SOME MAGNIFICENT ACADEMIC TRUSELS AND THEIR SOCIAL CONSEQUENCES

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[1]IASIS is part of The Institute of Public Policy (TIPP) at George Mason University.

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ABSTRACT

A "trusel" is an idea or a finding that is widely perceived to be true, but which is largely useless (or even of negative value). (The idea that a truth may lack value may be disturbing, but it is true, although it is not a trusel.)

A "Magnificent Academic Trusel" is one that has been widely acknowledged for its intellectual content (explicitly or implicitly), but without a corresponding amount of attention being given to its utility or even to its potential negative value for society. The negative value may come from commission or omission. It may deal with the content of a discipline, with the way a discipline is perceived, with knowledge that cuts across disciplines, and even with "integrative studies".

Some selected trusels with possibly serious social consequences will be discussed. Among these are Gödel's Theorem about incompleteness of languages, the idea that "interdisciplinarity" should have an important place in the language of academia, the thought that in teaching language the prose form alone is of great value and should command most of the teaching attention and resources, the idea that mathematics is a science instead of a language, the idea that it is all right to use the name "science" indiscriminately to name academic programs (such as "management science" and "computer science") without any stated criteria whereby this nomenclature is validated, and that people with little or no "academic track record" should be given significant power to allocate academic and research resources, or to make key public decisions affecting higher education.

Examples of serious and inappropriate consequences that have ensued from such trusels will be discussed, and a strategy for dealing with them in the future will be offered.

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1.0 Focus and Assumptions.

This paper focuses upon the status of formal academic programs, suggesting that these programs can be dramatically improved by taking advantage of various thoughts that provide a basis for such improvement.

I begin this discussion by providing a set of assumptions (i.e., suppositions made consciously for the sake of argument) that activate the analysis to be given in the paper.

Assumption 1. **Bounded Content.** The content of formal academic programs is bounded, and cannot possibly include all proposed or candidate material.

Assumption 1 is equivalent to (i.e., interchangeable with) the following Assumption.

Assumption 1A. **Choice is Essential.** Necessarily the content of formal academic programs involves choices of what to incorporate and what to leave out.

Assumption 2. **The Academic Establishment Chooses.** The content of formal academic programs is determined by faculty and administrators, operating under various criteria, some of which are imposed by legal systems, but most of which are imposed by the faculty-administration complex (hereafter designated by the term "***academic establishment***").

Assumption 3. **Some Content is Displaceable.** Formal academic programs ***include*** some content that is inferior to other content that is ***excluded***. (The inferior included content hereafter is designated as "***displaceable***".)

Assumption 4. **Excessive Displaceable Content.** The displaceable component of included content is excessively high.

Assumption 5. **Changing the Establishment's Thinking.** Displaceable content appears in academic programs for a significant variety of reasons, and if this content is going to be displaced it will be necessary that the academic establishment embrace at least some of the following ideas:

a. It is appropriate to carry out ***systemic analysis*** of content to determine whether it is displaceable or not
b. It is appropriate to consider candidate ***bases*** for such analysis.
c. It is appropriate to consider candidate ***processes*** for performing such analyses, and to evaluate candidate processes in relation to candidate bases.
d. One of the key reasons for the presence of excessive displaceable content is ***failure by the academic establishment*** to embrace items (a,b, and c).
e. Another key reason for the presence of displaceable content is the ***absence of processes*** for evaluation tied to bases for such evaluation that have academic credibility. (The absence of such processes is one way to account for failure of the establishment.)

Assumption 6. **Change is Possible.** If processes can be set forth that have credible bases, and if it is feasible to carry out these processes in academia, the establishment will be responsive to such processes, and will apply them to replace displaceable content with superior content.

Assumption 7. **Unrecognized Relevant Options are Available.** Certain relevant scholarly domains contain the necessary bases and describe relevant processes.

2.0 Diagnoses.

Various diagnoses and prescriptions emanate from the literature. Because discussions of the type to follow often may lack appeal stemming, in part, from dryness, an effort will be made to liven up the presentation with some moderately colorful language. From among the various diagnoses, the following four account for the presence of much of the displaceable content of formal academic programs.

2.1 Diagnosis #1: Kenneth Boulding and the PIPS. Part of the diagnosis pertaining to displaceable content of formal academic programs can be found in Kenneth Boulding's discussion of Poor Intellectual Productivity (PIP). According to Boulding [1], poor intellectual productivity has three principal origins or Sources: unproductive emulation, spurious saliency, and cultural lag.

Unproductive emulation refers to what might be called "global academic groupthink" (GAG), a particular species of groupthink [2], in which one postulates that there are some truly outstanding academic institutions, and that those institutions who aspire to share in the greatness should emulate the outstanding ones.

Spurious saliency refers to what might be described as allocating importance to content that far exceeds the proper allocation.

Cultural lag refers to major time delays in assessing and implementing advances.

2.2 Diagnosis #2: Structural Incompetency Virus. Part of the diagnosis pertaining to displaceable content of academic programs is that academics (both faculty and administrators) suffer from SIV, the Structural Incompetency Virus. This affliction was discovered in group discussion extending over a prolonged period by a group of program managers from the U. S. Department of Defense. It refers to a situation where, no matter what talent a person has, no matter what intelligent action a person might bring to a problematic situation, no matter what insights could be applied to resolving crises, the individual is precluded from exercising those talents and insights by virtue of the organizational structure in which the individual is embedded. In the Department of Defense, a significant part of that organizational structure is the vast set of laws and regulations (confusing, contradictory, and almost unlimited in amount), along with the unpredictable micromanagement imposed on the program managers

by an overstaffed array of bureaucrats, legislators, auditors, and comptrollers. The extent of abuse of their various authority is commensurate only with the absence of responsibility for the mindless impact of their unpredictable and uncorrelated interventions.

2.3 Diagnosis #3: Underconceptualization Stemming from Defective Presuppositions. Part of the diagnosis pertaining to displaceable content of academic programs is that the application of power in making choices is based on ***underconceptualization*** stemming from defective ***presuppositions*** [3]. The application of defective presuppositions apparently is at the root of a great many bad decisions made by managers of all types, including those in the academic establishment. The defective presuppositions are quite frequently not articulated (often because they are buried in the subsconscious), and consequently cannot be corrected through discussion.

Underconceptualization is a kind of system concept in which matters of considerable importance to some particular content are ignored, leading to a sub-conceptualization originating in the defective presuppositions.

2.4 Diagnosis #4: The Attraction of Magnificent Academic Trusels. A "trusel" is an idea or a finding that is widely perceived to be true, but which is largely useless (or even of negative value). (The idea that a truth may lack value may be disturbing, but it is true, although it is not a trusel and probably will not be thought to be magnificent.)

A "Magnificent Academic Trusel" (MAT) is a trusel that has been widely acknowledged for its intellectual content (explicitly or implicitly), but ***without a corresponding amount of attention being given to its utility or even to its potential negative value for society.*** The negative value may come from commission or omission. It may deal with the content of a discipline, with the way a discipline is perceived, with knowledge that cuts across disciplines, and even with "integrative studies".

Academia is an environment where two main things go on as the defining part of the image that characterizes academia. These are: (a) faculty actions, involving the advancement of thousands of ideas to a student clientele (whether formally in the classroom or informally in the research environment) and (b) administrative actions involving the imposition of dozens of decisions that affect faculty-student performance and morale.

For reasons that are widely understood and accepted, the advancement of particular ideas is almost never subjected to prior scrutiny for evaluative purposes. Thus the concept of "quality control" in academia is weak, at best, and there is little likelihood that this situation will ever change through administrative action alone. Any attempt to "police" faculty utterances in the classroom will meet with deserving scorn.

Because the life of the faculty member in an academic institution is often hectic, and usually involves high motivation and long hours, administrative decision making seldom is much affected by the busy faculty at large; although some token representation is usually to be had.

Administrative rhetoric constantly reminds the faculty (much to the satisfaction of the faculty, who like to have this fiction sustained) that the faculty comprise the ruling body, when all the while the administration is making those decisions at will that often reflect biased and uninformed opinions about what is going on in the complex institution called a university.

In an environment of this kind, where a faculty member can say almost anything in a classroom without fear of being called to account; and where there is an administrative-faculty tacit agreement that the administration can rule indiscriminately where it counts the most (i.e., in budget allocations), it is inevitable that severe abuse can take place both with respect to the propagation of knowledge and to the individual faculty member.

If constructive change is ever to occur, it seemingly must involve a change in the mental models of the faculty leading eventually to a different view of academic administration, and a meeting of the minds that allows academia to evolve to a higher level of respectability.

3.0 Prescriptions.

Just as there is variety in the diagnoses, also there is variety in the prescriptions.

3.1 Prescription #1: Thinking in Sets. It has been suggested that one of the major improvements in thinking about thinking is to begin to apply consciously what are called the "***golden triads***", i.e., sets of three ideas that are applied collectively and integratively [3,4]. One of the most valuable ***golden triads*** is the triad: {***CCP***: context, content, process}. Another is the triad: {***PPF***: past, present, future}.

The ***CCP*** Triad may be fruitfully applied in inspecting MATS. Many of the MATS derive their popularity and stature from their content alone. If, however, they are examined seriously in terms of context and process, and at the same time they are examined in terms of the ***PPF*** Triad, new perspectives may be gained that will displace them from formal academic programs. This idea will be illustrated later in this paper.

3.2 Prescription #2: A Conscious Attack on the PIPS. A conscious and continuous attack that defuses the PIPS will pay major dividends.

First of all, one observes that if those presumed outstanding institutions were really deserving of emulation, they would not have been major players in creating the problematic situations that require correction. To emulate institutions whose players have been active in producing major crises of the times cannot be a sound goal.

Second, one observes that spurious saliency can be systematically attacked if thinking in sets is practiced, wherein saliency can be systematically studied by comparing relative saliency of displacement candidates along with proposed new entries.

Finally, because the elimination of cultural lag requires action to effect future change, institutionalization of a part of academia that makes the study and design of the future its business (i.e., the "Horizons College"[11]) will help.

3.3 Prescription #3: Heeding The 3 P's. Three individuals whose names, coincidentally, start with the letter "P", have had a lot to say that is relevant to academic content. The three P's are Peirce [5,6,7], Percy [8], and Perry [9].

From the tremendous array of contributions by Peirce, one may note especially the Pragmatic Maxim. The Pragmatic Maxim assigns meaning to an idea based on its consequences. One of the many ways the Pragmatic Maxim can be applied is to the study of the likely consequences of keeping a particular MAT in formal academic programs. In using the Pragmatic Maxim in this way, its use may be combined with the use of the ***CCP golden triad***, where the ***contexts*** pertinent to the MAT can be evoked along with ideas about the ***processes*** that relate to the MAT. Explorations of this type may change completely the way the MAT is viewed, and lead to its displacement and replacment with related but much more substantive content.

Walker Percy drew heavily on other aspects of Peirce's thought when he discussed the "San Andreas Fault in the Modern Mind", and tried to inject remedial thinking into the domain of the human sciences. Percy referred heavily to Peirce's ideas about the importance of triadic relationships, and especially to the ***golden triad*** {***HRN***: human, referent, name}. When combined with the discussions of human systems by Vickers [10], a new perspective can be gained on issues having to do with revision of human belief systems that account for the presence of displaceable content in formal academic programs. The contributions of Percy and Vickers relate to increasing human sensitivity to the impact of their use of language and to its role in sustaining the expectations that people have when they are in close association with one another in organizations.

Ralph Barton Perry provided a ***golden triad*** that asserts the three main objectives of education, very briefly described as: {***IPC***: "inheritance", "participation", and "contribution"}. These three objectives align precisely with the ***PPF*** triad. More importantly, they provide part of the critical basis for assigning value to content in formal academic programs. They have also been discussed in connection with the notion of "great university" [11].

3.4 Prescription #4: Salk Intellectual Vaccine. The Structural Incompetency Virus (SIV) can be treated successfully with the Salk Intellectual Vaccine (SIV). This treatment refers to the "merging of intuition and reason" that has been explained, motivated, and recommended by Salk [12].

The Salk Intellectual Vaccine amounts to a ***silver dyad*** {***IR***: intuition, reason}[3]; i.e., the normative idea of sustaining an inseparable connection between intuition and reason, whereby articulated steps are taken to ensure that each of these reinforces the other in conceptualizing, diagnosing, and prescribing change.

3.4.1 Western Logic. Reason, as distinct from intuition, has no apparent referent in the literature other than formal logic. It is probably inappropriate to insist that only Western logic be the basis for thought, but at the present time it is the only formal logic that is susceptible to application to complex systems with "bookkeeping" assistance from the computer that allows the formal construction of logical patterns [13]. In this way it enables the embedding of intuitive thinking in logical patterns which, in turn, allows the mental integration of intuition and reason.

Western logic is very closely allied with the study of linguistics and with the use of language to communicate between human beings of different backgrounds and talents. Many references are available that are germane to the merging of intuition and reason [14,15,16,17,18].

3.4.2 The Constrained Person. Freeing the individual from the deadly impact of organizationally-imposed constraints can be abetted by understanding better how those constraints can affect behavior. There are institutional shackles and there are problems imposed due to excessive cognitive burden. Downs [21] goes to great lengths to show how individual behavior is shaped in bureaucratic organizations, and Etzioni [22] discusses at lengths the impact of overload. Forewarned by these insightful sources, the individual can see the importance of building personal defensive shields against the intrusions of the organization that produce Global Academic Groupthink, and begin to edge into a more constructive behavioral pattern.

3.5 Prescription #5: Probing Ideas Systematically for Contextual Implications. When a single concept is automatically accepted without analysis, or when a trusel is lifted up to a prominent position unwarranted by its attributes, a prescription is required that enables the individual to escape from these forms of behavior. Such a prescription is found in the study of contextual implication.

Contextual implication apparently was the principal province of the studies of the English philosopher Collingwood [21]. In his studies of questioning (i.e., of inquiry), Collingwood asserted:

> *Whenever anybody states a thought in words, there are a great many more thoughts in his mind than there are expressed in his statement. Among these there are some which stand in a peculiar relation to the thought he has stated; they are not merely its context, they are its presuppositions.*

Peirce asserted that all inquiry begins with doubt, the origin of inquiry. In Collingwood's reference frame, doubt can be entertained by exploring the contextual implications of the concept or statement about which doubt has been engendered.

In our present context, it is the mode of behavior that allows displaceable content into formal academic programs which is at the focus. Antidotes to this behavior are, in a sense, both technical and ethical. The technical aspect has to do with the integration of intuition and

reason (through formal logic); while the ethical aspect has to do with the value base from which such behavior stems.

3.5.1 Logical Context. There is a logical context within which contextual implication can be explored, and there is also a humanistic context. The former has been explored by Ketner [22] and Dykstra [23]. The latter has been explored by Hungerford [24]. Together these explorations offer new insights into what might be called "establishing a high quality of communication".

3.5.2 Humanistic Context. Hungerford's analysis [24] is concerned not so much with the pure logical aspects of the presuppositions attached to a statement of question, but rather with what a human observer can legitimately be expected to take for granted in looking at an expression. She includes in her thinking the concept of a "normal act of stating", which introduces ethical considerations into the dialog.

4.0 Inquiry Concerning Specific Trusels.

Trusels can be deeply examined in the light of the foregoing prescriptions.

4.1 Magnificent Academic Trusel Number One. Magnificant Academic Trusel Number One, is asserted to be ***Gödel's Theorem concerning the incompleteness of language***. There may be a reader who has been imprisoned for 60 or 70 years and is only now returning to society. For this reader, let us say that this Theorem is about the incompleteness of a formal language. In superficial terms the Theorem states that ***any substantive formal language will enable propositions to be formulated in that language whose truth cannot be verified within the limits of that language.***

Going beyond this statement, if one foolishly tries to deal with the unprovable statements by constructing a new formal language (which inherently must overlap the first one in order to enable the retention of the unproven statements) specifically in order to prove those statements, the adventurous researcher finds that now a new set of unprovable statements arises in the new formal language, and so on.

Thus academia is confronted with the thought that some ideas must always remain unproved. Rorty's [7] penetrating analysis shows how Peirce and Wittgenstein shared the point of view that "vagueness is irreducible", i.e., that "language is incurably vague, but perfectly real and inescapable." This argument is the key to the acceptance of formal logic without accepting logical positivism; for it is another way of saying "let's do the best we can, recognizing that there will always be an irreducible vagueness about our thinking; but that this vagueness deserves no special saliency or homage; only acceptance after we have done everything we can to minimize it."

[The magnificence of this trusel doubtless can be shaken somewhat if one observes that every object language in

mathematics uses terms that are undefined in the language as the basis for proofs. Thus every proof is only as valid as the individual's interpretation of the undefined terms. Moreover, nothing can ever be proved about those undefined terms without leaving the language. These ideas were undoubtedly known to Euclid, who applied them in his geometry.]

What are some of the social consequences of this MAT?

To respond to this question, it is appropriate to report on the consequences of some research that was carried out to see what the status of high-level academic thought was before this theorem was reported, and to compare the status then with the status at the present time when this trusel is dug into the academic trenches.

Before the appearance of the trusel, Whitehead and Russell had produced the Principia Mathematica, as part of a quest to show that all of mathematics could be developed from a beginning in Western logic. After the publication, such distinguished scholars as Lewis and Langford [15] extolled the work and pronounced its great significance. Also after that time, the study of logic in relation to human reasoning attained much prominence in academia. (For example, at the University of Illinois in the twenties and early thirties, two courses in logic were required as prerequisites to graduation.]

After the Gödel Theorem attained its prominence, academics mentally downgraded the significance of the work of Whitehead and Russell, and courses in logic gradually disappeared from most academic programs.

Over time, as a result, what could have become a formal academic routine of integrating intuition and reason (especially in the human sciences) became instead a matter of largely ignoring the reason component and putting heavy emphasis on the intuitive. In this way many of the "experts" of today were allowed to emerge. Many of the social problems of today can be traced to intuitive decisions by these experts.

4.2 Magnificent Academic Trusel Number Two. Magnificent Academic Trusel Number Two (possibly it should be exchanged in "rank" with Number One) is this: ***The concept of "interdisciplinary studies" deserves to be at or near the top of academic priorities.*** For those who have been away, there is a considerable subset of academia that takes seriously the thought that learning which is hampered by rigid disciplinary boundaries is very unsatisfactory, leaving a huge undone task to the student which might better be handled by the faculty. That is to say, knowledge pieces that ought to be connected in order to help the student gain adequate understanding ought to be connected (at least in part) by faculty, not leaving the task entirely to the student. It is the goal of helping the learner integrate knowledge that gives this concept its status as "magnificent".

While it is probably always possible to find someone who will argue with any position, one suspects that the truth of MAT Number 2 will be acceptable to most people in academia, although those who are discipline-bound may be guerillas in the war to keep this trusel from being translated into widespread academic practice.

What are some social consequences of this MAT?

Unlike MAT Number 1, which produced bad social consequences because it engendered spurious saliency by downgrading the importance of logic in formal academic studies without any substantive reason for doing so, and based entirely on superficial thinking; MAT Number 2 produces bad social consequences because it sustains cultural lag and also because it tends to produce a culture of emulation founded in inadequate exploration of the contextual implications involved.

To be more specific, consider the contextual implications of the term "interdisciplinary". Here are some of the more evident contextual implications:

(1) The knowledge that is important is the knowledge in the disciplines.
(2) The "inter" portion of the term clearly implies some form of interaction, and since knowledge can't interact with knowledge without some form of human activity, it clearly implies that people from different disciplines interact.
(3) Testing to see whether the contextual implications are satisfied simply involves the interaction of people from different disciplines; something which can easily happen at a cocktail party, and which requires no articulated consequence beyond that.

The difficulties with the term stem from these contextual implications, as can be better understood by studying Hungerford's analysis.

The shortcomings of the term can be remedied by recognizing the following set of items:

(1) The knowledge that is important is the knowledge required to flesh out the context of whatever is being studied; and no one can afford to presume that that knowledge is available only from the disciplines; especially no one can afford to presume that for all of the many areas of inquiry.
(2) Interaction of persons from the separate disciplines (or from those, accompanied by persons from areas not formally recognized by academia) is meaningful (according to the Pragmatic Maxim) only in terms of its consequences; and if those consequences do not include the integration of knowledge into newly interpretable forms, only a tea-party type of consequence can be reasonably claimed.
(3) The measure of success in integration will generally be found by looking for ***subsumption***; i.e., for new categories that arise when knowledge from different origins is integrated.
(4) If interdisciplinary studies are to merit significant approval from the community at large, including the academic community, they must demonstrably generate new categories under which varied knowledge is subsumed; which lead to new interpretations not previously available.
(5) The **CCP golden triad** has to be given explicit consideration and status in all such work, because the integration of intuition and reason in content demands a process that can support that integration. Such a process will normally require electronic assistance in the organization of the knowledge into its new forms; and as long as such assistance is not invoked (i.e., cultural lag holds sway), the process of interdisciplinary or adisciplinary inquiry will be limited to those domains where the process of subsumption is elementary.

4.3 Magnificent Academic Trusel Number Three. The third MAT is: ***in teaching language, the prose form alone is of great value and should command most of the attention and resources.*** Clearly this trusel is accepted widely; but accepting it appears to preclude the idea that a certain ***golden triad*** {***PMG***: prose,

mathematics, graphics} should be integratively seen as the basis for teaching people how to communicate. The social consequence of this is that liberal arts graduates can speak beautifully in metaphors while being unable to relate them to details; engineering graduates believe they can communicate with graphics and minimal and poorly-stated prose; most college graduates cannot communicate precisely; and wherever a complex issue arises in society it is likely to remain an issue for decades because effective definition and resolution of such an issue demands communication based in the ***PMG*** triad.

4.4 Magnificent Academic Trusel Number Four. The fourth MAT is: ***mathematics is a science instead of a language.*** It is generally recognized that there are theoretical and experimental sciences. The analog in philosophy involves metaphysics and empiricism. By invoking the MAT, mathematics can bask in the glow that comes from its importance in other sciences, as well as from its positioning with respect to those sciences. Consequently its merit as a set of object languages (not integrated into a language) that need to be integrated with prose and graphics gets lost in the shuffle.

4.5 Magnificent Academic Trusel Number Five. The fifth MAT is: ***it is acceptable to use the name "science" indiscriminately to name academic programs (such as "management science" and "computer science") without any stated or invoked criteria whereby this nomenclature is validated.*** There are very few quality measures that are ever applied in academia. One could hope that academia could get into the posture of applying measures that are congruent with the unique status of academia as knowledge custodian and entrepreneur, without confusing the knowledge entrepreneurship with business venture entrepreneurship. By calling new areas of study "sciences", without providing any basis for doing so, a linguistic degrading occurs that supports the continued inclusion of displaceable content in academic programs.

4.6 Magnificent Academic Trusel Number Six. The last MAT consider here is: ***people with little or no "academic track record" should be given significant power to allocate academic and research resources and to make key public decisions affecting higher education.*** A study of who wields power over academic resources conducted over a period of decades, will reveal that power has gradually devolved into the hands of people without significant academic track records. In one state, for example, a state-created institution aimed at developing technology innovation drew its administration from people that had no experience in technology development, and little if any record of contributing to scientific or technical developments. (One exception to this is the situation in Germany, where scientists elect the people who will represent science to the government from among their own ranks to three-year terms.)

A national institution ostensibly intended to upgrade the status of manufacturing nationwide drew its administration from hucksters who believe strongly in the importance of promotional self-evaluation in lieu of outside evaluation against stated criteria.

People who make university budget allocations often lack any experience in research, and

may have little or no experience in teaching. At the highest level, they may be ignorant of science and mathematics, and while they may recognize the importance of studies that cross organizational boundaries, they not only have no experience in such studies, but do not even know where to go to find people with such experience.

The consequences of such a situation are contextually implied in the foregoing.

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