classification of components into categories.

Definition, structuring, and classification are the principal activities carried out in strategizing.

Tactics. Tactics are primarily concerned with understanding the performance of a situation once it has been defined, structured, and classified; so that a course of action can be prescribed.

Origins of Input to Tacticians. There are basically two pure routes for tacticians to get their inputs. One is from theory supported by statistics. This is the commonplace way in which economists presently work. This is why economists typically fail in their predictions and activities. The other way is by strategic design or strategic description. If the system or situation has been subject to strategic design, it is much better understood than if it is simply dealt with as a theoretical object with statistical data. But even if it has not been strategically designed, it can still be strategically described, whereupon the tactics can be applied to the situation as it is rather than to some entity that only existed in some theoreticians' mind.

3.0 Mathematical Myopia.

Economists understand mathematics to be of three types;

a) Discrete mathematics: arithmetic
b) Continuous mathematics: differential equations
c) Statistics (and maybe probability)

They do not understand that there is a mathematics of formal logic.

Formal logic is the natural mathematics of strategy. Because economists evince no understanding of this, they cannot know how to cope with strategy. Since they know how to deal with the three types mentioned, the challenge they face when they aspire to offer advice on strategic issues, and for which they use linguistic escalation to position themselves, is to make a giant leap from the kind of thinking that is endemic to the three types, over into the domain that is represented by formal logic.

This kind of leap is impossible, as has been demonstrated repeatedly, by a combination of experiments conducted by the empirical behaviorists of the second half of the 20th century and by the author and his colleagues in working with issues of complexity.

The conclusion is that the economists have successfully ascended into positions of power by using such acts as linguistic escalation, only to find themselves manifestly unprepared for such positions as has been demonstrated conclusively; this because they have not studied the appropriate kind of mathematics, nor the relevant concomitants of this type of mathematics.

4.0 Absent Graphics.

One of the findings that is emphasized in the Warfield Sextet is that a combined prose-graphics language is necessary in order to describe problematic situations of the type that is increasingly encountered in economics systems. The necessity arises because of the complexity that exceeds the capacity of individual human beings to master. It is shown repeatedly in the Warfield Sextet both theoretically and by numerous examples drawn from many walks of life that group work can produce such graphics, based on computer-assisted application of formal logic. This work is done by groups of people working with an experienced staff led by a facilitator who is familiar with the underlying science.

As the final work in WS illustrates, examples are drawn from the private sector, the public sector, the social sector, and the education sector; and from several continents; with

leadership drawn from several countries. This variety is necessary to establish the scientific character of the empirical work which attests to the appropriateness of the theoretical base. It also establishes the existence of what C. S. Peirce called a “community of scholars” which, together with the other essential aspects, makes clear that what is present is, truly, a science.

Before economics can be called a science, the following conditions must, then, be satisfied:

1) Recognition must take place that what is involved is a system.
2) Because it is a system, economics requires a systems science.
3) Because a systems science now exists as shown in the Warfield Sextet, either economists must embrace it or they must explain why it is dominated by some other systems science which they must now reveal.

Point 3) becomes a necessity because of the troubles imposed upon society by the actions of economists, who now owe an explanation of what scientific basis has supported the decisions that have been made, and why they have not examined the Warfield Sextet up to this point in time.

5.0 Hermit Mentality. Like many academic disciplines, economics enjoys what can be called a hermit mentality. Various terms have been used to describe such a mentality. Among these, the term “stovepipe” seems to have considerable currency. At the root of this behavior lies academia, where the royal road to increased salary, prestige, and promotion lies in publication in those favored and specialized journals, which means to the exclusion and neglect of others.

The French scholar (apparently the subject of much criticism by his fellows) Michel Foucault came to the University of California Berkeley about a month before his death for interviews from the anthropologist Paul Rabinow. In discussing a difference between the

physical sciences and the social sciences, Foucault suggested that the former built vertically, so that physical scientists built upon the work of their predecessors; while those engaged in their other fields built laterally, tending to continually spread out.

This was reminiscent of an experience that your author had at the Battelle Memorial Institute in 1972-1973 in studying the behavior of a group to see what could be done with the issue of how to design a large city. After observing a well-informed group of people working for more than a year, psychologists from the Menninger Clinic in Topeka were invited to observe the team at work. Their conclusion was that there were basically two types of people on the team.

The **convergers** were engineers and physical scientists, who were committed to reaching conclusions even before they understood the situation. The **divergers** were sociologists, psychologists and economists, who wished to see the situation expanded in scope and content indefinitely with no aim ever to reach a conclusion on anything.

6.0 Incompatible Variety. Hermit mentality precludes attention to Ashby's Law of Requisite Variety. This finding from systems science requires that the variety of a system to be controlled and the variety of the controller of the system must be the same. When the system variety exceeds the variety available to the controller, this incompatibility opens up the system to instabilities, unpredictability in the large, and manipulation in subspaces–precisely what is presently occurring internationally.

Suppose, for the moment, that the economics community was actually aware of this Law and decided to apply it to the benefit of its members. It would strive constantly to expand the variety of the economics system so as to assure that it constantly exceeded the variety available to the regulators of that system. Several means of doing this could be:

- Expand the variety of "financial instruments", increasing both the types and the expiration dates

- Expand the trading periods, allowing “after-hours trading”
- Convince the legislative bodies to repeal all legislation that constrains trading
- Enlarge the size and number of exchanges, including through mergers
- Decrease the constraints on trading
- Allow those regulatory bodies to police themselves
- Create working groups of government and banking representatives to engage in market manipulation of the type encouraged by Executive Order 12631 mentioned earlier in this paper
- Encourage suppression of the prices of gold and silver by what amounts to massive naked short selling through futures contracts, to convey to the public the impression that markets enjoy an unrealistic degree of stability

Like many findings from science, Ashby’s Law can be used both for ill and for good; thus it can be used to explain how to defeat an economics system design, and how to correct a poor design and create one that can be understood and regulated for the common benefit of its investors.

RESOLUTION OF THE SHORTCOMINGS

7.0 Linguistic Escalation. Form does follow function, and language must follow the necessities of discursivity; i.e., a language is required that is sufficiently consistent to support communication that is scientific in character (WS-6, Appendix 4.). This will require that economics adopt a systems-based language at its foundations, that will support graphics communications. Furthermore it would help the credibility of the field if it would dispense with the “Nobel Prize” designation, which only entices university presidents to misuse their fiscal responsibilities. The greater issue, however, is to align economics with the language and methods of systems science, so that the approximately 70 “schools of economics thought” can be brought under a common tent and rationalized.

8.0 Blurred Distinctions. There exists a published, complete description of a successful

systems-science-based strategic system design that can be taken as a prototype (Staley and Warfield, 2006). This system, designed in 1995 and implemented in succeeding years, is still in operation across a system involving hundreds of thousands of people.

The design begins by identifying the problems that the system is expected to resolve. More than a hundred such problems were anticipated by a working group drawn from across a large organization. Working in a total of less than two weeks spread out over several months, the design was than fed into the organization, which developed the tactical details and continued to modify the tactics in ensuing years as technologies advanced that could be used to enhance the implementation of the strategy.

9.0 Mathematical Myopia. The details of the underlying mathematics, based largely in the theory of relations are found first in WS-1 and repeated later in WS-5. The software for implementation has been in use in many places since first implemented in 1974. It can be downloaded free from several web sites. Please see the contents of this URL:

http://www.gmu.edu/departments/t-iasis/ism/ism.htm

The software and a user guide may also be downloaded free from this web site:

http://www.jnwarfield.com/index.htm

The User Guide is available in an Appendix to WS-3, which can be downloaded free from that web site.

10.0 Absent Graphics.

While various graphics from different applications are shown in several of the books in WS, there is a collection in WS-4 of graphics from a wide variety of numerous applications in an Appendix, ranging from applications to the study of declining membership in the Church

of England to treatment of women in Liberia to changing situations in defense logistics for the Joint Chiefs of Staff because of the end of the Cold War, to striving for peace on Cyprus.

These graphics are included to illustrate why it is necessary to have joint prose-graphics communications to develop insight into situations involving complexity; and that there is essentially no limit to such situations as long as complexity is present.

Further, they illustrate the capacity of the systems science to be applied in these various situations in different countries on different topics.

11.0 Hermit Mentality.

The situation involving the Large City Design Team was mentioned to illustrate the requirement for group process with appropriate methods to capture the integrated knowledge of well-informed individuals. But group process also requires that the scholarship of the twentieth-century behavioral scientists who did empirical work on pathologies such as groupthink be incorporated. WS-4 emphasizes this as does WS-2, while WS-3 illustrates how this work is integrated into the processes.

It was partly from experience with the Large City Design Team that I reached the conclusion that if complexity was ever to be overcome it would be necessary for groups to be provided with a process that would enable them to have what could be called a maximin experience. There would be a maximum of process discipline, but no restriction of content within that discipline, other than that occurring by virtue of the agreed-upon context. This concept fits well with the idea that freedom is necessary for creativity while constraint is necessary for results.

Ultimately the triad: context, content, process became a guiding triad. At the outset of a project, context received substantial small-scale strategic effort for precise definition and

acceptance. But once context was established, role definition became a key. The process role became a staff function to be carried out by process experts who would not invade the content area; while the content area became a local function to be filled by client experts who would not invade the process area. True, there would be boundaries, but these would be worked out in the form of “triggering questions” to be designed jointly by the process staff and the client broker and agreed to by all who are to be involved, before any group work begins.

The effort that finally produced the systems science is described in an appendix to WS-6, where a journey through a variety of disciplines, and the collaboration of many people in different countries who arose “out of the woodwork” to provide encouragement and to work with what was developed, helped cement this work to the point where it now stands as the result of an international effort to help resolve complexity wherever it spreads its wings.

It spreads its wings now in economics, and it is time for economists to recognize that they have waiting for their attention powerful methods that they should begin to apply.

One economist, Kenneth Arrow, did apply the theory of relations in his personal journey in economics many years ago. As far as I know he is the only one that did. In the physical sciences one individual has applied this 1847 work, that being George J. Friedman (retired as chief technical officer from the Northrup-Grumman Corporation). Apparently it is hard for this 1847 theory of relations to gain a foothold in an era when large number of relationships apply in virtually all large systems; and only human self-interest stands in the way of admission that no individual commands the insight required to comprehend these systems. Even though this is true, it is still true that some few with privileged access can manipulate small portions of these systems in ways that benefit largely their private interests.

One aspect that greatly facilitates manipulation is avoidance of any attention to Ashby’s

Law of Requisite Variety.

12.0 Incompatible Variety.

By enabling those who are constantly redesigning the economics system via the powers they enjoy through the political system to continually expand its variety, an understanding of Ashby's Law of Requisite Variety can, in effect, become a tool of those who wish to prevent the vast majority of the public from having access to a free market; while at the same time enabling a small group of economists to enjoy the benefits of access to private information and the ability to control economic action in small subspaces of the system, enabling them to enrich themselves at public expense.

It matters little whether they know of Ashby's Law or not. Probably they do not know of it, but in any case it serves both to explain what is happening, and to emphasize what would be required to correct the system.

Probably the natural inclination of bureaucrats who become familiar with Ashby's Law and wish to take action would be to create a massive regulatory bureaucracy. But the most evident resolution of the situation is to scale down the size of the marketplace to a manageable size; bring down the size of the economic institutions so that none of them are too big to fail; make them all transparent; and match the size of the banking institutions to what can be regulated with reasonably sized regulatory agencies.

It would be appropriate to allow futures trading as it was originally conceived, to protect farmers from unpredictable effects of weather; but to remove futures trading from all other areas. In other words, the marketplace should not be allowed to remain what it has become: a casino where gamblers dominate it to the exclusion of its original purpose.

For those politicians whose continuance in office has grown to depend on the operation of such a casino, it would seem that it would be necessary to find some other source of support. Perhaps a public that would actually begin once again to appreciate the

legislative branch could also begin once again to support political actors.

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