On the Problem of Dependent People: hyperbolic discounting in Atlantic Canadian island jurisdictions

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Hyperbolic Discounting in Atlantic

Canadian

island
jurisdictions

In celebration of the life of an independent woman!
For my grandmother,[1] Frieda Holley
December 28th, 1917 - November 20th, 2007

20 November 2007

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ABSTRACT

Prince Edward Island's Economics, Statistics and Federal Fiscal Relations Division's *33rd Annual Statistical Review* reports the total value of 2006 fish landings was CAD 166.6 MM. This paper discloses a preliminary finding that the *actual* total value of fish landings for 2006 was approximately CAD 416.5 MM. Furthermore, this discourse submits that this entrenched systemic error has been consistently generated for all 33 years that the *Annual Statistical Review* has been published. Moreover, this systemic error creates a ripple-effect and promotes bias through all relative natural resource valuations. This significant conjecture is presented within an institutional context which serves as the foundation for this error generation, including other errors associated with *The Problem of Induction*. Within this broad context, this paper focuses upon deficient resource valuation methods, especially as they relate to (1) *The Problem of Continental Economics* and (2) *The Problem of Dependent People*. Solutions are presented by contrasting the failure of fishery management methodology and practice amongst dependent Canadian islanders, and the relative success of fishery management amongst independent Icelandic islanders. The possibilities that independent people enjoy higher levels of rationality, efficiency, happiness[2], economic sustainability, general well-being, and are thus, ceteris paribus, less likely to commit errors associated with *The Problem of Induction* are taken into consideration. Likewise, consideration is given to the notion that dependent people are more likely to exhibit irrational behaviour, develop deeper dependencies[3], foster totalitarian governments, and to contribute to a wide-array of systemic errors, such as those which exacerbate *The Problem of Global Warming.*

ABBREVIATIONS:

CAD	Canadian Dollar
EU	European Union
GNP	Gross National Product
GDP	Gross Domestic Product
M	1,000
PEI	Prince Edward Island
SNIJ	Sub-National Island Jurisdiction/Canadian Island Jurisdictions
TPI	The Problem of Induction
TPGW	The Problem of Global Warming
UN	United Nations

FOREWORD

The particular quality of the reflections cast by historical expositions, especially *political* and *economic* expositions, are dependent upon which stones or which seas the searcher elects to illuminate[4]; thus I endeavour to bear in mind that "our knowledge, as well as our ignorance, at any time and on every issue, tends to be opportunistically conditioned, and thus brought to deviate from full truth[5];" or, as an independent man who understands the true value of insularity once observed, "when we chase the shore for treasures the ones we discover are the ones we carry there with us[6]".

We must also endeavour to heed the call of Randall Wallace's (1995) *selective re-creation*[7] of the life of another independent man, and the essence of Scottish independence:

> EXT. MACANDREWS FARM – DAY
> A farmhouse and a large barn lie nestled in a Scottish valley. Riding down the roads that lead in from opposite sides are Scottish noblemen in full regalia...
>
> VOICE OVER (CONT'D)
> Historians from England will say I am a liar. *But history is written by those who have hung heroes* [italics mine].

Yes, all histories are heavily skewed by survivorship-bias as well. *People's histories*[8] are, afterall, quite few and very far between, and this is, of course, because they do not serve institutional needs.

Bearing these disclaimers in mind, the following exposition of Icelandic independence and selected aspects of Canadian dependence is no doubt equally biased; in fact, it may be moreso. I would be remiss to fail to disclose that I have accumulated considerable anecdotal evidence that Babe Ruth spoke a profound truth when, as legend has it, he once noted: "*You'll never meet a rich kid in the majors*." This has been said many times, in many ways: it is an idiom found in every language, in every culture. *Necessity is the mother of Invention* may be the most common iteration, but my favourite is the proverbial Chinese iteration: *Give a man a fish and you feed him for a day. Teach a man to fish and you feed him for a lifetime.* Given my personal experience, however, I would be inclined to rewrite this proverb: *Give a man a fish and you take away the instinctual ability to fish he would have discovered on his own accord.*

You see, my life has been one of rather extraordinary privilege, and I remain ever grateful for this privilege. I believe I may benefit from an independent-minded, global perspective, which I may humbly suggest, would not have been possible without the benefit of this life of privilege.

But the costs have been substantial.

I further submit my greatest gains, most worthy insights, most sensible problem solving endeavours, and happiest[9] moments have been achieved over the past three years, fishing in the North Atlantic, fully engaged in the *Struggle for Life* (Darwin 1859), without the extraordinary benefits *and* extraordinary costs associated with a *dependent* life of privilege.

What I'm attempting to acknowledge here, is that, although this research is submitted herewith in earnest, it may in fact also carry the added bias of a subconscious endeavour (though, upon this reflection, naturally, it becomes quite conscious) to correct *personal errors*. I will leave it to the reader to decide whether my personal bias helps or hinders the following discourse. If there is any truth that "ontogeny begets phylogeny[10]", then my personal bias may prove rather useful.

In any case, (1) conjectures and refutations herewith may be ridden with error[11], (2) they are open to criticism, and (3) my aim is not to convince or even to sway.[12]

I will add one more point before introducing our feature presentation. If this paper should strike you as rather odd or even unorthodox, I suggest that it may be due to the fact that my approach may be unusual and, by design, necessarily unorthodox:

> Since I have neither interest nor intent of adding to the compost heap of refereed journals[13], I believe I may be better positioned to focus on problems (rather than puzzles), and thus possess more latitude to address issues relating to the antithetical *Problems of Complexity* & *Compression*. The BIBLIOGRAPHY, an appendix hybrid, is a product of this liberal degree of stylistic latitude. You may find the sketch of *The Problem of Induction* (Hume 1739) and the solution in (Popper 1959) of use; I will also recommend an overview of the inter-related problems of media production, consumption, and toxicity in Frey, Benesch & Stutzer (2005). Finally, Jarvie & Pralong (1999) provide a key to a significant mystery. I will not digress further, but if you have questions relating to this method, I am happy to forward Funk (2007c), *The Problem of Compression: Logical Errors and Bad Advice from the APA Publication Manual* (Funk 2007f).
>
> You will find copious footnotes, and if you find them useful I may suggest they serve two functions: one

for the reader, the other for the writer. The footnotes provide a map to the logical framework of this discourse: If I have made an error, you may be able to help me by digging into the related footnotes. If I have forwarded an interesting or original idea of merit, the footnotes may be of assistance in the event you have interest in inspecting or following a few of my steps (and if you pause for a moment to inspect the contents of this footnote[14], I believe my modus operandi will be quite clear). I will briefly relate that these stylistic choices are the result of what is essentially an Austrian[15] approach to addressing faulty foundational issues in economics[16](and the social sciences in general), and these stylistic elements evolved through form-following-intended-function: my target audience is academic, but my over-riding objective is to appeal to a wider audience, especially researchers in other so-called 'fields'[17], but also my wife, family members, friends, fellow islanders, fellow fishermen, et cetera). As Mead (1928) related in her preface to the 1961 edition of *Coming of Age in Samoa*:

> My father, who was an unflagging though friendly critic, once told me that I would never again write so good a book as this my first one because, as I grew older and wiser, I would "know too much" and the books would inevitably be harder to read.

If any passages in the following discourse prove difficult to follow, as Montaigne advised[18], blame the writer, not the reader.[19] Again, all criticism is welcome.

INTRODUCTION

> HISTORY SHOWS THAT OUR THEORIES HAVE BEEN WRONG MORE OFTEN THAN RIGHT, resulting in the demise of whole civilizations when we have misinterpreted what is happening to us.…
>
> It would be comforting to believe that humans have been prescient enough to understand what is happening to themselves and act accordingly. But… the way the mind understands the external environment—the beliefs humans construct to explain the external world are frequently incorrect, particularly if the changes are creating really novel situations. And clearly, humans have evolved environments radically different from anything that existed before.
>
> —Douglass C. North, *Corporate Leadership in an Uncertain World,* 2007

As noted in the abstract, the PEI *Annual Statistical Review* reported 2006 fish landings of CAD 166.6 MM, but I submit the *actual* total value for 2006 was approximately CAD 416.5 MM. Although there are two fundamental economic principles[20] in question here, these principles lag far behind even the *second-most* important lesson this analysis has to offer, and we will thus tend to the more pressing matters. Agnarsson and Arnason (2003) offer two key points regarding this lesson of secondary importance in *The Role of the Fishing Industry in the Icelandic Economy. A historical Examination:*

> (1) Expansion and development of the fisheries was the driving force behind Iceland's economic transformation during the 20th century. Yet, the overriding importance of this sector fails to show up in national accounts – such as contribution to GDP and employment statistics –because they do not take into consideration the various ways economic activity in the maritime sectors affects other branches of the economy.… *This ignorance of the true contribution of the fisheries can lead policy makers to underestimate the effects shocks to the fisheries will have on the economy* [italics mine, Abstract].
>
> (2) A misconception concerning the economic importance (in terms of GDP generation) of the various sectors may have seriously detrimental consequences. Global warming, pollution accidents, stock collapses, the erection of tariff barriers and so on may lead to substantial shocks to the fishing industry. If the macro-economic role of the fishing industry is underestimated when shocks of this kind happen—and they will—then it may well be that this underestimate will lead to the adoption of incorrect, probably inadequate, economic policy responses. Clearly, a more complete understanding of the true economic significance of the fisheries will help policy makers in anticipating the economic impacts of fisheries shocks and, thus, increase the chances that the appropriate economic policies be implemented (Ibid, p 14).

Agnarsson & Arnason (2003) propose that their "measurements of the economic importance of the fishing industry in Iceland are also indicative of the importance of the fishing industries in similar fish-based economies across the North Atlantic," (p 14) and that they "expect similar multipliers to apply" (Ibid). I concur.

My PEI 2006 fish landings approximation of CAD 416.5 MM is based upon their generic multipliers; and if the PEI provincial treasury consents to my *Freedom of Information Act* request for 33 years of economic data, then I intend to conduct a more thorough analysis and deliver it in the form of a Master's thesis in Island Studies at The University of Prince Edward Island. And as this discourse unfolds, I trust you may concur that the *relative* importance of the Prince Edward Island fishery (that is, relative to agriculture and tourism) may in fact exert an even *greater* multiplier effect on the PEI economy:

New York food critic Frank Bruni made a trip to PEI this fall, and an article relating this journey appeared in the travel section of the *New York Times* a few days ago. Note that the article was titled *Prince Edward Island: Beckoned by Bivalves* (Bruni 2007), not *Prince Edward Island: Beckoned by French Fries*, also note the article's sole photograph was a lobster fishing boat in Neaufrage Harbour, not an Potato truck parked in the middle of a field. Visitors to PEI go deep sea diving, not deep potato digging, and then head for a bite to eat at *New Glasgow Lobster Suppers*, not *New Glasgow Tator Tots*. Understanding the significance of this *New York Times* article is essential to grasping the essence of *The Problem of Prince Edward Island Economics*: An *increase* in agricultural production translates to *decreases* for both the fishery and tourism (when *The Globe and Mail* headlines *PEI's Killing Fields,* it's bad for business, see Mittelsteadt 2006 ; also see Delaney 2006). A *decrease* in *industrial* agricultural production, however, would result in *increases* for both tourism and the fishery (no to mention lower health-care costs, tastier water, and higher standards of living!

Setting the relevant strength of the multiplier effect aside, however, the actual figure, this 2006 sub-national (provincial) account balance entry, is largely irrelevant, and the basis for this irrelevancy is two-fold. Presently, I will address half of this issue; I trust the second-half will be self-evident by the end of section 3.1.

First of all, what *is* relevant is the value of the fishery *relative* to other economic sectors. David Cairns illuminates this issue perfectly:

> [1] Prince Edward Island's economic mainstay is agriculture, followed by tourism and fishing. Although the fisheries industry annually contributes some US$150 million to the economy…, [2] *it was relatively late in developing and has never gripped Islanders' culture and consciousness in the way that farming has* [italics mine,

Arnason & Felt, 1995, p 98].

Indeed, position [1] appears to be held universally on Prince Edward Island without exception. I have not found a single piece of economic analysis that uncovers Cairn's erroneous conclusion (That is, point [1], above. Point [2], however, is right on the mark). I trust the gravity of this relative mis-ranking will become evident in this discourse, but for now I will merely offer a relevant analogy and offer a quick sketch: the gross miscalculation of the fishery resource (utility) has resulted in a disastrous economic inversion on Prince Edward Island: *The tail (agriculture) is wagging the dog (fishing), and it is wagging it so hard that the dog and its owner (the islanders) are not well.*

Although I do largely concur with Agnarsson & Arnason's (2003) position that *a more complete understanding of the true economic significance of the fisheries* will help policy makers *in Iceland,* I do not believe this position is applicable here in Canada. Although I suppose it is remotely possible that this paper could be of some very limited use to a provincial or federal politician[21], my aim is not (as noted in the introduction) to influence anyone, much less a politician, and this is largely because (1) I believe this effort would be futile, and (2) I have surrendered my *personal* interests in Prince Edward Island (but I do retain substantial research interests). Although I realize I'm giving away the ending, this paper concludes *the deeply entrenched problems facing Prince Edward Island*[22] (and Newfoundland, for that matter) are insoluble, and thus ~~my wife and I have decided to emigrate as soon possible~~[23].

In any case, I trust that you will likewise discover in the discourse that follows, that the island does offer a tremendous, perhaps unsurpassable, opportunity for problem solving. No, this paper was not written for the aid of policy makers or politicians, and although Tom Cruise's *"Who's coming with me?"* monologue from Cameron Crowe's (1996) *Jerry McGuire* does come to mind[24], this paper was written simply for fellow *islanders,* and, if this paper accomplishes nothing else, I hope that it will irrefutably demonstrate that *we are all islanders*.

MF
Stanhope, Prince Edward Island
November 20th, 2007

ON THE PROBLEM OF DEPENDENT PEOPLE

1.0 On the Problem of Fishery Dependence

Arnason (1995) wisely noted that "*the relative success of the Icelandic fisheries suggests that other fishing nations may have something to learn from the Icelandic experience*," (p x), and it is beginning to appear that perhaps even the Icelandic may have something to learn from the Icelandic experience: Conspicuous consumption (Veblen 1899) is spreading over Iceland as quickly as the ice caps are melting, the prospect of EU entrance and, (arguably) EU *dependence* is gaining strength, and the Icelandic people are beginning to adopt the Canadian and American practices of ignoring the warnings of fishermen and fisheries scientists: this year's cod harvest plummeted 45% (Iceland Review 2007). But make no mistake about it: the Icelandic fisheries have perhaps been managed more conservatively, more effectively, and more *rationally* than any other fishery on Earth.

And there is much more to learn from the Icelandic experience: The author of this paper travelled to Iceland[25] twice last summer, in search of the indefatigable spirit Halldor Laxness[26] captured in *Independent People:*[27] it is alive and well, and we submit, the lesson of Icelandic independence offers viable and valuable solutions to three fundamental, relatively significant problems on Prince Edward Island, and, moreover, offers valuable and viable solutions to the inestimably complex and vastly uncertain *Problem of Global Warming*[28].

Arnason and Felt (1995) may be inclined to agree; in the final pages of *The North Atlantic Fisheries: Success, Failures & Challenges*, they

> alluded to a second, more subjective, potential benefit of sovereignty. It is possible that political *independence engenders a certain resolve to make the most of available resources and opportunities*. Such resolve might manifest itself in concrete ways such as programs and policies, and in less obvious forms such as its effect upon collective attitudes. There is some suggestion that Iceland was able to pursue a *highly rationalized* strategy of fisheries modernization, *at least in part because of the collective realization that the society's future well-being was linked to a prosperous, efficient fisheries*. The collective sentiment that there was no larger political unit to fall back on might very well have been instrumental in the pursuit of such a strategy (p 301).

This brings us to a sneak-peak of the conclusion, the weighty first 'end' of our book-ending, the single-most important lesson this analysis has to offer is this: The *collective realization* that the planet's future well-being is linked

to a prosperous, efficient natural resource management, including, of course, the single-largest component: the fisheries.

To place this conjecture in context, consider the following two declarations:

> (1) The major point was that *Iceland depends on its fishing industry more than any other state in the world*.... Its economy is *uniquely dependent on fishing for survival* [italics mine, TED 1997, p 1].
>
> (2) [Iceland is] the *only developed nation* in the world... *dependent on fisheries*" [italics mine, Gissurarson 2000, vol 60].

Icelandic independence offers valuable solutions to the inestimably complex and vastly uncertain problem of human survival on earth largely because these two very widely held assumptions are *false*.

There is not a single economy on earth that is *uniquely dependent on fisheries for survival*, every single inhabitant on earth is dependent upon the fisheries, and the fitness of all other *inter-related* natural resources for survival! In a world of bounded rationality (as opposed to *our* world of bounded irrationality[29]), this lesson would be quite unnecessary, these words mere platitudes, but, unfortunately, *nationalism*[30] is a much greater problem than we seem able to imagine...

3.0 On The Problem of Nationalism

The crux of this discourse may lie in the following assertion from Funk (2007e) *On the Problems of Beauty and Vulnerability: Introducing ~~Island Bioeconomics~~ Problem Solving in an Open Letter to Godfrey Baldacchino:*

> It seems far too many are either unwilling or unable to understand that economics is a *derivative* science, not a *primary* science: Economics does not exist *on* its own accord or *for* its own purpose. 'Economics' was created and is perpetuated to forward subjective, *national interests*, not the search for truth[31] (p 7).

Baldacchino was curious about this assertion and requested clarification: Did Funk (2007e) intend to infer that economics was created and is perpetuated *only* to forward subjective, *national interests?* The answer to this question, for all intents and purposes (in 2007e, and herewith), is *yes*:

> The very nature of economics is rooted in nationalism.... *It would never have been developed except in the hope of throwing light upon questions of policy, but policy means nothing unless there is authority to carry it out, and authorities are national* [italics mine, Robinson 1962].

In its *most* original form (from its origin in ancient Greece through its emergence in the English language in 1530),

economics was what we refer to today as 'home economics'. Here, we are relatively safe to say, national interests were at bay. National interests, however took a firm hold (strangle-hold?) with Adam Smith[32], and this is reflected in 'economics' 1804 etymological evolution as *political economy*[33], but before spinning this thread any further, we should clarify the context of our declaration that economics is a *derivative* science, as this fundamental seems illusive. *Derivative*, in this sense, is not a reference to the relatively well-known (in finance, anyway) financial weapons of mass destruction[34], but rather to Russell's (1928) *Theory of Economic Power*[35].

It seems prudent to bring this to your attention, because few economists are in possession of a complete comprehension of this thoroughly derivative, nationalistic, army-driven nature of economics. Of course this translates to far less comprehension in the other social sciences, and, for all practical purposes, virtually none of the general population. Yes, this generalization is very broad, but the overwhelming continental deployment of nationalistic, free-trade doctrine on small islands, SNIJ's, and small, developing economies may justify this sweeping generalization. I have searched far and wide (see BIBLIOGRAPHY), and I have not been able to find a single working paper or journal article[36] that does *not* prescribe insular economic development remedies *as if these small islands and poor nation states had the continental resources and warfighting capabilities necessary for the successful deployment of such economic agendas!*

Many of these free-trade development plans were put into play on islands (especially the Caribbean) and in other small, developing economies during the late 60's (such as the PEI development plan) and early 70's, popularized by popular advice from the likes of William G. Demas. This continental approach is great for short-term growth, but disastrous for long-term sustainability. Nearly without exception, UN economic working papers directed to the economic development of insular economies continue to exhibit dysfunctional ignorance of this issue. The free-trade continental economic development plan is beginning to take a serious toll on the Caribbean ecology, and, the problem is, there's no turning back; these economies are now *dependent* upon the economic activities which may reduce many, if not most, to ecological (and then, of course, economical) ruin.

Take for example, the following passage, which we have sampled nearly at random (it was the first hit from a

Google query: "small island economic development"). It is, rather ironically, a paper delivered as the third William G. Demas Memorial Lecture at the Caribbean Development Bank by José Antonio Ocampo, Executive Secretary, Economic Commission for Latin American and the Caribbean in the Cayman Islands, on 14 May 2002:

> *These trends suggest that very small developing states are able to strive and compete internationally on the basis of a narrow specialisation*, based on their natural advantages. For developed countries, the size of the domestic market is no longer an obstacle for building up a modern economy and successfully competing in international trade, as the example of small European countries indicates (p 6).

Yes, mathematicians are able to find *trends* to support quite literally anything, including the correlation between sunspots and corn prices[37], and film revenues and sub-atomic particles[38]! This Demas Memorial lecture is no different, and, embodies perhaps the most common misguided mantra: given diseconomies of scope and scale, *you must find your niche*, or simply, *specialize*. I've got some very important news here: That is very bad advice. For every success story there are a thousand failures, and what few success stories there are are typically *over* not long after they're discovered. *A Taste of Small-Island Success: A Case from Prince Edward Island* captures the essence of this problem:

> Smallness and insularity have been traditional markers for the absence of economies of scale, viable markets, labour power and expertise, and business know-how. Loaded with such structural handicaps, small-island societies often are seen as clearly doomed by the accident of geography to eke their way as bastions of protectionism and as targets of interventionist bale-out and hand-out programs (Baldacchino 2002, p 254).

The spirit in this paper is on track, but the logic and methods of the economic analysis rests on a *false and sandy foundation*. *Small-island societies often are seen as clearly doomed by the accident of geography.* This notion is widely held because, from a *Continental Economics* perspective, it is doomed! Baldacchino (2002) falls into the *Demas' Error* trap as well: *Look, they found their niche! It can be done!* Demas' Error plays a role in nearly every Continental economic application to islands and small economies. And yes, quite naturally, The *PEI Preserve Company*, that savvy, successful, resourceful firm that, against all odds, *found its niche…* filed for bankruptcy in May of 2007. All it had actually *found* was yet another provincial employee (whom, if memory serves me correctly, studied economics at UPEI) gullible enough to fall for *Demas' Error (*or *The Error of Continental Economics* or whatever term you'd prefer to

use to refer to pure economic folly). In any case Prince Edward Island (Ottawa) wound up with the two million dollar bill for this *economic development* loan.

However, from an *Island Economics* perspective, the small-island societies are clearly *saved* by the *miracle* of geography. How are they saved? By realizing it may be better *not* to find your niche! Islands must face the nature of their cost/benefit structure: Less violent crime, fewer toxic externalities, cooperative, other-regarding behaviour, and, ceteris paribus, *less monetary gain, fewer employment opportunities, and less significant economic development*. That's the deal, take it or leave it! When islands chase continental economic mirages, such as the pursuit of commercial agriculture (see CBC 2007a, CBC 2007c), sooner or later, they lose money *and* the benefits their pristine islands once offered: through amplification-by-compression,[39] they experience significantly greater pollution-related effects than continental counterparts. The largest bankruptcy in PEI history was a welfare-funded (Ottawa) fish-plant which was built, of course, with the mad delusion of *stimulating economic growth*. *Delusional* really may not even be a strong enough word for it, because what kind of institution would build a plant to process a fishery resource it was working even much harder to destroy? Then PEI built a meat packing plant, which also went belly-up. Unnaturally, they recently bailed it out as well, and although I refuse to commit the prosaic *Economists' Error* of issuing predictions,[40] I will not be surprised if these doors soon close yet again.

I draw your attention to these extraordinary popular delusions for two reasons. First, since I have suggested that the province is so fundamentally confused that it actually believes the *least* important industry is in fact their *most* important industry, I ought to demonstrate the type of systemic dysfunction required in order to hold such an absurd position. Secondly, I demonstrate this error in order to fully demonstrate the effective solution.

The solution is this: Do as little as possible, disturb as little as possible, foster the healthiest environment possible, for that *is* and *should always* be an island's greatest asset. This prescription is not a call to return to the dark ages, but a call to scrutinize, very carefully, what industries, what *imported goods*, are required for a relatively high standard of living. In certain situations, island governments are able to provide protection and benefits that their continental analogues can not. For example: what are the costs and benefits cigarette consumption? The strain on

the healthcare system alone is onerous, and every additional export carries high externality costs. Simply outlaw cigarette sales and smoking and in one fell swoop you protect the environment, protect the islanders, reduce transportation related externalities, and lowered your Irrationality-per-capita rate (smokers, who are by definition irrational agents, will either emigrate or become more rational as they *learn* to adopt rational behaviour). This is but one small example, but, by doing less, you'll actually contribute more to the economy by *sustaining and developing valuable natural resource assets over the long run*. People will emigrate; that will actually *help*. With very little assistance (but a great deal more environmental protection) the island will reach its bio-equilibrium (for all species, including humans). Of course, we do not believe a welfare state would ever request *less* welfare, but, ironically, the province would perform better with less, and, moreover, scaling down instead of up inhibits financial shocks.

Consider the fact that

> the 17th century saw several attempts to develop the Prince Edward Island fisheries through grants made by the French crown for monopoly fishing or sealing rights… *Because of Prince Edward Island's remoteness, its poor north shore harbours*, and political squabbling, *none of these projects was ever realized*. (Arnason & Felt 1995, p 101).

Do you get the picture? From an *Island Economics* perspective, this was an economic *miracle*. The relative access and relative deep water harbours on PEI's south shore have helped turn the Northumberland Strait into a lifeless sewer, but the *poor north shore harbours* have *preserved* the north shore's ecology *and* its economy!

The world-class, protected, deep-water harbour in St. John's served as a fantastic port to facilitate all kinds of economic development, including a manufacturing facility for factory trawlers. The harbour was so economically stimulating, in fact, that they were able to fish the most productive cod fishery on earth to commercial extinction. The inverse situation, meanwhile, played out to the north:

> Compared to Newfoundland, Iceland's domestic fisheries remained at very low levels of effort and catches until the early 20th century… In the period 1905-1909, Icelandic groundfish landings averaged only 48.4 thousand metric tonnes, or about a quarter of those of Newfoundland (Arnason & Felt 1995, p 271).

Once you accept the self-evident reality that man is irrational, doesn't understand his world, despises the sea, and utilizes self-destructive, inductive logic, then the realization that *being behind the development curve has distinct*

economic advantages becomes very clear.

And since this nationalistic element inherent to neoclassical economics is so critical, so debilitating, so counter-productive, and so destructive, we shall paint this picture on a larger canvas with the assistance from a woman who understood the derivative nature of economics perhaps better than any economist, past or present…

3.1 On The Problem of Being a Woman

> ICELANDIC WOMEN ARE STRONG-WILLED AND SELF-SUFFICIENT, BOTH QUALITIES DATING from the fishing tradition, when women organised the home and farm and managed everything while waiting for the men to return; often the men did not….
>
> Since they have maintained their strength and independence, feminism is seen as a backward step, for why accept equality when you have superiority?
>
> —Richard Sale, *Xenophobe's Guide to the Icelanders*, 1994

Joan Robinson was J.M. Keynes' star pupil, taught at Cambridge in the 1930's, became the first female fellow of King's College in 1979, and was one of the most prominent economists of the twentieth century[41]. "Her lack of a Nobel prize has been considered one of the saddest "oversights" of the modern economics profession - or one of the most outrageous cases of deliberate neglect" (Cepa 2007, p 1).

And nowhere is this sadness more apparent than in the clarity of her final chapter, *What are the Rules of the Game?,* in her 1962 publication of *Economic Philosophy*. If this chapter were published today, it would be heralded as 'a brilliant *new* insight!', but of course she was in part marginalized because she was a woman, but also because her *highly rationalized* approach to economics (in a similar fashion that the great 'Austrians'[42] from Menger to Hayek were marginalized) did not serve *academic* and *nationalistic* machinations. The Austrian economists were marginalized by the *Austrian Economics* label in the same manner in which *Ecological Economics* is marginalized from mainstream economics today. The inevitable loss of knowledge is a peculiar, sysiphisian[43] feature of economics, and thus we must briefly turn back time to 1962; without further ado[44],

> Behind the facade of laisser-faire theory the governments of all capitalist nations have boosted trade and production, conquered territories and adopted institutions to help their own citizens to gain advantage. *Free-Trade doctrine itself, as Marshall shrewdly observed, was really a projection of British national interests*.
>
> Never before has so great a proportion of economic energy and scientific study been devoted to means of destruction. We combine doctrines of universal benevolence with the same patriotism that inspired the horsemen of Ghengis Khan….

Internal neighbourliness is won by projecting aggression outside. Many things that would be considered disgraceful at home are justified in the name of national interest. As Dr Johnson said: *'Patriotism is the last refuge of scoundrel'*.

As individuals, we value people for what they give to the world not for what they get out of it. We see clearly enough in each other (though not always each in himself) that outward prestige is a poor substitue for inward content. We see that aggression is a sign of weakness and boasting of a lack of self-confidence. Yet greed, vainglory and oppression are quite acceptable in national terms.

The neo-classical heritage still has a great influence, not only on the teaching of economics but in forming publc opinion generally, or at least in providing public opinion with its slogans. But when it comes to an actual issue, it has nothing concrete to say. Its latter-day practioners take refuge in building up more and more elaborate mathematical manipulations and get more and more annoyed at anyone asking them what it is that they are supposed to be manipulating.…

The very fallacies that economics is supposed to guard against, economists are the first to fall into. Their central concept, National Income, is a mass of contradictions. Consumption, for instance, is customarily identified with sale of consumers' goods, and a high rate of 'consumption' is identified with a high standard of life.…

The fight that has to be put up, for instance, to keep wild country from being explolited for… profit is made more difficult because its defenders can be represented as standing up for 'non-economic' values (which is considered soft-headed, foolish and unpatriotic) *the the economists should have been the first to point out that utility, not money, is economic value and that the utility of goods is not measured by their prices*.

All the same we must not abandon the hope that economics can make an advance towards science, or the faith that enlightenment is not useless. *It is necessary to clear the decaying remnants of obsolete metaphysics out of the way before we can go forward*.

The first essential for economists, arguing among themselves, is to 'try very seriously', as Professor Popper says that natural scientists do, 'to avoid talking at cross purposes' and, addressing the world, reading their own doctrines aright, to combat, not foster, the ideology which pretends that values which can be measured in terms of money are the only ones that ought to count [all italics mine, Robinson 1962, p 117 - 137].

During his acceptance speech for his 1982 Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel, George Stigler noted that the most fundamental problem in economics was the fact that it did not have a *theory of value*[45]. Of course this was both true and false. Economics *could* have a theory of value if it wanted one: a theory of value based upon the *Laws of Thermodynamics,* which has been readily available since the 1880's, but economics did not (and still does not) really want one, because it was founded upon an *antithetical* theory of value: a theory of value based upon the *Laws of Warfighting.* Thermodynamics have been consistently rejected ever since, starting with Menger's (1883) *Investigations into the Method of the Social Sciences with Special Reference to Economics.* However, this and all subsequent objections were readily marginalized and are but hazily remembered as minor 'methods squabbles' footnotes in the history of economics, due to the fact that warfighting nations have always exerted and continue to exert control over the *direction of economics.* I certainly do not mean to infer there is any

kind of conspiracy going on here, as that effort would be quite unneccearry. You see, the dominating interests are *already* perfectly aligned: Warfighting nations exert hegemonic control over economics with the same power principles they use to exert control over everything else: education[46], religion, and the *manufacture of consent*[47].

For example, consider the following news release which came over the wire on Monday, April 16, 2007 at 3:56 PM:

> WASHINGTON (Reuters) - The Environmental Protection Agency said on Monday U.S. greenhouse gas emissions linked to global warming increased 16 percent over a 15-year period. President George W. Bush pulled the United States out of the subsequent Kyoto global warming treaty, *arguing the accord's limit on annual emissions would hurt the U.S. economy* [italics mine].

You see, we can't have a reporter lunge to his feet up and object, "But Mister President, that's not true! According to the *Laws of Thermodynamics,* the Kyoto Protocol will actually *help* our economy," because then the President's job becomes more difficult, and when things get difficult, the government becomes *unstable*.

That's why it is very important for Universities to help the President and leave economics curriculums alone. I asked an economics Professor at The University of Prince Edward Island (we'll keep this relatively confidential) why the undergraduate coursework remained steeped in neoclassical theory while our graduate course falsified the foundations of the entire undergraduate curriculum. He said, quite naturally, so those undergraduates will be well-prepared for graduate school!

May we recall that the 2006 provincial fisheries landing figure was largely irrelevant, and that the basis for this irrelevancy is two-fold? The first reason, we will recall, was due to the fact that the *relative ranking* (industry priority) was more critical than the actual figure. The second reason, we noted, should be self-evident by the end of section 3.1 (we're there), because by now we trust it is understood that the actual figure doesn't really *mean* very much; it has no *value*. If someone offers you $100 'to do something', does that *mean* very much? Of course not, because you don't know what 'something' is. If it's $100 to take the day off and read a good book, well, then that means something. If it's $100 to munch cyanide tablets, well, then, that means something quite different. You see, national/provincial accounts don't reflect the manner in which the revenue was generated, and thus its primary use

is of political nature (a marketing device for nationalistic pursuits). I serves no purpose for social scientists interested in the much less common, *primary* science of economics, those significant-but-marginalized scientists engaged in true economic problem solving.

By the way, the President's statement was, quite sadly, *true*, because economic theory is *false!* Again: *The very nature of economics is rooted in nationalism!*

3.2 On the Problem of Continental Economics

> We cannot immunize the continents and the oceans against our contempt for small places and small streams. Small destructions add up, and finally they are understood collectively as large destructions. *Excessive nutrient runoff from farms and animal factories in the Mississippi watershed has caused, in the Gulf of Mexico, a hypoxic or "dead zone" of five or six thousand square miles* [italics mine, Berry 2005, p 7].

In what we have referred to as *Continental Economics,* (which is, for all practical purposes, derivative, nationalistic, neoclassical economics) the "dead zone" Berry is referring to is a classic example of an 'externality', one of the many 'incidental' items national accounts (such as GNP) cannot be bothered with. It's relatively easy to get away with this on Continents, especially one as large as North America, especially when these externalities generally flow to Mexico, and especially when you are able to ignore and dispel complaints (on this and other minor issues, such as the Kyoto Protocol) with a large army, subjectivism, and manufactured consent[48].

But things are quite different with *Island Economics*, because externalities are more difficult to ignore and less easily flushed down foreigners' throats. When island externalities kill 10,000 fish and cancer rates jump 26% in four years, it's just not that easy to ignore (yet it is amazing to witness to what great lengths people will go to do so, Festinger[49] was definitely on to something). As noted, a good number of very silly economics papers advise small island sovereign nations and SNIJ's to *find their niches* through the lens of *Continental Economics*, but, what they all fail to grasp, *nearly all* of these ill-conceived economic pursuits simply will not succeed *in the long run* (such as commercial agriculture or--simply taking the elementary principles of *location theory* into consideration--manufacturing almost *anything*) unless you happen to possess the means (a standing army or an *extraordinary* competitive advantage, such as Icelandic geothermal resources) to slash your cost-base to third-world rates or

administer economic sanctions to non-cooperative nation states. Funk (forthcoming) presents a theory of value (*Island Bioeconomic[50] Theory of Value)* based upon *relative insularity*, and further synthesizes this natural resource valuation effort within a much broader, macro-economic scope in *On the Problem of Continental Economics: Economic Principles for People Who Live on Islands, Including Inhabitants of Earth*.

4.0 On the Problem of Social Norms

With this rudimentary *Island Bioeconomic* foundation poured, we may now return to explore Agnarsson and Arnason's (2003) suggestion *that political independence may engender a certain resolve to make the most of available resources* and to pursue *a highly rationalized strategy*, and, in doing so, consider the quagmire of social norms. Consider the following dilemma presented in the Foreword to Haywood's 1995 *Penguin Historical Atlas of the Vikings*:

> Recent years have seen great changes in our historical understanding of the Vikings[51]. The traditional image of the Vikings as nothing more than axe-yielding pirates bent on rape and pillage or conquest has been balanced by a new appreciation of peaceful Viking enterprise in the fields of trade, crafts, exploration and settlement.... Some may feel that my approach has over-emphasized the Vikings' warlike activities at the expense of their more constructive enterprises. This... reflects my own unease at the extent to which the importance of violence in the Viking Age has been played down in many recent studies of the period. The Vikings could be a pretty rough crew when it suited them, and it suited many of them very often in the period *c.* 800-1100.

Now, the dilemma this historical exposition presents is the implication that we must first *interpret* what it *means* to be 'warlike', and we must thus dive head-first into the murky waters of *social norms*[52]. Is warfighting a rational pursuit? *We submit that it is.* And what about the Vikings' victims? Were they 'warlike'? *We submit they were* (consider the crusades). Were these 'victims' more or less rational? *We submit they were hyperirrational.*[53]

> We also submit their descendants have inherited this irrationality through genetics and social learning.

4.1 On the Problem of Religion

> The Vikings' victims had little difficulty explaining the raids: they were God's punishment on a sinful people. Archbishop Wulfstan of York expressed this view eloquently in his *Sermon of the Wolf to the English*, written after Svein Forkbeard's victory over the English in 1014:
>
> > Things have not gone well now for a long time at home or abroad, but there has been devastation and persecution in every district again and again, and the English have been for a long time now completely defeated and too greatly disheartened through God's anger; and the pirates so strong with God's consent that often in battle one puts to flight ten, and sometimes less, sometimes more,

> all because of our sins… what else is there in all these events except God's anger clear and visible over his people (Ibid, p 9)?

And we submit the more *highly rationalized contemporary Icelandic fishing strategy* is an evolutionary result of more *highly rationalized Viking survival strategies.*

4.2 On the Problems of Hunting and Gathering

> Modern historians have found the Viking age harder to explain. Land-hunger caused by a growing population has often been proposed as a cause of the Viking expansion. The population in Scandinavia certainly was rising in the centuries before the first raids, and it continued to do so during and after the Viking age.… Scandinavia has relatively little good arable land and it might be expected that the pressure of a rising population would soon be felt (Ibid).

These conjectures may be rather bold, perhaps even controversial, so we should inject an analogy which further illustrates the logical basis for these conjectures. We submit our anthropocentric tendencies marginalize the fact that we are mammals more *like* than *unlike* other mammals. As a result, we tend to neglect the importance and very essence of the *Struggle for Life*[54] (Darwin 1859) with which every single organism on Earth is chiefly occupied. We do not raise morality issues, evoke the questionable existence of God, or engage in debate regarding what it means to be 'war-like' when a hungry lion takes a gazelle from another hungry lion, or, for that matter, when any other species on earth engages in warfighting for survival—with the exception of *man.*

Our interpretation of the Viking history is rather simple: Once upon a time, a pack of hungry, *independent*, and often genetically related mammals, fully engaged in the *Struggle for Life*, went foraging for food. On these foraging excursions, they engaged in highly rationalized problem solving endeavours, *learned*[55] *from their mistakes*, corrected their errors, and recorded these highly rationalized trials and errors which *served as a conduit for highly rationalized social learning and evolution*. (see Magnússon & Pálsson, *c.* 1000 A.D.a, 1000A.D.b). Over time, a *theory of value* evolved which encourage literacy for all, which fostered independent-minded, rational individuals. The Vikings did eventually accept Christianity, but they have never taken it too seriously. Helgi the Lean claimed to be a Christian, "but invoked Thor in matters of seafaring and dire necessity" (Haywood 1995, p 33). Laxness (1946) sums up Icelandic rationalism, healthy scepticism, independence, and position on Christianity all in one fell swoop:

> You should beware of believing things you see in books. I never regard books as the truth, and least of all the Bible, because there's no check on what they can write in them. They can spin lies as big as they like, and you never know, if you haven't been on the spot.....
>
> "The story can say what it likes for me," said Bjartur sceptically, "but what I'd like to know is this: Who saw Jesus rise on a Sunday? (p 64).

On many foraging quests, Vikings also encountered dependent, irrational people who were less able to defend their food and less able to understand the world in which they lived due to *institutionalized irrationality* which rendered them disconnected from the essence of *Struggle for Life*. They simply could not fathom a *human being* (note the disconnect from the animal kingdom) evil enough to take a gazelle from God (or a solid gold chalice from an unlocked church). *Rational* explanations for these *devilish* deeds were simply beyond their cognitive limits.

How, we may wonder, did these people become irrational?

5.0 On The Problem of Dependent People

> WHEN IN THE COURSE OF HUMAN EVENTS, IT BECOMES NECESSARY FOR ONE PEOPLE TO dissolve the political bands which have connected them with another, and to assume among the powers of the earth, the separate and equal station to which the Laws of Nature and of Nature's God entitle them, a decent respect to the opinions of mankind requires that they should declare the causes which impel them to the separation.
>
> We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness -- That to secure these rights, Governments are instituted among Men, deriving their just powers from the consent of the governed, --*That whenever any Form of Government becomes destructive of these ends, it is the Right of the People to alter or to abolish it, and to institute new Government, laying its foundation on such principles and organizing its powers in such form, as to them shall seem most likely to effect their Safety and Happiness.*... When a long train of abuses and usurpations, pursuing invariably the same Object evinces a design to reduce them under absolute Despotism, it is their right, it is their duty, to throw off such Government, and to provide new Guards for their future security.
>
> —*Thomas Jefferson, The Declaration of Independence, 1776*

Professor Chomsky explains this phenomenon quite clearly: We become irrational and dependent through the surrender of intellectual independence. We foster, maintain, and perhaps even recover rationality through the critical process of *developing an independent mind*[56]. For example, imagine that you are a fisherman, and that you've noticed, over the past several years, that the fish stocks are dwindling. A week or two later, you read in the newspaper that a famous English scientist has assured your government that, despite the grumblings of foolish fishermen, the fish stocks are as healthy as they've ever been. If you feel at ease, relieved to know that your

livelihood is not in danger afterall, and grateful for experts who have been able to discover certain knowledge, then you have surrendered your rationality and independence. If your well water has elevated nitrate levels and, once again, you feel relief when the provincial government informs you those levels *aren't high enough to do any harm,* then, once again, it's time to review Jefferson (1776) and write your own declaration.

How do organisms surrender intellectual independence?

I am unaware of examples outside of the human species, but it is quite common where social cohesion between genetically unrelated organisms is deemed beneficial, which, of course includes the entire human population. It began in earnest with the rise of authoritarian and totalitarian states between 500 B.C. and 350 B.C (Popper 1945), but for the present discourse I'm unable to pursue this issue with any depth, as "the problem has been so thoroughly muddled by Plato and Aristotle, whose influence has given rise to such deep-rooted prejudices that the prospect of dispelling them does not seem very bright" (Popper 1945, Vol. II, p 9). I'll merely offer this snapshot:

> The greatest principle of all is that nobody, whether male or female, should be without a leader. Nor should the mind of anybody be habituated to letting him do anything at all on his own initiative ; neither out of zeal, nor even playfully. But in war and in the midst of peace—to his leader he shall direct his eye and follow him faithfully. And even in the smallest matter he should stand under leadership. For example, he should get up, or move, or wash, or take his meals… only if he has been told to do so. In a word, he should teach his soul, by long habit, never to dream of acting independently, and to become utterly incapable of it.
>
> —PLATO OF ATHENS, *c.* 360 B.C. (Ibid, p 7).

Today, however, the traps aren't as easy to see, but this dependence is primarily propagated through the three inter-related, viral ills (as in self-distributing, such as the word-of-mouth feedback loop phenomena regularly observed in the entertainment industry): (1) media production, (2) media consumption, and (3) media toxicity. And although government, education, and religion play the three primary roles, the media serves as a conduit for all three players. The dependent people living on the dependent SNIJ of PEI are especially prone to fall prey to Authoritarian dominance (especially since over 30% of the populations works for the federal and/or provincial governments), and they are likewise vulnerable to *The Problem of Induction* (hereafter TPI, see Hume, 1739), which

requires submission to the irrational belief in the existence of certain knowledge[57] and gives rise to a great number of *myths* or *systemic and collective cognitive dissonances* (Festinger 1957), such as *The Problems of Religion,* which, for example, held and continues to hold significant populations in the state of cognitive discomfort when faced with the conflicting truth[58] that the bible was metaphor, not natural history[59] (Darwin 1883). We submit the same flavour of discomfort also holds us back from rejecting similar *myths* and accepting truths pertaining to *The Problem of Global Warming.* Weale (2007) offers an excellent insight to the recent evolution (the past 200 years) of the hyperirrational religious delusions which have contributed to PEI's deep discounting of all natural resources, including the fishery.

Dominant and false philosophical (authoritarian) and methodological (inductive) notions which guide academic institutions, government institutions, and, thus, human life on earth, lead us to the ultimately false and irrational sense of certainty which may be rapidly driving us toward the penultimate lesson[60] of TPI.

6.0 On the Problems of Induction & Global Warming

You may be wondering how we propose the independent qualities of sovereignty relate to *The Problem of Global Warming,* so let's sketch an outline of this corollary relationship.

Funk's (2007a) conceptualization of this problem is significantly different than the prevailing conceptualization of the problem, and the detailed development of our theory may be discovered in Funk (2007f). The timeline of Weart's (2003) *The Discovery of Global Warming* begins in Sweden, with Arrhenius' first publication of his calculations of global warming from human emissions of CO_2, and ends in 1988, where Weart notes that "the period since 1988 is too recent to identify historical milestones" (p 206). This may have been marginally true in 2003, but the history of the past four years is surely enough to fill an encyclopaedia. But it is safe to say that the 2007 *Intergovernmental Panel on Climate Change* report (see UNIPCC 2007) represents a fairly unbiased representation of this theory *as it is generally accepted.* Funk (2007a) does not accept this theory. Funk (2007a) also does not accept Weart's assertion that "the [1896] discovery of global warming was…[very] clear" (p vii), because, we submit, that it is not only unclear, it is nearly impossible to discern.

Gillis (2004) detailed various aspects of the totalitarian Greek disdain for the sea[61] (which, we submit, serves as the root of our present disdain for the sea), and Funk (2007f) explored this relationhip between independent and dependent (or, open and closed) societies in *On the Problem of Global Warming: The Brief History of a New & Unpopular Theory in an Open Letter to John Gillis:*

> ***On the Problem of Closed Societies & the Sea***
> Several months ago I wrote to you regarding an essay I had tentatively titled *On the Problem of Closed Societies: Why We Turn Our Backs to the Sea*, and indicated my intent "to follow Popper's (1945) thread… and explore the possibility that gross disregard for marine resources may be rooted in Greek disdain for the chaotic sea."
>
> You were kind enough to reply:
>
> > *Dear Matt…I am not sure that it is just closed societies that turn their backs on the sea. There is certainly a long standing western ambivalence toward the sea that you will want to explore* [italics mine, Gillis 2007].
>
> Of course you're absolutely right about *the long standing western ambivalence toward the sea,* and again, thank you for shedding light on this problem and leading me to Steinberg [2001], because he charts this ambivalence with a master cartographer's precision and clarity. But it does not appear that your definition of 'open' and 'closed' resembles mine, becuase I have only been able to discover a single open society[62] left on Earth: *Iceland*. Steinberg has piqued my curiousity about micronesian societies, perhaps they may be relatively open as well. I'd also be willing to consider the societies of the Hawaiin Islands if we're willing to acknowledge that they represent a society that is seperate from The United States. Because, despite the fact that Popper (1945) traced the rise of closed societies (totalitarian states) from ancient Greece to Nazi Germany, I charge it is not possible to read *The Open Society and Its Enemies* today without being constantly reminded of post-Eisenhower U.S. foreign policy[63] presents a solid case that every nation that trades with the U.S. becomes a de facto closed society through complicity, submission, and co-dependence; thus there aren't many nations left to choose from. Bobby Fisher's personal end-game conflict, which culminated in a series of distress calls to rational sovereign nations for asylum, serves as a great example: Iceland was the only nation *independent* enough (from complicit, submissive, and dependent ties to The United States) to offer Fisher asylum. And speaking of games, are you familiar with the ultimatum game[64]? It's as if U.S. foreign policy consistently offers the world zero, and the rest of the world gladly accepts zero and goes quietly into the night as the U.S. walks away with ten [Note: see this recent recantation[65]]. I will not digress further with a critique of Albert Gore's position on global warming, but if you're interested in that, I will forward *On the Problem of Totalitarian Politicians: An Open Letter to the Nobel Peace Prize Committee concerning Henry Kissinger and Albert Gore* when I find time to finish it this winter. Presently I will only suggest that social change works its way from the bottom to the top (consider the civil rights movement in the United States or the Ghandi-era independence movement in India), not the top, down. By definition, politicians are antithetical to the problem solving process [recall footnote 17].

6.1 On the Problem of Global Illiteracy

> IT IS CUSTOMARY TO SUPPOSE THAT THE BULK OF OUR BELIEFS ARE DERIVED FROM SOME rational ground, and that desire is only an occasional disturbing force. The exact opposite of this would be nearer the truth: the great mass of beliefs by which we are supported in our daily life is merely the bodying

> forth of desire, corrected here and there, at isolated points, by the rude shock of fact. Man is essentially a dreamer, wakened sometimes for a moment by some peculiarly obtrusive element in the outer world, but lapsing again quickly into the happy somnolence of imagination.
>
> —Bertrand Russell, *Sceptical Essays*, 1928.

The Problem of Global Warming (hereafter TPGW) may be accurately described (framed) as the *systemic hyperirrational consumption of all natural resources*.

'Global warming' is *not* limited to the ecological distress induced through the consumption of superheating fossil fuels—this human induced superheating is merely *a single symptom* of far more significant problems which stem from TPI. In short, TPI has generated *attendant myths*[66] and *convenient myths*[67], which encourage men to act irrationally. Irrationality spawns and maintains irrational institutions which manufacture consent (see Herman & Chomsky 1988), drive irrational conspicuous consumption (Veblen 1899), and, moreover, foster hyperirrational resource consumption—which is certainly not limited to the consumption of superheating fossil fuels.

In essence, this problem stems from authoritarian-induced irrationality (which we will refer to as an 'illiteracy') regarding TPI. This general illiteracy in turn generates the three universal and inter-connected illiteracies of TPGW:

I. Land Illiteracy

II. Water Illiteracy

III. Air Illiteracy

Wendell Berry (2005) coined the term we use for the first of the three major facets of this hyperirrational resource consumption: ***Land Illiteracy***.

> The principle problem is that we are "land illiterate." When it comes to "reading" a landscape, we might as well be studying a foreign language. Too many of us don't know our perennials from our annuals, what the signs of poor water cycling are, what an incised channel means, or, simply by looking, whether a meadow is healthy or not (Berry 2005, pp 164-165).

Land Illiteracy leads to *The Problem of Commercial Agriculture*[68], which, to keep things simple for the time being, contributes one-third of TPGW. *Air Illiteracy (*representing another one-third), which leads to the *The Problem of Superheating Fossil Fuels*, is the most commonly understood and vaguely acknowledged component of

global warming, but, this discourse focuses on *Water Illiteracy,* which leads to *The Problem of Commercial Fishing*, we will briefly contextualize two Illiteracies in tandem with an illustration from Funk (2007f):

> ***On the Problem of Prince Edward Island Economics***
> In January of 2006 the Fraser Institute ranked Prince Edward Island the worse Province in Canada for business investment. Though I agree with this assessment, this is by far the least of Prince Edward Island's problems: Prince Edward Island has rapidly emerged as the worse place in Canada—perhaps all of North America—for human life. This gives me little comfort to report, as my wife was born and raised on this island, her respective families (MacDonalds and Campbells, descendants of island Scots from the Hebrides) have inhabited the island for five generations, and we presently call this fine island home.
>
> Toronto's *Globe and Mail* ran a cover-story last winter with a gigantic headline: CANCER: PEI'S KILLING FIELDS, and the article noted
>
> > Prince Edward Island would be a good place to shed more light on the health effects of agricultural chemicals because areas such as Kensington have some of the highest airborne concentrations of pesticides around farm fields in the world, and a sizeable rural population literally living on the doorstep of the spraying (Mittelsteadt 2006 p 1 ; also see Delaney 2006).
>
> Unless you're familiar with the institutional process of *manufacturing consent* (see Lippmann 1922), or were aware that this submissive dependent island state was a closed society and joined ranks with The United States in a long list of totalitarian, failed democratic states, you may be surprised that this in-depth, *Globe and Mail* cover-story headline made scant back-page news in the *The Guardian*. But I wasn't surprised. I didn't even expect the story would appear in *The Guardian* at all.
>
> As you know, Prince Edward Island is the smallest Canadian province with a population of just 130,000 people. However, due to the island's relatively small size, it is the most densely populated province in Canada, and it is *the* most densely populated commercial agricultural region in North America.
>
> And I'm afraid this problem gets worse: Prince Edward Island is also the only province in Canada that is 100% dependent on its groundwater resource, and, quite sadly, it is the only Province in Canada that does not have regulated municipal water oversight. Over one in five wells on this island pumps water into homes which fails to meet Canadian water safety guidelines (which are more liberal than FDA requirements for bottled water, in other words, you're able to drink water at home that would be illegal to sell!). More troubling is the fact that neither federal nor provincial governments test (the provincial water testing lab here on the island is the most limited provincial lab in Canada) or provide safety guidelines for pesticides[69]. It may be reasonable to conclude that PEI has the lowest quality ground-water source in Canada, with the possible exception of northern Alberta (see Dominion 2007).
>
> And thus we begin to see the inextricable relationship between *Land Illiteracy* (*The Problem of Commercial Agriculture*) and *Water Illiteracy* (in this iteration, *The Problem of Drinking Poison*). I will not delve too deeply into this relationship, but consider the fact that the entire south shore lobster fishery collapsed over five years ago, and to date, all focus is on the *economic consequences* of this collapse, not the infinitely more important *environmental implications* of this collapse (my conjecture, which I believe is a rather solitary position on the matter, is that this in-shore fishery was, *at the very least*, significantly weakened by run-off cased by both *Land Illiteracy* and *Water Illiteracy* in *The Problem of Commercial Agriculture*. All of the major fish kills were in south-shore watersheds, it is a very Western display of denial to believe that the pesticides' toxicity vanishes where the river meets the sea. Although the fishery is consistently ranked as the third-most important island industry (behind agriculture and tourism), in a world where rationality prevailed (I hope I am clearly submitting that it does not), it would be quite obvious that both the fishery and tourism

sectors will fail in a toxic environment. And in a sense, of course, residents use the same criteria tourists use when we choose a "vacation destination" to call home: Prince Edward Island also holds the distinction of the only province in Canada with a negative growth rate (negative 9.5%) for single family home sales in 2006. What, you may ask, are the people of Prince Edward Island doing about this grave situation?

The answer is, of course, quite naturally, nothing, because that is what submissive and dependent people do[70]. And that is, afterall, exactly what my fellow Americans do, too:

> We Americans are not usually thought to be a submissive people, but of course we are. Why else would we allow our country to be destroyed? Why else would we be rewarding its destroyers? Why else would we all—by proxies we have given to… corporations and… politicians—be participating in its destruction? Most of us are still too sane to piss in our own cistern, but we allow others to do so, and we reward them for it. We reward them so well, in fact, that those who piss in our cistern are wealthier than the rest of us.
>
> How do we submit? By not being radical enough (Berry 2005, p 21).

6.11 On the Problem of Water Illiteracy

The tremendously influential British scientific philosopher Thomas Henry Huxley.… was appointed to three British fishing commissions. He played a major role in an 1862 commission, which was to examine a complaint of driftnet fishermen, who said that longliners were responsible for their diminishing catches. The fishermen had asked for legislation restricting longlining. But Huxley's commission declared such complaints to be unscientific and prejudicial to more "productive modes of industry." The commission also established the tradition in government of ignoring the observations of fishermen. It reported "fishermen, as a class, are exceedingly unobservant of anything about fish which is not absolutely forced upon them by their daily avocations" (Kurlansky 1997, pp 121-122).

Kurlansky (1997) chronicles the Canadian governments religious faith (pun intended) in Huxley, and, furthermore, the modelling of their fisheries policies on Huxley's authoritarian, inductive logic to the very bitter end: the collapse of the great Newfoundland cod fishery.

> At the 1883 International Fisheries Exhibition in London, which was attended by most of the great fishing nations of the world, Huxley delivered an address explaining why overfishing was an unscientific and erroneous fear: "Any tendency to over-fishing will meet with its natural check in the diminution of the supply,… this check will always come into operation lon g before anything like permanent exhaustion has occurred."….
>
> For the next 100 years, Huxley's influence would be reflected in Canadian government policy. An 1885 report by L.Z. Joncas in the Canadian Ministry of Agriculture stated:
>
> > The question here arises: Would not the Canadian fisheries soon be exhausted if they were worked on much larger scale and would it be wise to sink a larger amount of capital in their improvement?…. As to those fishes which, like cod, mackerel, herring, etc. are the most important of our sea fishes, which form the largest quota of our fish exports and are generally called commercial fishes—with going so far as to pretend that protection would be useless to them —I say it is impossible, not merely to exhaust them, but even noticeabely to lessen their number… *For the last three hundred years fishing has gone on in the Gulf of St. Lawrence and along the coast of our Maritime Provinces, and although enormous quantities of fish have been caught, there are no*

indications of exhaustion [italics mine] (pp 121-123).

Note this final, authoritarian declaration by the Canadian Ministry of Agriculture (italicized above) offers a perfect example of TPI at work in *The Problem Commercial Fishing*. And what is astonishing, of course, is that these errors have not been acknowledged and are in fact being repeated as you read these words (such as the present Barry Group controversy in the Gulf of St. Lawrence).

7.0 On the Problem of Storytelling

> THE HAND-WRINGING LITARY OF WHAT WE HAVE DONE TO OUR HABITAT IS A LONG ONE, and, like most everyone else, I am tired of hearing about it.
>
> I also dislike the feelings of fatalism and powerlessness it sometimes evokes. But I am not without hope, and it's not because I believe in some new technological quick-fix that is just around the corner. Putting more and more sophisticated tools in the hands of deranged people, who are captive to *old stories* [convenient myths], is hardly a solution. *The reason I am not without hope is because I know what great storytellers we humans are, and because I believe we are capable of a new narrative that will get us off this blundering course.*
>
> —David Weale, *Chasing the Shore*, 2007

Are we *capable of a new narrative that will get us off this blundering course ?*

> John Maynard Keynes wrote that his friend Bertrand Russell 'held two ludicrously incompatible beliefs: on the one hand he believed that all the problems of the world stemmed from conducting human affairs in a most irrational way; on the other, that the solution was simple, since all we had to do was to behave rationally' (Russell 1935, Preface).

Thus Weale, Keynes, and Russell charge us toward the third act of this investigation, seeking remedies, elixirs, and conclusions in light of this possible dilemma. So, in this spirit, let us revisit the final moment of an interview first published in *Der Speigel* in April of 1992:

> *Spiegel* Herr Popper, you are nearly ninety years of age and have always described yourself as an optimist through and through. But this interview has struck some very pessimistic notes. Has new knowledge come in the evening of life?
>
> *Popper* Optimism is a duty. One must focus on the things that need to be done and for which one is responsible. *What I have said… is meant to make you and others vigilant. We must live so that our grandchildren have a better life than ours—and not just in an economic sense* [italics mine, Spiegel Verlag 1992].

The Introduction suggested that the lesson of Icelandic independence may offer valuable and viable solutions to the inestimably complex and vastly uncertain problem of the sustainability of life on earth. Do we have reason to be optimistic? To be hopeful? *Are we capable of a new narrative that will get us off this blundering course?*

We trust we are all wise enough to know that we are not wise enough to know. But of coursed we can and must try to do all that we are able to do.

On the Problem of Global Warming: a Brief History of a New & Unpopular Theory in an Open Letter to John Gillis & Ragnar Arnason (Funk 2007f), chronicles one man's ten-year search for such a narrative; this discourse distils modest gains and various aspects of that search over the past four months; and this discourse concludes that the study of islands is primary, paramount, perhaps even utterly necessary for human survival. Islands serve as lighthouses, as *synecdoches*[71], as economic models far more representative and descriptive than mathematical models[72] (and although our method does employ mathematics, it does so from the *opposite direction*[73] of those methods common to continental economic analysis). Darwin's powerful and effective, island-based analysis *and* storytelling enabled us to break through *attendant* and *convenient myths* and grasp global complexity and uncertainty that was beyond our reach.

Nagarajan's (2006) *Collapse of Easter Island: Lessons for Sustainability of Small Islands* illustrates that "islands represent a microcosm of the planet Earth" (abstract), echoing Von Bertallanfy… "the island microcosm can certainly help to simplify understanding but it still needs to be related to larger and more complex system dynamics" (Baldacchino 2007, p 84).

Many are surprised to discover that *The Theory of Evolution* had been published in several accounts by several authors *for over fifty years* prior to Darwin's 1859 *On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life*, and eighty years before his 1883 publication of *The Descent of Man and Selection in Relation to Sex* (Larson 2004). "Although it is often said that the *Origin of Species* [finally] convinced people of evolution because it provided an easily-understood mechanism (natural selection) for evolution, the deluge of articles and books published in 1909, 50 years after the origin, *show clearly that it was principally the facts of geographical distribution that had convinced the majority"*[italics mine, Baldacchino 2007, p 202].

The Theory of Evolution by Means of Natural Selection was finally accepted because Darwin was able to *describe a very large complex, closed system* (earth) by modelling it with *much smaller, simplified, semi-closed systems* (islands).[74]

Moreover, island processes are amplified through compression[75] and thus, relative to continents, exhibit explosive rates of evolution[76]. *Thus islands enable us to model and observe alternative earthly socio-economic, political, and ecological futures.*

Funk (2007a) constructed a powerfully descriptive, living, whole-earth system model of TPGW utilizing just two relatively small islands, Prince Edward Island and Iceland. Although we may hold personal interests in these islands, and hunger to continue to learn *about* them, we may stand to gain far more by learning *from* them. "[Margaret] Mead didn't go to Samoa just to study Samoa. Rather she wanted to understand the whole human race" (Baldacchino 2007, p 49). Following closely in her footsteps, our "Einfühlung[77]" for these *islands in the stream* comes from our desire to understand the world in which we live, and our never ending search for a better world[78].

AFTERWORD

> EVER SINCE THE BEGINNING OF MODERN SCIENCE, THE BEST MINDS HAVE RECOCNIZED that 'the range of acknowledged ignorance will grow with the advance of science.' Unfortunately, the popular effect of this scientific advance has been a belief, seemingly shared by many scientists, that the range of our ignorance is steadily diminishing and that we can therefore aim at more comprehensive and deliberate control of all human activities. It is for this reason that those intoxicated by the advance of knowledge so often become the enemies of freedom. While the growth of our knowledge of nature constantly discloses new realms of ignorance, the increasing complexity of the civilization which this knowledge comprehension of the world around. The more men know, the smaller the share of all that knowledge becomes that any one mind can absorb. The more civilized we become, the more relatively ignorant must each individual be of the facts on which the working of his civilization depends.
>
> —F.A. on Hayek, *The Use of Knowledge in Society*, 1945

A few months ago, I was considering the purchase of Begley's *Crossing that Bridge: A Critical Look at the PEI Fixed Link* (1993), and someone remarked, "Oh, that book's pretty *old*."

Of course I bought it anyway, and, I believe, when paired with Baldacchino, MacDonald & Spears (2007), it serves as a remarkable introduction to one of the most *relevant*, *contemporary* island case studies available, and, moreover, what I'm trying to say is this: If probability theory is of any use to the social sciences, it ought to be at least able to convey that the probability of more than a *few* works (be it book, working paper, magazine, etc.) of *any meaningful value* being published within one's lifetime is rather slight. Speaking in a probabilistic fashion, for example, if I have delivered one or two bits valuable data, then I've done far better than average; but chances are, my content may offer very little value at all[79]. If you limit yourself to contemporary works, chances are, you will consume mostly noise. However, I have cited several works, and incorporated passages from these works which, in many cases, have stood the test of time and have already delivered great value to the scientific quest for truth. Furthermore, I may have synthesized these conjectures and refutations in meaningful ways. I make this remark because I imagine there is at least some curiosity, and probably some reservation regarding the *age* of some (or many) of the citations in this paper. It is also likely that there is some curiosity regarding the frequency distribution of Hayek and Popper citations: Roger B. Myerson's FUNDAMENTAL THEORY OF INSTITIONS: A LECTURE IN HONOR OF LEO HURWICZ, presented at the University of Minnesota on June 22, 2006, commenced with

the same Hayek quotation I have selected for the epigraph (above) to this *Afterword*. Last month, on 15 October 2007, The Royal Swedish Academy of Sciences award The 2007 Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel jointly to Myerson, Hurwicz, and their colleague, Eric S. Maskin. I do not mean to infer any causal relationship here, all that I am attempting to do is to direct a very bright, very intense spotlight on Hayek's passage from *The Use of Knowledge in Society*. The message here is clear: If, ten years ago, it took 100 pages or 100 hours to gain a piece of useful knowledge, it will take 200 pages or 200 hours or maybe even 1000 pages or 1000 hours, but, at the very least, it will require 101 pages or 101 hours to gain the *same* utility today. The problem is, we're not reading more, we're reading less. We're not writing more, we're writing less. Media trains us for the 30 second sound-byte, and that may ultimately lead to our demise. We underestimate how difficult it is to understand the world in which we live. The first question a typical undergraduate student asks when assigned a paper, is, of course, *How long does it have to be?* And sadly enough, that seems to be the first question graduate students ask these days as well. Of course, since they are being taught to believe that some day they will be in possession of sufficient certain knowledge to *defend their expertise* (instead of criticising and falsifying their theories) during a Ph.D. defence, it makes sense that they would believe that somebody is in possession of enough *expertise* to *tell them* how long their paper should be. And this leads us to the ditch: that rocky chasm between two antithetical philosophical approaches to science, with Socrates and a long line of followers on one side, and Plato and his followers on the other. It is not a deep or grand canyon, and it may be crossed with only moderate difficulty, but, nonetheless, it is a difficulty which is typically avoided. What I've come to believe is that those on Plato's side generally have a good number of papers published in refereed journal, receive tenure with little difficulty, and, in general, "win friends and influence people".

Those on Socrates' side typically have a more difficulty. They're critical, unreasonable, and often have trouble finding positions in academic departments (Russel[80], Einstein[81], and Shaw come to mind). But they do tent do win Nobel prizes.

And this, of course, is becuase

> the reasonable man adapts himself to the world: the unreasonable one persists in trying to adapt the world to himself. Therefore all progress depends on the unreasonable man (Shaw 1903, ln. 124).

I've been thinking about this problem for some time, and I will not further digress, but I will offer this snapshot from an email reply I received (my original email follows), and, although Doherty does not forward my hypothesis (it doesn't seem to me that he thinks these two philosophers were standing on opposite sides of the ditch, but I do find complete agreement with his third statement), the email does offer a clear picture of my theory, anyway, and the correpondence may be of interest to some readers:

> **From**: Doherty, Peter
> **To**: Mfunk@upei.ca Cc:
> **Date**: 10/28/07 11:58 pm
> **Subject**: Re: Thomas Kuhn & Karl Popper
> A long time since I've read either. Popper's views re falsification of a null hypothesis seem correct to me. Much of the world's worst science is done by people who are determined to prove a point. Kuhn's idea of the paradigm shift is spot on.
> Peter C. Doherty,
> Department of Immunology,
> St Jude Children's Research Hospital,
> 332 North Lauderdale,
> Memphis TN 38105
> Tel 901-495-3470
> Fax 901-495-3107
> also at: pcd@unimelb.edu.au
>
> -----Original Message-----
> **From**: Matt Funk <Mfunk@upei.ca>
> **To**: Doherty, Peter
> **Sent**: Sun Oct 28 20:44:21 2007
> **Subject**: Thomas Kuhn & Karl Popper
> Greetings Dr Doherty:
> I am questioning a theory that the rejection of Karl Popper's logic and methods and general acceptance (in a popular sense) of Thomas Kuhn's logic and methods have been detrimental to science, especially social sciences such as economics.
> Nearly a dozen Nobel Laureates have thanked Popper and acknowledged his great influence upon their work: most notably, of course, is FA von Hayek's Nobel Lecture[82] and, perhaps the most notable example in your field may be revealed in Eccles' Nobel biography[83].
> I have only been able to discover one Nobel Laureate who acknowledged Kuhn's influence and, curiously, this noble individual (whom of course is you) acknowledged both Popper and Kuhn:
>
> > *I was influenced early on by reading Arthur Koestler and Edward de Bono, and more recently by the writings of Karl Popper and Thomas Kuhn.*

So, naturally, I'm very curious to know if, after nearly a decade, the balance of this influence or your opinions regarding these two philosophers of science has changed?

I thank you very much for your time and consideration regarding this matter, as I am inclined to believe prospects for human existence on earth may hang somewhere in the balance to the ultimate answer to this debate.

Any words of wisdom you are able to offer on this topic would be greatly appreciated.

Sincerely…Matt Funk
The Institute of Island Studies
Prince Edward Island, Canada

POSTSCRIPT

> I WISH TO PROPOSE FOR THE READER'S FAVOURABLE CONSIDERATION A DOCTRINE WHICH may, I fear, appear wildly paradoxical and subversive. The doctrine in question is this: *that it is undesirable to believe a proposition when there is no ground whatever for supposing it true* (italics mine).
>
> —Bertrand Russell, *On the Value of Scepticism*, 1928

Before parting ways, we shall briefly reflect upon the preceding discourse and consider one final point. Let us consider whether or not it is desirable to believe a very widely held, very old, and very misleading proposition: "No man is an iland, intire of it selfe" (Donne 1624).

Donne's Error seems nearly irresistible. Like moths to the flame, those lured to islands, to the study of islands, seem unable to resist the apparent comfort gained through the curios and creative repetition of this error. I will only suggest it may derive from the deep, from Plato's *Republic* or perhaps even some deeper, more ancient, crushing desire for certainty. We yearn to classify, to know. We want to know what *is* and what *is not* an island? A continent? We want to know that there is something else out there. We want to know that God exists.

Moreover, we want to know that *we are not alone*.

But we cannot want these things if we want rationality. In fact, we we cannot afford the pretence of *any* certainty. *Yes, "man has an intense desire for assured knowledge. That is why Hume's clear message seemed crushing!"*[84]

> Baldacchino… takes Donne's metaphor forward when he writes: '*islands are not islands*' in the sense that, although bounded spaces, *islands are not 'closed unto themselves*' (2004: 272). Huei-Min Tsai explains: 'although the notions of island and insularity connote isolation and closure in contrast to exchange and openness, *islands are never truly closed*" [all italics mine, Baldacchino 2007, p 48].

Gillis (2004) offers his reiteration of *Donne's Error*: "It is now clear that, to paraphrase John Donne, no island is an island entire to itself. *There is no such thing as total isolation*" [italics mine, p 118].

Now if *it is undesirable to believe a proposition when there is no ground whatever for supposing it true*, then I trust that you will agree that it is also *undesirable to believe a proposition when there is solid ground for supposing it to be untrue.* And, unless a readily accessible and inhabitable planet has been discovered since these words were written, then I trust you will reject the proposition *there is no such thing as total isolation,* because, until we are all willing and able to accept that the Earth is an island *intire of it selfe,* and that *we are indeed very much alone*[85], our efforts to come to grips

with our prospects of survival on this *totally insular, totally isolated* planet on which we live will invariably continue to be misleading and full of pain and disappointment. We have nobody else to *depend* upon. We must *learn to become more independent!*

Curiously enough, Gillis corrected his incarnation of *Donne's Error* within the same work in which the error occurred: "It is important to recognize that islands and continents are but names we give to different parts of one interconnected world" (Ibid, p 2). Indeed, it is not only important, it is imperative. I might also add that Baldacchino (2007a) corrects his 'error' in several (2007a) instances, but, like Pyrrho[86] and Socrates[87], we must always be on the lookout and never hesitate to offer criticism; our survival depends upon it[88].

I trust that we may be willing to consent that, at least for trivial considerations regarding survival of the human race, it may be desirable to believe that the Earth is an *isolated* island, and it is undesirable to believe that it is not.

We are alone.

And then, taking the trivial circumstance of the survival of the human race into consideration once again, I propose that it is not only undesirable to believe that we inhabit 'islands' or 'continents' or that we are the inhabitants of some particular nation, but that it is *dangerous*.

Many months ago, I gathered with my new colleagues for the first of many fine and enlightening sessions with Godfrey Baldacchino at The Institute of Island Studies. Baldacchino passed out white, blank sheets of paper and placed a vast collection of pens, pencils, and coloured markers in the centre of the table and asked us all to draw the perfect island. I took a blue marker, filled a blue circle in the centre of the page, handed the paper back to Baldacchino, then then watched quietly as my new colleagues detailed their island utopias. My perfect island was in fact my first rendering of a flag I had imagined the year prior. It is essentially a copy of *Nisshoki* (literally, the rising-sun flag) which was adopted as Japan's national flag in 1870. Except my orb is blue, not red, as it represents the earth instead of the sun. I had designed this flag, my rising-earth flag, because I wanted a visual image to hold steady in my mind, a visual image to replace various vestiges of that *last refuge of scoundrel*[89] we all invariably

encounter. For example, every time I look out my bathroom window to check on the direction and relative strength of the wind, I do not see Betty and Ray Arsenault's red and white Maple Leaf fluttering in the breeze, I see what I hope they will someday be able to see; I see a blue orb isolated in white space.

In the *Forward,* in what I hope may not seem as so long ago, I suggested that an invaluable gift from travels far and wide (with the accompanying tutelage of my wise, independent-minded parents!) may be the endowment of a certain, independent-minded, *global perspective*, and if I have failed to demonstrate that I possess this quality, then I hope that I have at least not failed to demonstrate its importance. I have always felt a fairly strong sense that this independent, *Earth Island* perspective was a position worth holding. But when I began to study islands at The University of Prince Edward Island, I soon realized it was in fact a position worth *fighting* for. And, thus I endeavour to be ever mindful that, I am by heritage German, by citizenship American, by residence Canadian, by spirit Norse, and "by makeup a human being, and only a human being, without any special attachment to any state or national entity whatsoever."[90]

THE END

SELECTED BIBLIOGRAPHY

Abassi, J. (2004). It's not easy being green : People, potatoes, and pesticides on prince edward island. Ann Arbor, Mich.: Umi.

Archbar, M., Wintonick, P., Symansky, A., & Chomsky, N. (1992). *Manufacturing consent*. Montreal: National Film Board.

Arnason, R. (1995). *The icelandic fisheries : Evolution and management of a fishing industry*. Oxford ; Cambridge, MA; Cambridge, MA: Fishing New Books; Blackwell Science distributor.

Arnason, R., & Agnarsson, S. (2003). *The role of the fishing industry in the icelandic economy. A historical examination* (http://www.ioes.hi.is/rammi32.html ed.)Institute of Economic Studies, Univeristy of Iceland, working paper series.
Abstract: Expansion and development of the fisheries was the driving force behind Iceland's economic transformation during the 20th century. Yet, the overriding importance of this sector fails to show up in national accounts – such as contribution to GDP and employment statistics –because they do not take into consideration the various ways economic activity in the maritime sectors affects other branches of the economy. In addition, the national accounts do not fully reflect the significant part played by the fisheries as the county's largest currency earning industry. This ignorance of the true contribution of the fisheries can lead policy makers to underestimate the effects shocks to the fisheries will have on the economy. In this paper, econometric methods are employed to estimate the overall contribution of the fishing industry to Icelandic GDP during the period 1963-1996. Using data on GDP, marine production, capital and labour, it is shown that in the long-run a 1% change in the value of fishing industry production will lead to a 0.42% increase in GDP growth. This is considerably higher than the 11% the national accounts attribute to the fisheries.

Arnason, R., Baldursson, F., & Sturluson, J. (2006). Editorial. *Journal of Economic Behavior & Organization, 61*(2), 145-148.

Arnason, R., Felt, L., Bartmann, B., Cairns, D. K., & 20 University of Prince Edward Island. Institute of Island Studies. (1995). *The north atlantic fisheries : Successes, failures and challenges*. Charlottetown, P.E.I.: Institute of Island Studies.

Arnason, R., Hannesson, R., & Schrank, W. (2000). Costs of fisheries management: The cases of iceland, norway and newfoundland. *Marine Policy, 24*(3), 233-243.
This paper reports on the results of an investigation of management costs in the fisheries of Iceland, Newfoundland and Norway and discusses them in a more general framework. Management costs are defined as costs necessary to overcome the problems associated with common property. The question of whether management costs should be paid by industry is discussed, as is the likely effect of user pay on the efficiency with which management is provided. Since management has public goods characteristics, it is likely that there is an unavoidable role for government in providing these services. The question of who pays for it is separate, and recovering costs from industry has both efficiency and optimal taxation aspects. A greater involvement in management by industry further raises the question of compatibility between the industry's interests and the public interest. Measured as percent of gross value of fish landings the management costs are by far highest in Newfoundland (15–25%), lowest in Iceland (about 3%), with Norway in the middle (about 10%). Management costs thus appear to be substantial and quite variable. This gives rise to three conclusions. First, when calculating optimal harvesting and investment paths one must take the management costs of implementing these paths explicitly into account. Second, what is the economic efficiency of management? Could the same level of benefits be produced at lower costs? Third, can fisheries management expenditures of the magnitude discussed be justified in the sense that the benefits exceed the costs?

Baldacchino, G. (2002). A taste of small-island success: A case from prince edward island. *Journal of Small Business Management, 40*(3), 254-259.

Baldacchino, G. *Readings: The challenge of hypothermia: A six-proposition manifesto for small island territories: Isla-601*

Baldacchino, G. (2004). Introduction. *World Development, 32*(2), 327-867.

Baldacchino, G. (2005). Successful small-scale manufacturing from small islands: Comparing firms benefiting from locally available raw material input. *Journal of Small Business and Entrepreneurship, 18*, 21-37.
This paper draws on an European Commission-supported Leonardo da Vinci Vocational Training pilot project-in-progress to review the prospects for SMEs in small island territories. It, focusing on manufacturing firms, and deliberately selects those which conform to a tough set of conditions of "success": strong and consistent export orientation; local ownership; locally developed or adapted technology; and a workforce of up to 50 employees. This paper is based on "best practice" data collated specifically from five such "successful" firms, each based in one of five European island regions, manufacturing a product which benefits from locally available, raw material input. Research findings suggest that idiosyncratic features associated with smallness and islandness identity facilitate business success in such locations in spite of various well-documented structural handicaps. These features include a strong branding of the product with the respective island and associated characteristics island; free riding on island tourism; limited domestic local firm rivalry; an appreciation of social capital and the "quality of island life"; and the luring of islanders back to their island in order to

become local entrepreneurs.

Baldacchino, G. (2006a). Innovative development strategies from non-sovereign island jurisdictions? A global review of economic policy and governance practices. *World Development, 34*, 852-867.
The world's sub-national, island (or mainly island) jurisdictions constitute a timely, valid, and valuable category of political and economic analysis. On the basis of a global, largely inductive, and discriminant analysis, five economic and four political capacities are suggested as being characteristic of the innovative development strategies practised today by various island "autonomies." Extant "mainland-island relations" can provide insights to other smaller, non-island as well as larger players, beyond the strictures of both economic vulnerability and sovereignty.

Baldacchino, G. (2006b). Small islands versus big cities: Lessons in the political economy of regional development from the world's small islands. *Journal of Technology Transfer, 31*, 91-100.
Population, employment and economic capacity continue to concentrate in and around large urban centres. If geography (measured as proximity to large centres of population) increasingly matters in the knowledge economy, then there may be no future for periphery locations. This paper critically reviews and refutes this hypothesis by looking at the world's small islands. Handicapped by size and distance, they are unable to generate scale dynamics nor to regularly access any neighbouring, large metropolitan centres. Nevertheless, jurisdictional resourcefulness resulting from sovereignty or sub-national autonomy fosters compensatory policy capacity. Demand for niche-technology manufactures and craft-based, labour-intensive or place-specific services is likely to persist. Cyclical migration strategies allow islanders seeking work or education off island to tap the metropole and re-inject resources to reinvigorate the periphery. Remittances, aid, bureaucracy and other "rents" can provide significant fiscal resources necessary for survival.

Baldacchino, G., Baldacchino, G., MacDonald, E., Baldacchino, G., & Spears, A. (2007). *Bridging islands : The impact of fixed links*. Charlottetown, P.E.I.: Acorn Press.

Baldacchino, G., Greenwood, R., MacKinnon, W. E., Bartmann, B., & University of Prince Edward Island. Institute of Island Studies. (1998). *Competing strategies of socio-economic development for small islands*. Charlottetown, P.E.I.: Institute of Island Studies, University of Prince Edward Island.

Baldacchino, G., & Milne, D. (2006). Exploring sub-national island jurisdictions: An editorial introduction. *Round Table, 95*(38), 487-502.
ABSTRACT FROM AUTHOR: Sub-national island jurisdictions (SNIJs) manifest diverse expressions of governance within typically asymmetrical relationships with a much larger state. Dubbed 'federacies' in the literature on federalism, these bilateral systems of self- and shared-rule arise almost exclusively on islands. The jurisdictional powers that island federacies enjoy are principally a result of bilateral negotiations between island political elites and a (usually benign) metropole. This bargain is struck against the backdrop of a particular colonial inheritance, a local 'sub-nationalist' culture, and the varying ambitions of local elites to win jurisdictional powers to advance 'sub-national' territorial interests. At other times, however, island autonomies arise as crafted, deliberate devolutions of central governments eager to exploit islands as 'managed' zones for economic or security-related activity in a globalised economy. In either case sub-national autonomies often show more success and resilience as non-sovereign island jurisdictions than their sovereign island-state counterparts.

Baldacchino, G., Milne, D. A., Bartmann, B., Salvo, A., & University of Prince Edward Island. Institute of Island Studies. (2006). *Sub-national island jurisdictions*

Baldacchino, G., Milne, D. A., Bartmann, B., Srebrnik, H. F., Paterson, R., Jolliffe, L., et al. (2000). *Lessons from the political economy of small islands : The resourcefulness of jurisdiction*. New York: St. Martin's Press.

Baldacchino, G. (2007a). *A world of islands : An island studies reader*. Charlottetown, P.E.I.; Malta: Institute of Island Studies; Miller House.

Baldacchino, G. (2007b). Fixed links and the engagement of islandness: Reviewing the impact of the confederation bridge. *The Canadian Geographer/Le Géographe canadien, 51*(3), 323-336.
(1) *If a nine-year span of postbridge operational data is long enough* [italics mine; I would also certainly add, *and if the postbridge operation data we have selected is relevant and if our causal assumptions are both correct and sufficiently comprehensive*], it appears that the Confederation Bridge has not (so far) had the significant impact that many feared, or hoped, it would have on PEI society and economy (p 322).

Beaulier, S., & Caplan, B. (2007). Behavioral economics and perverse effects of the welfare state. *Kyklos, 60*(4), 485-507.
SUMMARY Critics often argue that government poverty programs perversely make the poor worse off by encouraging unemployment, out-of-wedlock births, and other 'social pathologies.' However, basic microeconomic theory tells us that you cannot make an agent worse off by expanding his choice set. The current paper argues that familiar findings in behavioral economics can be used to resolve this paradox. Insofar as the standard rational actor model is wrong, additional choices can make agents worse off. More importantly, existing empirical evidence suggests that the poor deviate from the rational actor model to an unusually large degree. The paper then considers the policy implications of our alternative perspective.

(1) A variety of sources indicate that 'the poor deviate more.' If the average person violates neoclassical assumptions, the average welfare recipient violates them to a markedly greater degree (p 503).

Begley, L. (1993). *Crossing that bridge : A critical look at the PEI fixed link*. Charlottetown, PEI: Ragweed Press.

(1) Decisions we as Islanders make on this momentous and grave matter must be the right decisions. We owe this to ourselves, to our children and to all future citizens of this province. Mr. Speaker, there is no room for error, no opportunity for second guesses and little latitude for corrective action if our planning is inadequate and unable to meet the test of time. Simply put, Mr. Speaker, we must know what we are doing [Former Premier Joseph Ghiz, 20 March 1987] (p 1).

(2) The machinations of the federal and provincial governments and the development consortium comprise a saga of deceit, dishonesty and undemocratic action (p 4).

(3) You pay a price for progress and economic change. And I believe the best interests of the Island are served by the most effficient, modern communications with the mainland in every respect; transport, telecommunications and so on. And there's bound to be some changes as a result of this but I believe they'll be positive. *They may change the way of life to some extent but governments can compensate for this* [Elmer MacKay, Minister of Public Works 3 December 1992] [italics mine, needless to say, this is far from true] (p 6).

(4) The August 1990 [Report of the Environmental Assessment Panel], a document which resulted from over a year of study and public hearings…The… report is quite explicit and clear-cut about

Benz, M., & Frey, B. S. (Online early release). Being independent is a great thing. *Economica, 0*(0), ???-???.

Abstract

One can be independent, or one can be subject to decisions made by others. This paper argues that this difference, embodied in the institutional distinction between the decision-making procedures 'market' and 'hierarchy', affects individual wellbeing beyond outcomes. Taking self-employment as an important case of independence, it is shown that the self-employed derive higher satisfaction from work than those employed in organizations, irrespective of income gained or hours worked. This is evidence for procedural utility: people value not only outcomes, but also the processes leading to outcomes.

(1) This paper argues that there is another, so far largely neglected, aspect linking happiness and employment. Self-employment provides 'procedural utility'. Procedural utility means that people value not only outcomes, but also the conditions and processes leading to outcomes (Frey et al. 2004; Benz 2007). Individuals derive procedural utility from being self-employed because it gives them a higher measure of self-determination and freedom. In contrast, persons in dependent employment have to obey orders given by their superiors. Indeed, self-employment reflects the difference between the two most important decision-making procedures in the economy: the market and hierarchy. According to the results reported below, self-employed people enjoy their position as independent actors on the marketFand as actors not subject to a hierarchyFmainly for procedural reasons. Clearly, such procedural utility differs from outcome utility, which in the case of work relates in particular to income and working hours. Since around 10% of all individuals gainfully employed in Western countries are self-employed, a substantial share of workers is affected (p 1).

(2) Procedural utility emerges because individuals have a basic psychological need for self-determination. In psychology, three aspects of self-determination have been identified as crucial elements of human wellbeing: autonomy, competence and relatedness (for a survey, see Ryan and Deci 2000). The desire for autonomy encompasses the experience to self-organize one's own actions or to be causal. The need for competence refers to the propensity to control the environment, to experience oneself as capable and effective, and to put one's abilities to use. Finally, the need for relatedness refers to the desire to feel connected to others, and to be treated as a respected group member within social groups.

Different procedures and institutions can be expected to provide different procedural goods serving these innate needs. To the extent that procedures fulfil this role, they contribute to individual wellbeing beyond outcomes traditionally studied by economists. Psychological theory stresses, for example, that procedures providing individuals with autonomy are valued not so much because they lead to better outcomes, such as a higher income, but because having control over one's actions satisfies a basic human psychological need (e.g. Ryan and Deci 2000; Lind and Tyler 1988). In this sense, people may be satisfied with an unfavourable outcome if the procedure applied was 'good', and a favourable outcome might provide them with little overall satisfaction if the procedure that brought it about was 'bad' (p 3).

Berry, W., Kemmis, D., & White, C. (2005). *The way of ignorance and other essays*. Emeryville, Calif.; Berkeley, Calif.: Shoemaker & Hoard; Distributed by Publishers Group West. from http://www.loc.gov/catdir/toc/ecip0511/2005012294.html

BRUNI, F. (2007). *Prince edward island: Beckoned by bivalves.* Retrieved 11/18/2007, 2007, from http://travel.nytimes.com/2007/11/18/travel/18Prince-Edward-Island.html

(1) Bingo is big here… and so is prayer (p 1).

(2) [A local] restaurant served lobster so carelessly prepared it might as well have been flown in from a distant continent — origin and food miles (the distance from habitat to plate) don't matter if you overcook a crustacean this feloniously — and scallops so rubbery you could have used them for racquet balls.

Across several disappointing restaurant experiences on the island, I realized that the degree to which food enthusiasts romanticize eating food at its source doesn't take into account whether the source has chefs with standards as high and skills as honed as their counterparts elsewhere. Granted, many island restaurants were closed when I went in early October, about a week after the end of peak season. But recommended restaurants I did visit didn't always impress me (p 2).

Bruni, L., & Stanca, L. (2006). Income aspirations, television and happiness: Evidence from the world values survey. *Kyklos, 59*(2), 209-225.

SUMMARY This paper investigates the role of television in producing higher material aspirations, by enhancing both adaptation and positional effects. Using a large sample of individuals from the World Values Survey, we find that the effect of income on both life and financial satisfaction is significantly smaller for heavy television viewers than for occasional viewers. This finding is robust to a number of specification checks and alternative interpretations. The results suggest an additional explanation for the income-happiness paradox: the pervasive and increasing role of television viewing in contemporary society, by raising material aspirations, contributes to offset the effect of higher income on individual happiness.

Buffett, W. E. (2003). *Berkshire hathaway 2002 annual report*. Retrieved 10/27/2007, 2007, from http://www.berkshirehathaway.com/2002ar/impnote00.html

Carlquist, S. J. (1974). *Island biology*. New York: Columbia University Press.

Carlquist, S. J., & American Museum of Natural History. (1965). *Island life; a natural history of the islands of the world* (1st ed.). Garden City, N.Y.: Published for the American Museum of Natural History by the Natural History Press.

Carse, S. (1998). In Baldacchino G., Greenwood R.(Eds.), *Sustaining small island development: The isle of man*. Charlottetown: Institute of Island Studies, University of Prince Edward Island.

CBC. (2007a). Help needed as another pork producer closes. *CBC,* http://www.cbc.ca/pei/?ref=rss

P.E.I.'s agriculture minister says he'll be looking for help for Island farmers from federal and provincial counterparts when they meet this weekend.

CBC. (2007b). Parishioners ready to fight for churches. *CBC,* http://www.cbc.ca/pei/?ref=rss

CBC. (2007c). Farm troubles growing on P.EI. *CBC | Prince Edward Island News,* http://www.cbc.ca/pei/?ref=rss

Farmers in P.E.I.'s three major agriculture sectors of hogs, beef and potatoes are facing serious problems, says the chair of the legislative committee looking at the state of the industry.

Cepa. (2007). *JOAN ROBINSON.* Retrieved 11/21/2007, 2007, from http://cepa.newschool.edu/het/profiles/robinson.htm

Chomsky, N. (2003). *Hegemony or survival : America's quest for global dominance* (1st ed.). New York: Metropolitan Books.

Chomsky, N. (2006). *Failed states: The abuse of power and the assault on democracy* (1st ed.). New York: Metropolitan Books.

(1) The selection of issues that should rank high on the agenda of concern for human welfare and rights is, naturally, a subjective matter. But there are few choices that seem unavoidable, because they bear so directly on the prospects for decent survival. Among them are at least three: nuclear war, environmental disaster, and the fact that the government of the world's leading power is acting in ways that increase the likelihood of these catastrophes (Preface).

Clark, J. M. (1918). *Readings in the economics of war*. Chicago, IL: The University of Chicago Press.

Coase, R. H. (1937). The nature of the firm. *Economica, 4*(16), 386-405.

Copernicus, N. (1543). *On the revolutions of the heavenly spheres* [De revolutionibus orbium caelestium (literal translation: The revolutions of celstrial orbs).] (A. M. Duncan Trans.). (1976th ed.). Newton Abbot Eng.; New York: David & Charles; Barnes & Noble.

Cournot, A. A. (1838). *Researches into the mathematical principles of the theory of wealth*. New York; London: Macmillan; Macmillan.

Crowe, C. (1996). *Jerry maguire*. Culver City, Calif.: Columbia TriStar Home Video.
A sports agent suddenly discovers his scruples and promptly loses his job. But with the help of one loyal colleague and one outrageous client, he learns that loving well is the best revenge.

Damasio, A. R. (1994). *Descartes' error : Emotion, reason, and the human brain*. New York: G.P. Putnam.

Danielsson, J. *The emperor has no clothes: Limits to risk modelling.* Retrieved 11/30/2007, 2007, from http://ideas.repec.org/p/fmg/fmgsps/sp126.html
This paper considers the properties of risk measures, primarily Value-at Risk (VaR), from both internal and external (regulatory) points of view. It is argued that since market data is endogenous to market behavior, statistical analysis made in times of stability does not provide much guidance in times of crisis. In an extensive survey across data classes and risk models, the empirical properties of current risk forecasting models are found to be lacking in robustness while being excessively volatile. For regulatory use, the VaR measure is lacking in the ability to fulfill its intended task, it gives misleading information about risk, and in some cases may actually increase both idiosyncratic and systemic risk. Finally, it is hypothesized that risk modeling is not an appropriate foundation for regulatory design, and alternative mechanisms are discussed.

Darwin, C. (1859). *On the origin of species by means of natural selection, or the preservation of favoured races in the struggle for life* (A facsimile of the first edition by Wildside Press, Holicong, PA, U.S.A., 2003 ed.). London: John Murray, Albermarle Street.

WHEN on board H.M.S. Beagle, as naturalist, I was much struck with certain facts in the distribution of the inhabitants of South America, and in the geological relations of the present to the past inhabitants of that continent. These facts seemed to me to throw some light on the origin of species — that mystery of mysteries, as it has been called by one of our greatest philosophers. On my return home, it occurred to me, in 1837, that something might perhaps be made out on this question by patiently accumulating and reflecting on all sorts of facts which could possibly have any bearing on it. After five years' work I allowed myself to speculate on the subject, and drew up some short notes (p 1)…

Darwin, C. (1883). *The descent of man and selection in relation to sex*. New York: D. Appleton and Company.

(1) A BRIEF summary will be sufficient to recall to the reader's mind the more salient points in this work. Many of the views which have been advanced are highly speculative, and some no doubt will prove erroneous; but I have in every case given the reasons which have led me to one view rather than to another. It seemed worth while to try how far the principle of evolution would throw light on some of the more complex problems in the natural history of man. False facts are highly injurious to the progress of science, for they often endure long; but false views, if supported by some evidence, do little harm, for every one takes a salutary pleasure in proving their falseness: and when this is done, one path towards error is closed and the road to truth is often at the same time opened.

(2) The main conclusion here arrived at, and now held by many naturalists who are well competent to form a sound judgment is that man is descended from some less highly organised form. The grounds upon which this conclusion rests will never be shaken, for the close similarity between man and the lower animals in embryonic development, as well as in innumerable points of structure and constitution, both of high and of the most trifling importance,- the rudiments which he retains, and the abnormal reversions to which he is occasionally liable,- are facts which cannot be disputed. They have long been known, but until recently they told us nothing with respect to the origin of man. Now when viewed by the light of our knowledge of the whole organic world, their meaning is unmistakable. The great principle of evolution stands up clear and firm, when these groups or facts are considered in connection with others, such as the mutual affinities of the members of the same group, their geographical distribution in past and present times, and their geological succession. It is incredible that all these facts should speak falsely. He who is not content to look, like a savage, at the phenomena of nature as disconnected, cannot any longer believe that man is the work of a separate act of creation. He will be forced to admit that the close resemblance of the embryo of man to that, for instance, of a dog- the construction of his skull, limbs and whole frame on the same plan with that of other mammals, independently of the uses to which the parts may be put- the occasional re-appearance of various structures, for instance of several muscles, which man does not normally possess, but which are common to the Quadrumana- and a crowd of analogous facts- all point in the plainest manner to the conclusion that man is the co-descendant with other mammals of a common progenitor.…

The main conclusion arrived at in this work, namely, that man is descended from some lowly organised form, will, I regret to think, be highly distasteful to many. But there can hardly be a doubt that we are descended from barbarians. The astonishment which I felt on first seeing a party of Fuegians on a wild and broken shore will never be forgotten by me, for the reflection at once rushed into my mind-such were our ancestors. These men were absolutely naked and bedaubed with paint, their long hair was tangled, their mouths frothed with excitement, and their expression was wild, startled, and distrustful. They possessed hardly any arts, and like wild animals lived on what they could catch; they had no government, and were merciless to every one not of their own small tribe. He who has seen a savage in his native land will not feel much shame, if forced to acknowledge that the blood of some more humble creature flows in his veins. For my own part I would as soon be descended from that heroic little monkey, who braved his dreaded enemy in order to save the life of his keeper, or from that old baboon, who descending from the mountains, carried away in triumph his young comrade from a crowd of astonished dogs- as from a savage who delights to torture his enemies, offers up bloody sacrifices, practices infanticide without remorse, treats his wives like slaves, knows no decency, and is haunted by the grossest superstitions.

Man may be excused for feeling some pride at having risen, though not through his own exertions, to the very summit of the organic scale; and the fact of his having thus risen, instead of having been aboriginally placed there, may give him hope for a still higher destiny in the distant future. But we are not here concerned with hopes or fears, only with the truth as far as our reason permits us to discover it; and I have given the evidence to the best of my ability. We must, however, acknowledge, as it seems to me, that man with all his noble qualities, with sympathy which feels for the most debased, with benevolence which extends not only to other men but to the humblest living creature, with his god-like intellect which has penetrated into the movements and constitution of the solar system -with all these exalted powers- Man still bears in his bodily frame the indelible stamp of his lowly origin.

De Botton, A. (2001). *The consolations of philosophy* (1st Vintage International ed.). New York: Vintage Books.

1.

There is dangerous innocence in the expectation of a future formed on the basis of probability. Any accident to which a human has been subject, however rare, however distant in time, is a possibility we must ready ourselves for (p 90).

2,

Reassurance can be the cruelest antidote to anxiety. Our rosy predictions both leave the anxious unprepared for the worst, and unwittingly imply that it would be disastrous if the worst came to pass. Seneca more wisely asks us to consider that bad things probably will occur, but adds they are unlikely ever to bad as bad as we fear (p 96).

3.

It is not only the hostility of others that may prevent us from questioning the status quo. Our will to doubt can be just as powerfully zapped by an internal sense that *societal conventions* [italics mine] must have a sound basis, even if we are not sure exactly what this may be, because they have been adhered to by a great many people for a long time. It seems implausible that our society could be gravely mistaken in its beliefs and at the same time that we would be alone in noticing the fact. We stifle our doubts and follow the flock because we cannot conceive of ourselves as pioneers of hitherto unknown, difficult truths (p 13).

4.

I sometimes get others to say what I cannot put so well myself because of the weakness of my language, and sometimes because of the weakness of my intellect… *[and] sometimes… to rein in the temerity of thos hasty criticisms which leap to attack writings of every kind, especially recent writings by men still alive… I have to hide my weaknesses beneath those great reputations* [italics de Botton's, p 163].

5.

We do not need years of formal education and a leisured existence. Anyone with a curious and well-ordered mind who seeks to evaluate a common-sense belief can start a conversation with a friend in a city street and, by following a Socratic method, may arrive at one or two ground-breaking ideas in under half an hour…. It…may without injustice be presented in the language of a recipe book or manual, and applied to any belief one is asked to accept… The correctness of a statement cannot, the method suggests, be determined by whether it is held by a majority or has been believed for a long time by important people. A correct statement is one incapable of being rationally contradicted (Botton 2002, pp 22-23).

6.

[The wise] will start each day with the thought… Fortune gives us nothing which we can really own. Nothing, whether public or private, is stable; the destinies of men, no less than those of cities, are in a whirl. Whatever structure has been reared by a long sequence of years, at the cost of great toil and through the great kindness of the gods, is scattered and dispersed in a single day. No, he who has said 'a day' has granted too long a postponement to swift misfortune; an hour, an instant of time, suffices for the overthrow of empires. How often have cities in Asia, how often in Achaia, been laid low by a single shock of earthquake? How many towns in Syria, how many in Macedonia, have been swallowed up? How often has this kind of devastation laid Cyprus in ruins? We live in the middle of things which have all been destined to die. Mortal have you been born, to mortals have you given birth. Reckon on everything, expect everything (p 91).

7.

Under the influence of passing moods, our critics may have fumbled towards conclusions. They may have acted from impulse and prejudice, and used their status to ennoble their hunches. They may have built up their thoughts like inebriated amateur potters. Unfortunately, unlike pottery, it is initially extremely hard to tell a good product of thought from a poor one. It isn't difficult to identify the pot made by the inebriated craftsman and the one by the sober colleague… A bad thought delivered authoritatively, though without evidence of how it was put together, can for a time carry all the weight of a sound one. But we acquire a misplaced respect for others when we concentrate solely on their conclusions – which is why Socrates urged us to dwell on the logic they used to reach them" (pp 30-31).

De Botton, A. (2004). *Status anxiety* (1st ed.). New York: Pantheon Books.

Ekelund, R. B., & Hébert, R. F. (1997). *A history of economic theory and method* (4th ed.). New York: McGraw-Hill.

Delaney, J. (2006). *The epoch times | potato farms a hotbed for cancer?* Retrieved 11/1/2007, 2007, from http://en.epochtimes.com/news/6-3-23/39627.html

Prince Edward Island is known nationwide for beautiful red sand beaches, a friendly people, lighthouses dotting its rugged Atlantic coastline, and for its staggeringly vast potato production. But the tiny island may soon come to be associated with another, far less benign feature: some of the highest rates of cancer and asthma in the country. *Despite repeated assertions from government officials that the statistics don't provide any proof* [italics mine: *The Problem of Induction*/Totalitarianism], many Prince Edward Island residents believe that heavy pesticide use on the island's potato farms is causing high rates of cancer and other diseases. With about 7,000 fields spanning 110,000 acres, the small island produces more than a billion kilograms of potatoes every year, making PEI one of the most intensely-farmed areas in Canada. The tiny island of PEI, which is small enough to fit into Saskatchewan 115 times, supplies nearly 30 percent of Canada's potato market. But there is a heavy price to pay for the tremendous agricultural production. According to PEI Green Party leader Sharon Labchuk, potatoes grown on that magnitude require "enormous amounts" of fungicidal chemicals to ward off blight, a disease that can devastate potato crops. Labchuk says the crops are sprayed about 20 times per year—every four days in blight season—and the three main fungicidals used on the potatoes have been classed as carcinogens by the U.S. government. Sin*ce the 1980s, potato production in PEI has doubled, but pesticide use has soared by 700 percent in the same period* [italics mine]. "Both Liberals and Conservatives have sunk a ton of taxpayers' money into subsidizing the industry, and what we have now is a virtual potato monoculture," says Labchuk. "You grow a monoculture in this industrial system and you're tied to the chemicals." Labchuk points out that because PEI is densely populated—the most densely-populated province in Canada, by far—the potato fields are interspersed among the homes, hospitals, daycares and schools, which means that people are constantly within range of the sprays. But experts disagree on whether this chemical exposure has resulted in unusually high cancer rates on the island.

…

Dr. Ron Matsusaki, emergency room physician at Western Hospital in Alberton, says that in all the years he's worked as a doctor both in Canada and the U.S., he hasn't seen cancer rates that come even remotely close to what he's seeing in the West Prince area of PEI. He says he has no doubt that these cancers are caused by "an insane amount" of chemical pesticides. Every second household in Mimnegash, a fishing village in West Prince surrounded by potato fields, has been afflicted with cancer, according to Matsusaki. "West Prince is a laboratory for rare and aggressive cancers. It's not uncommon to find people who have up to ten family members with cancer, that's how crazy it is here." West Prince resident Noralee Harper believes her five year-old-son contracted B cell lymphoma when her family lived next to a potato field. She's convinced the chemicals seeped into the well the family used, adding that *there are no government regulations in place for testing pesticide levels in the island's drinking water* [italics mine]. Though her son is in remission now, she says she's lucky because she knows families who have lost more than one child to cancer. "With each month that goes by, we hear of somebody new we that know personally who's been diagnosed with cancer. It's like the common cold, like a natural part of life. Living here, we worry non-stop, it's a daily concern." The only doctor to speak out about the link between pesticides and high cancer rates on the island, Matsusaki says that although he has received a letter of acknowledgement from the Canadian Medical Association, many of his colleagues in the medical profession as well as the Mayor of Mimnegash are "in denial" about the severity of the situation. He believes non-Hodgekins lymphoma is the most common cancer in West Prince, followed a close second by renal cell cancer, a particularly aggressive cancer that doesn't present symptoms until it's in the latter stages. PEI Health Minister Chester Gillan said in January that he's willing to look at research backing Matsusaki's claims, and *if he receives scientific proof that pesticides are poisoning PEI residents he'll act swiftly* [italics mine: *The Problem of Induction* strikes twice in one sentence— (1) Totalitarianism, once again, and (2) scientific proof is, and forever will be, impossible to establish] to ban the offending chemicals. But Labchuk with the Green party says she has provided Gillan and other government officials with ample scientific evidence on the issue over the years. She says Gillan "knows very well we're using chemicals here that are known to cause cancer." In a 1999 Environment Canada study, the fungicide chlorothalonil, also called Bravo, was present in every air sample taken on the island—even in the control area which was at the end of a wharf away from any fields. The study also found that concentrations of the fungicide were just as high or higher on days when no spraying occurred as on days when it did. The US Environmental Protection Agency classes chlorothalonil as a carcinogen that can cause a variety of ill effects including skin and eye irritation, reproductive disorders and kidney damage. Labchuk says the PEI potato industry is controlled by New Brunswick's Irving family and McCain Foods. Calling PEI's Chief Medical Officer Lamont Sweet "just a patsy for the industry and for government," Labchuk believes that there has to be an impact on the economy to get the government's attention, so she and her group Earth Action have been handing out leaflets to tourists on the premise that "tourists aren't going to come to a place that's polluted and poisoned." Tourism in PEI is equal in economic clout to the potato industry. In the early 1990s, a study conducted by a Danish pharmaceutical company found that PEI had the highest hospitalization rates for asthma anywhere in the world. Although Van Til says asthma hospitalization rates have dropped in the last five years, Matsusaki believes PEI has the highest incidence of asthma and asthma deaths in Canada. Farmer Danny Hendricken, who spends $150,000 to $170,000 per year on fungicides for his 850-acre potato farm, believes the chemicals he uses on his land not only have a detrimental effect on the people and wildlife but on the soil as well. He says he's "disappointed" that the government hasn't pressured the corporations who own the

rights to the fungicides to develop a safer way. "Some tough decisions have got to be made, but unfortunately....for them to have the political intestinal fortitude to stand up to the corporate sector who's really benefiting financially from this takes a lot of political will." And while Hendricken hopes the government will initiate improvements to the industry, he's not holding his breath. For now, pesticides are the only way for farmers to keep their heads above water. Hendricken says net farm income, which acts as a barometer indicating the health of the industry, has greatly diminished in recent years. As a result, farm debt is spiraling out of control. He says that because farmers are only making mere "cents a pound" for potatoes, they have to produce millions of pounds just to get by. "It's a lot of pressure, there's a great deal of stress. It's like a treadmill that keeps running faster and faster. The industry here is almost at its limitation where it can't run any faster, and if it makes one slip, it's gone." (p 1).

Descartes, R. (1637). *Discourse on the method of rightly conducting the reason, and seeking truth in the sciences*(J. Veitch Trans.). (1899, Authoriz reprint ed.). La Salle: Open Court Pub. Co.

Dominion. (2007). *Oil versus water.* Retrieved 11/16/2007, 2007, from http://www.dominionpaper.ca/articles/1429

University of Alberta ecologist David Schindler, winner of the 1991 Stockholm Water Prize (known as "water science's Nobel Prize"), expressed concern over industry-related chemicals found in the water and their effect on human health.
In an interview shown in a video documentary produced by OilSandsTruth.org Schindler said his biggest concern is the possibility of a breach of massive tailing ponds near Fort McMurray, which now cover an estimated 50-square kilometres. "Those ponds are acutely toxic material, so they would affect things probably well down the Athabasca and into the Slave River, and possibly beyond the Slave Delta."

Such a breach, said Schindler, could conceivably occur in the event of extreme rainfall or an earthquake. But it's not just the extreme possibility that has Schindler concerned.
"We know that those [tailing pond] dykes do seep some material. They try to catch it at the bottom and pump it back over the top. I don't know what per cent efficiency they have, but very few things are 100 per cent efficient."
In Fort Chipewyan, there have been reports of increases in diseases and cancers.

A local doctor, John O'Connor, reported disproportionately high incidents of colon, liver, blood and bile-duct cancers in the community. "There have been several different kinds of cancer, as well as what we call auto-immune diseases like rheumatoid arthritis, lupus, various skin rashes," O'Connor told the Dominion. "The malignant--the cancerous diseases have been the biggest concern."

One condition, Cholangiocarcinoma, normally occurs in one out of 100,000 people. But in Fort Chipewyan, "We've had two tissue biopsy confirmed cases...and possibly another three or four, which didn't actually get to tissue biopsy diagnosis."
"In a population of between 750 and 1200, that's very unexpected."

"There are all kinds of sicknesses going on," said Allan Adam, a councillor with ACFN. "The elders say that before, in the 70s, people weren't sick like they are now. That's when all the oil sands started developing."

Warning signs of toxicity have also turned up in animals. "Some people say that they've seen spots inside the animals, that they won't eat the moosemeat because there's a different taste in it now," said Adam. "Fish have different growths on them, that weren't there before. Pusses growing out of their skin, and the gills are deformed on some of them"

After O'Connor took his claims public and called for an inquiry into the effects of the tar sands operations on water, he became the subject of an official complaint by officials at Health Canada. He subsequently gained the support of the community, environmental groups and First Nations. The Alberta Medical Association unanimously passed a resolution defending his "professional obligation and his right to speak out when he observes something."

Chief Roxanne Marcel of the Mikisew Cree First Nation has issued an appeal: "Our message to both levels of government, to Albertans, to Canadians and to the world who may depend on oil sands for their energy solutions, that we can no longer be sacrificed any longer."

Toxins from tailing ponds aren't the only problem on the Athabasca, however.

Estimates have oil production at 3 million barrels per day by 2015. At this rate, the Athabasca tar sands are projected to last over 400 years. But along with the effects of climate change, water usage will exacerbate the drying of the Athabasca. Because the Athabasca River is iced-over for long periods, it is susceptible to low oxygen levels from decomposing organic matter. Diminished flows could exacerbate low oxygen levels further. This threatens high flows that flood shallow-side channels and perched basins in the delta, which are critical spawing grounds for fish like walleye.

"About the most positive thing I can say is that I'm glad I'm a human being and not a fish in Alberta," said Schindler.

Einstein, A., Seelig, C., Bargmann, S., & Einstein, A. (1954). *Ideas and opinions : Based on mein weltbild*. New York: Crown Publishers.

Fehr, E., & Fischbacher, U. (2004). Social norms and human cooperation. *Trends in Cognitive Sciences, 8*(4), 185-190.

Fehr, E., & Rockenbach, B. (2004). Human altruism: Economic, neural, and evolutionary perspectives. *Current Opinion in Neurobiology, 14*(6), 784-790.

Human cooperation represents a spectacular outlier in the animal world. Unlike other creatures, humans frequently cooperate with

genetically unrelated strangers, often in large groups, with people they will never meet again, and when reputation gains are small or absent. Experimental evidence and evolutionary models suggest that strong reciprocity, the behavioral propensity for altruistic punishment and altruistic rewarding, is of key importance for human cooperation. Here, we review both evidence documenting altruistic punishment and altruistic cooperation and recent brain imaging studies that combine the powerful tools of behavioral game theory with neuroimaging techniques. These studies show that mutual cooperation and the punishment of defectors activate reward related neural circuits, suggesting that evolution has endowed humans with proximate mechanisms that render altruistic behavior psychologically rewarding.

Festinger, L. (1957). *A theory of cognitive dissonance*. Evanston, Ill.: Row, Peterson.

Fischer, G., & Encontrre, P. (1998). In Baldacchino G., Greenwood R.(Eds.), *The economic disadvantages of island developing countries: Problems of smallness, remoteness and economies of scale*. Charlottetown: Institute of Island Studies, University of Prince Edward Island.

Fitzgerald, F. S. (1934). *Tender is the night, a romance*. New York: C. Scribner's sons.

Frankfurt, H. G. (2005). *On bullshit*. Princeton, N.J.: Princeton University Press.

(1) One of the most salient features of our culture is that there is so much bullshit. Everyone knows this. Each of us contributes his share. But we tend to take the situation for granted. Most people are rather confident of their ability to recognize bullshit and to avoid being taken in by it. So the phenomenon has not aroused much deliberate concern, nor attracted much sustained inquiry. In consequence, we have no clear understanding of what bullshit is, why there is so much of it, or what functions it serves. And we lack a conscientiously developed appreciation of what it means to us. In other words, we have no theory (Frankfurt 2005, p 1).

(2) Another worthwhile source is the title essay in *The Prevalence of Humbug* by Max Black [(1985)]. Am uncertain just how close in meaning the word *humbug* is to the word *bullshit*. Of course, the words are not freely and fully interchangeable; it is clear that they are used differently. But the difference appears on the whole to have more to do with considerations of gentility, and certain other rhetorical parameters, than with the strictly literal modes of significance that concerns me most.. It is more polite, as well as less intense, to say "Humbug!" than to say "Bullshit!" For the sake of this discussion, I shall assume that there is no other important difference between the two.... Black...confronts the problem of establishing the nature of humbug more directly, and he offers the following formal definition: HUMBUG: deceptive misrepresentation, short of lying, especially by pretentious word or deed, of somebody's own thoughts, feelings, or attitudes (Ibid, pp 4-6).

Frey, B. S., & Stutzer, A. (2000). Happiness, economy and institutions. *The Economic Journal, 110*(466), 918-938.

Institutional factors in the form of direct democracy (via initiatives and referenda) and federal structure (local autonomy) systematically and sizeably raise self-reported individual well-being in a cross-regional econometric analysis. This positive effect can be attributed to political outcomes closer to voters' preferences, as well as to the procedural utility of political participation possibilities. Moreover, the results of previous microeconometric well-being functions for other countries are generally supported. Unemployment has a strongly depressing effect on happiness. A higher income level raises happiness, however, only to a small extent.

Frey, B. S., & Stutzer, A. (2002). What can economists learn from happiness research? *Journal of Economic Literature, 40*(2), 402-435. http://links.jstor.org.rlproxy.upei.ca/sici?sici=0022-0515%28200206%2940%3A2%3C402%3AWCELFH%3E2.0.CO%3B2-A

Frey, B., Benesch, C., & Stutzer, A. (2005). Does watching TV make us happy? *Journal of Economic Psychology, 28*(3), 283-313.

ABSTRACT: Watching TV is a major human activity. Because of its immediate benefits at negligible immediate marginal costs it is for many people tempting to view TV rather than to pursue more engaging activities. As a consequence, individuals with incomplete control over, and foresight into, their own behavior watch more TV than they consider optimal for themselves and their well-being is lower than what could be achieved. We find that heavy TV viewers, and in particular those with significant opportunity cost of time, report lower life satisfaction. Long TV hours are also linked to higher material aspirations and anxiety.
(1) Watching TV is a very important activity, carried out by most people in the majority of countries. In many countries nowadays, watching TV occupies almost as much time as working. As it is a totally voluntary, freely chosen activity, it seems obvious that people enjoy it, because they would not do it otherwise. They are more satisfied with having the opportunity to watch TV to the extent they do rather than watching less TV or none at all.

This implication is shared by standard neoclassical economic theory. Individuals are assumed to know best what provides them with utility and are free to choose the amount of TV consumption that suits them best. By revealed preference, it follows from the fact that individuals watch so much TV as has been empirically observed that it provides them with considerable utility.

Recent developments, particularly in behavioral economics, cast doubt on this conclusion. The theory of revealed preference has been questioned (see, for instance, Sen 1982; 1995): it is, in general, not possible to infer the utility produced by observing behavior, because individuals do not always act rationally. More concretely, anomalies and biases in behavior have been identified (e.g. Thaler

1992), which undermine the direct link between observed behavior and the utility gained. Individuals may also be subject to habits which they do not have fully under control. They may consume some goods, such as drugs, alcohol or tobacco to a greater extent than they find to be good for themselves. They are subject to a self-control problem (e.g. Schelling 1984), again interfering with the direct relationship proposed by revealed preference theory. As Gruber and Mullainathan (2002) empirically show, predicted smokers, according to their own evaluation, consider themselves to be better off if smoking was restricted by a tax. Finally, individuals may systematically mispredict the utility derived from future consumption (e.g. Loewenstein and Schkade 1999; Loewenstein et al. 2003). In particular, happiness research (for a survey, see Frey and Stutzer 2002b) has empirically shown that individuals overestimate the utility of future income (e.g. Easterlin 2001), at the same time as they underestimate the utility of personal interactions (Frey and Stutzer 2004). The consumption decisions made by individuals are systematically distorted according to their own evaluations.

This paper argues that TV viewing is a case in which the theory of revealed preference does not fully apply: many people watch more TV than they consider good for themselves. The extent of TV viewing is not generally utility maximizing. Many individuals are subject to a self-control problem, mainly induced by the fact that watching TV offers immediate benefits (e.g. entertainment and relaxation) at very low immediate marginal costs. Many costs (e.g. not enough sleep, underinvestment in social contacts, education or career) are only experienced in the future. Individuals with time inconsistent preferences are therefore unable to adhere to the amount of TV viewing they planned or which, in retrospect, they would consider optimal for themselves. This tendency is aggravated when people mispredict future costs because they underestimate utility from socializing and neglect changes in preference due to TV consumption. Extensive TV viewing is thus understood to be the result of mispredicting utility and a self-control problem, lowering individuals' well-being (pp 2-3).

(2) A certain Canadian city was unable to receive any TV signals up until 1973, due to its location in a steep valley. Otherwise, it was similar to two cities in the vicinity used as control cases. A study by Williams (1986) suggests that the introduction of TV crowded out other activities, in particular those outside the home, such as sports' activities and visiting clubs. It also reduced the reading abilities and creative thinking of children and fostered more aggressive behavior and stereotyped ideas about gender roles. TV also reduced the problem solving capacities of adults (p 8).

(3) Popper was… very concerned about the mass media, especially television, which exercised 'unlimited power without responsibility'. Indeed, the last text he published before his death was a pamphlet called *Una patente per fare TV* (A Licence to Make TV), which, far from being just a sterile denunciation, proposed a solution for the safeguarding of democracy and, above all, for the protection of young children and those least able to defend themselves from the aggressiveness of images and messages appearing on the small screen. What he suggested was to establish an organization similar to a professional body, which would train its members in certain values and have the power to issue reprimands for breaches of the rules.[1]

(4) [Popper:] At present the greatest danger to the educational effort is television. Education just cannot go on if you let the television do what it likes. It is impossible for education to work against television unless television recognizes that it also has an educational task which overrules our mere entertainment. Otherwise we cannot have education. From the democratic point of view television must be controlled because of its potential political power which is almost unlimited. If you get hold of television, you can do whatever you like. And such power must be controlled. My proposal is to look at the problem of controlling television as a task similar to that of control of medical people. Medical people have to be controlled too, and they do it very largely themselves. For example, they have to have a certain education. The same applies to the system of control of lawyers, who have their own organization which controls them. Thanks to these systems of control the lawyers do not steal the money from their clients and doctors do not kill their patients. And you have to control all people who work for television in some kind of organization. They would have to be [admitted to] such an organization [only] on the basis of some [special] education, after passing appropriate examinations testing their awareness of the educational tasks, and their sense of responsibility. They would have to learn that their influence is very great and that their responsibility is equally great (Jarvie, 1999, p 36).

1Corvi, Roberta. *Introduction to the Thought of Karl Popper.*
Florence, KY, USA: Routledge, 1996. p 11.
http://site.ebrary.com.rlproxy.upei.ca/lib/upei/Doc?id=10095115&ppg=24

Fuller, S. (2003). *Kuhn vs. popper.* Cambridge, UK: Icon Books, Ltd.

(1) The Kuhn-Popper debate, strictly speaking, refers to an encounter that took place at the former Bedford College, University of London on 13 July 1965, as part of the International Colloquium in the Philosophy of Science. It was designed to pit a relatively young theorist of science (Kuhn, aged 43) whose 1962 book, *The Structure of Scientific Revolutions*, was touted as the latest word from the Unite States, against a relatively old theorist of science (Popper, aged 63) whose seminal book, *The Logic of Scientific Discovery*, had been translated into English on in 1959, a quarter-century after it first appeared in German (Fuller 2003, p10) .

(2) This brings me to the… source of the debate's continuing significance. Kuhn and Popper tapped into long-simmering, deep-rooted disagreements that went well beyond the pages of their major works on science…. Sometimes behind such scholastic fodder that frames philosophical debate lie opponents who are not so different from each other after all…. But sometimes the stereotype, for all its crudeness, *does* [italics Fuller's] capture differences in sensibility that become deeper the more one looks. This is certainly the case with Popper and Kuhn (Ibid, pp14-15).

(3) The clash between Popper and Kuhn is not about a mere technical point in epistemology. It concerns our central intellectual values, and has implications not only for theoretical physics but also for the underdeveloped social sciences and even moral and political philosophy (Lakatos 1978, vol 1, p 9).

(4) Steve Fuller argues that Kuhn actually held a profoundly conservative view of science and how one ought to study its history. Early on, Kuhn came under the influence of Harvard President James Bryant Conant (to whom *Structure* is dedicated), who had developed an educational program intended to help deflect Cold War unease over science's uncertain future by focusing on its illustrious past. Fuller argues that this rhetoric made its way into Structure…

Fuller suggests that Kuhn, deliberately or not, shared the tendency in Western culture to conceal possible negative effects of new knowledge from the general public. Because it insists on a difference between a history of science for scientists and one suited to historians, Fuller charges that Structure created the awkward divide that has led directly to the "Science Wars" and has stifled much innovative research….

"Philosophies like Kuhn's narrow the possible futures of inquiry by politically methodizing and taming them."—William R. Everdell, *Washington Times* (Fuller 2000, Dust Jacket).

(5) For Kuhn, science is simply good at solving its self-defined problems, whose purely technical nature led him to dub them 'puzzles'. But far from demoting the physical sciences, Kuhn was actually trying – as a latter-day Plato might – to insulate them from responsibility for real world effects, entanglement in which has historically prevented the social and biological science from taking full control of their inquiries (p 69).

(6) The villain… was James Bryant Conant, president of Harvard from 1933 to 1953. His "General Education in Science" program at Harvard, in which Kuhn taught, explicitly aimed to give future policy makers a broad understanding of science. In the era of the atomic bomb, Sputnik and the moon race, of penicillin, DNA, and the pill, it was clear that science had much greater social implications than had been thought only a decade or two before. Conant was one of the "action-intellectuals" who defined America's early Cold War vision, especially in the areas of science and educational policy. Central to it was the National Science Foundation, which provided large sums for basic research, of the kind that had turned out unexpectedly to be at the basis of the making of the atomic bomb (and in contrast to the kind of science directly aimed at ideologically specified technological ends, like Lysenko's biology and Nazi eugenics).

Conant's preface to Kuhn's first book, The Copernican Revolution (1957), linked the decline of Western Europe to its outdated humanities curricula. Yet, he thought, simply teaching humanists a little straight science had not proved effective either. Science tends to lack a storyline or anything that engages the emotions or encourages the taking of sides. "No one admires or condemns the metals or the behavior of their salts," as he justly said. His solution was history. Carefully chosen episodes in the history of science, in early modern times before it had become too complicated, would allow the student to engage with the excitement of discovery, the "interplay of hypothesis and experiment," and the conflict of personalities and ideas. This was the plan Kuhn implemented in his own teaching, and refined in his books (Franklin 2000, w1).

Funk, M. (2007a). On the problem of global warming: A solution for william funk, albert gore and richard branson. *Privatgelehrter* paper.

ABSTRACT: Contrary to popular opinion, "*The Problem of Global Warming*," is *not*, I submit, ecological distress due to the superheating of the Earth--because this is clearly not the problem—it is merely a single symptom of far more significant problems, which, I further submit, stem from the *Problem of Induction* (see Hume 1739). In short, *The Problem of Induction* has generated convenient myths (see Archbar, Wintonick, Symansky, & Chomsky 1992), which encourage men to act irrationally. Irrationality spawns and maintains irrational institutions which manufacture consent (see Herman and Chomsky 1992), drive irrational conspicuous consumption (Veblen 1899), and, moreover, foster hyperirrational resource consumption— which is certainly not limited to the consumption of superheating fossil fuels. I propose a variety of counter-intuitive, viable solutions, but conclude the problem may be insoluble, as the philosophical and methodological foundations (see Popper 1945, 19556, 1959, & 1963, Russell 1928, 1938, 1941, Rowbottom & Aiston 2006) render dominant irrational agents and institutions unable to recognize the true nature

of the problem (see Festinger 1957) and/or unwilling to act upon otherwise viable solutions.

Funk, M. (2007b). On the problem of hollywood economics: de vany's error--george lucas knows something. *Privatgelehrter* paper.

Abstract: Hayek (1991) lamented the difficulty in distinguishing between economics and excrement, and Hemingway (1958) noted "The most essential gift for a good writer is a built-in, shock-proof, bullshit detector." In this spirit and within the context of Frankfurt's (2004) *Theory of Bullshit*, this paper constructs a bullshit detector for economics. This apparatus is carefully calibrated to detect the Seven Deadly Sins of 'Hollywood Economics': Hubris, Intellectual Dishonesty, Greed, Mathematical Mania, Physics Fetishes, Conditions of Emptiness, and Sunspots. We trace the philosophical and methodological origin of these traits to its source, *The Problem of Induction*, then illustrate with examples from Plato to the present, including detailed analysis from the illuminating cases of Long Term Capital Management and William Stanley Jevons' sunspot theory. Furthermore, we demonstrate the contemporary effectiveness of this apparatus by detecting hereto undetected economic bullshit, namely Arthur de Vany's (2004) *Hollywood Economics: How Extreme Uncertainty Shapes the Film Industry*. In the process, we falsify de Vany's '*Nobody knows anything*' theory and advance our replacement theory: *George Lucas knows something*.

Funk, M. (2007c). *On the problem of compression: Logical errors and bad advice from the APA publication manual. The Institute of Island Studies* working paper.

Abstract: As Taleb (2004) noted:

> *I do not dispute that arguments should be simplified to their maximum potential; but people often confuse complex ideas that cannot be simplified into a media-friendly statement as symptomatic of a confused mind. MBAs learn the concept of clarity and simplicity—the five-minute manager take on things. The concept may apply to the business plan for a fertilizer plant, but not to highly probabilistic arguments—which is the reason I have anecdotal evidence in my business that MBAs tend to blow up in financial markets, as they are trained to simplify matters a couple of steps beyond their requirement* (pp 36-37).

By definiton, data and signal strength are lost through compression; thus writers commit errors through the act of compressing (paraphrasing, summarizing, etc) cited references. This paper highlights counterproductive stylistic recommendations in both Fourth and Fifth editions of the American Psychological Association's *Publicatino Manual* which (1) mandate plagairism through omission, (2) produce systemic error generation, and (3) hinder and limit the progress of science. In conclusion, this paper presents suitable amendments to the *Publication Manual*.

Funk, M. (2007d). *On the problem of mathematics: Introducing an Island Bioeconomic equilibrium. The Institute of Island Studies* working paper.

Abstract: Real-world deviations from the nash-cournot equilibrium have been addressed with a patchwork of ad hoc theories. Although Kahneman and Tversky (1979) shed light on these deviations, previous research has failed to discover the fountainhead of these deviations; this paper presents a bioeconomic equilibrium which provides a universal solution to this deviation.

KEY WORDS: Hume, Popper, Hayek, Austrian economics, Nash, Cournot, bioeconomics, natural selection, evolutionary economics, sustainable development, global warming, game theory, theory of natural resource value, induction

Funk, M. (2007e). *On the problems of beauty and vulnerability. The Institute of Island Studies* working paper.

Funk, M. (2007f). *On the problem of global warming: a brief history of a new & unpopular theory in an open letter to john gillis & ragnar arnason. The Institute of Island Studies* working paper.

Abstract: Funk's (2007a) theory of *The Problem of Global Warming* forwards the hypothesis that 'global warming' is *not* in fact limited to ecological distress induced through the consumption of superheating fossil fuels—but that that is merely *a single symptom* of far more significant problems, which, Funk (2007a) further submits, stem from the *Problem of Induction* (see Hume 1739). In short, *The Problem of Induction* has generated *convenient myths* (see Archbar, Wintonick, Symansky, & Chomsky 1992), which encourage men to act irrationally. Irrationality spawns and maintains irrational institutions which manufacture consent (see Herman & Chomsky 1988), drive irrational conspicuous consumption (Veblen 1899), and, moreover, foster hyperirrational resource consumption—which is certainly not limited to the consumption of superheating fossil fuels. Although Funk (2007a) forwards viable solutions, given the deep systemic entrenchment of irrationality, the paper concludes this problem may be insoluble. This paper traces the history, evolution, and development of this new and unpopular theory.

Funk, M. (2007g). *Correspondence with peter c. doherty*

Gillis, J. R. (2004). *Islands of the mind : How the human imagination created the atlantic world*. New York: Palgrave Macmillan.

Gissurarson, H. H. (2000). *Property rights in marine resources: Some new developments* . Retrieved 11/13/2007, 2007, from http://www.hku.hk.rlproxy.upei.ca/hkcer/articles/v60/hannes.htm

Gowdy, J. (1991). Bioeconomics and post keynesian economics: A search for common ground. *Ecological Economics, 3*(1), 77-87.

Hasler, A. D., Scholz, A. T., & Goy, R. W. (1983). *Olfactory imprinting and homing in salmon : Investigations into the mechanism of the imprinting process*. Berlin ; New York: Springer-Verlag.

Hayek, F. A. (1944). *The road to serfdom* (2001st ed.). London ; New York: Routledge Classics.
Is there a greater tragedy imaginable than that, in our endeavour consciously to shape our future in accordance with high ideals, we should in fact unwittingly produce the very opposite of what we have been striving (p4)?

Hayek, F. A. (1945). The use of knowledge in society. *The American Economic Review, 35*(4), 519-530. http://links.jstor.org.rlproxy.upei.ca/sici?sici=0002-8282%28194509%2935%3A4%3C519%3ATUOKIS%3E2.0.CO%3B2-1

Hayek, F. A. (1982). *Law, legislation and liberty : A new statement of the liberal principles of justice and political economy*. London: Routledge and Kegan Paul.

Hayek, F. A. (1960). *The constitution of liberty* (1978th ed.). London: Routledge.

(1) Before we can try to remold society intelligently, we must understand its functioning; we must realize that, even when we believe that we understand it, we may be mistaken. What we must learn to understand is that human civilization has a life of its own, that all our efforts to improve things must operate within a working whole which we cannot entirely control, and the operation of whose forces we can hope merely to facilitate and assist so far as we can understand them (pp 69-70).

(2) As leader of the opposition from 1974 onward, [Margaret Thatcher] left no doubt that she was also one of the Conservative Party's most committed free marketers. In the mid-1970s, not long after becoming Leader, she visited the Conservative Party's research department.... She reached into her briefcase and pulled out a book. It was Hayek's *The Constitution of Liberty*. She held it up for all to see. "This," she said sternly, "is what we believe." She slammed it down on the table and then proceeded to deliver a monologue on the ills of the British economy (Yergin & Stanislaw 1998).

Hayek, F. A., Bartley, W. W., & Kresge, S. (1991). *The trend of economic thinking : Essays on political economists and economic history*. Chicago: University of Chicago Press.

(1) What made Vienna the distinctive city that it was, as much as any other the fount of Western culture, is a question to be kept in mind...What we might observe is that a milieu such as that in which Hayek spent his childhood and youth, a society in which family and associates, position and accomplishment, knowledge and history were so tightly intertwined, meant that the members of such a society were quickly and always apprised of what *mattered* [italics Bartley's]. This is no small feat, as any teacher of the present generation of youth knows too well. It is the *significance* [italics Bartley's] of knowledge and information that leads to the evolution of understanding (p 5).

(2) What is becoming a scarce resource is any sense of the significance of this *welter of information*. *We are losing the sense of what matters, of the habits of mind that can be traced to a loss of context; abstract ideas are not easily conveyed absent a recognizable embodiment, and the subtext, that which is not said, may be missing* [italics mine] (p 13).

Hayek, F. A. (1974). Speech at the Nobel Banquet, December 10, 1974]

Your Majesty, Your Royal Highnesses, Ladies and Gentlemen,

Now that the Nobel Memorial Prize for economic science has been created, one can only be profoundly grateful for having been selected as one of its joint recipients, and the economists certainly have every reason for being grateful to the Swedish Riksbank for regarding their subject as worthy of this high honour.

Yet I must confess that if I had been consulted whether to establish a Nobel Prize in economics, I should have decidedly advised against it.

One reason was that I feared that such a prize, as I believe is true of the activities of some of the great scientific foundations, would tend to accentuate the swings of scientific fashion.

This apprehension the selection committee has brilliantly refuted by awarding the prize to one whose views are as unfashionable as mine are.

I do not yet feel equally reassured concerning my second cause of apprehension.

It is that the Nobel Prize confers on an individual an authority which in economics no man ought to possess.

This does not matter in the natural sciences. Here the influence exercised by an individual is chiefly an influence on his fellow experts;

and they will soon cut him down to size if he exceeds his competence.

But the influence of the economist that mainly matters is an influence over laymen: politicians, journalists, civil servants and the public generally.

There is no reason why a man who has made a distinctive contribution to economic science should be omnicompetent on all problems of society - as the press tends to treat him till in the end he may himself be persuaded to believe.

One is even made to feel it a public duty to pronounce on problems to which one may not have devoted special attention.

I am not sure that it is desirable to strengthen the influence of a few individual economists by such a ceremonial and eye-catching recognition of achievements, perhaps of the distant past.

I am therefore almost inclined to suggest that you require from your laureates an oath of humility, a sort of Hippocratic oath, never to exceed in public pronouncements the limits of their competence [italics mine].

Hayek, F. A. (1974). The pretense of knowledge. *The American Economic Review, 79*(6, Nobel Lectures and 1989 Survey of Members), 3-7. http://links.jstor.org.rlproxy.upei.ca/sici?sici=0002-8282%28198912%2979%3A6%3C3%3ATPOK%3E2.0.CO%3B2-7

(1) It seems to me that this failure of the economists to guide policy more successfully is closely connected with their propensity to imitate as closely as possible the procedures of the brilliantly successful physical sciences - an attempt which in our field may lead to outright error. It is an approach which has come to be described as the "scientistic" attitude - an attitude which, as I defined it some thirty years ago, "is decidedly unscientific in the true sense of the word, since it involves a mechanical and uncritical application of habits of thought to fields different from those in which they have been formed." ["Scientism and the Study of Society", *Economica*, vol. IX, no. 35, August 1942, reprinted in *The Counter-Revolution of Science*, Glencoe, Ill., 1952, p. 15 of this reprint.] I want today to begin by explaining how some of the gravest errors of recent economic policy are a direct consequence of this scientistic error.

(2) Unlike the position that exists in the physical sciences, in economics and other disciplines that deal with essentially complex phenomena, the aspects of the events to be accounted for about which we can get quantitative data are necessarily limited and may not include the important ones. While in the physical sciences it is generally assumed, probably with good reason, that any important factor which determines the observed events will itself be directly observable and measurable, in the study of such complex phenomena as the market, which depend on the actions of many individuals, all the circumstances which will determine the outcome of a process, for reasons which I shall explain later, will hardly ever be fully known or measurable.

(3) Why should we, however, in economics, have to plead ignorance of the sort of facts on which, in the case of a physical theory, a scientist would certainly be expected to give precise information? It is probably not surprising that those impressed by the example of the physical sciences should find this position very unsatisfactory and should insist on the standards of proof which they find there. The reason for this state of affairs is the fact, to which I have already briefly referred, that the social sciences, like much of biology but unlike most fields of the physical sciences, have to deal with structures of *essential* complexity, i.e. with structures whose characteristic properties can be exhibited only by models made up of relatively large numbers of variables.

(4) It has led to the illusion, however, that we can use this technique for the determination and prediction of the numerical values of those magnitudes; and this has led to a vain search for quantitative or numerical constants. This happened in spite of the fact that the modern founders of mathematical economics had no such illusions. It is true that their systems of equations describing the pattern of a market equilibrium are so framed that if we were able to fill in all the blanks of the abstract formulae, i.e. if we knew all the parameters of these equations, we could calculate the prices and quantities of all commodities and services sold. But, as Vilfredo Pareto, one of the founders of this theory, clearly stated, its purpose cannot be "to arrive at a numerical calculation of prices", because, as he said, it would be "absurd" to assume that we could ascertain all the data [V. Pareto, *Manuel d'économie politique*, 2nd. ed., Paris 1927, pp. 223-4].…

Hayek, F. A., Bartley, W. W., & Kresge, S. (1991). *The trend of economic thinking : Essays on political economists and economic history*. Chicago: University of Chicago Press.

(1) What made Vienna the distinctive city that it was, as much as any other the fount of Western culture, is a question to be kept in mind…What we might observe is that a milieu such as that in which Hayek spent his childhood and youth, a society in which family and associates, position and accomplishment, knowledge and history were so tightly intertwined, meant that the members of such a society were quickly and always apprised of what *mattered* [italics Bartley's]. This is no small feat, as any teacher of the present generation of youth knows too well. It is the *significance* [italics Bartley's] of knowledge and information that leads to the evolution of understanding (p 5).

(2) What is becoming a scarce resource is any sense of the significance of this *welter of information. We are losing the sense of what matters, of the habits of mind that can be traced to a loss of context; abstract ideas are not easily conveyed absent a recognizable embodiment, and the subtext, that which is not said, may be missing* [italics mine] (p 13).

(3) It is the fact that in [economics] no knowledge can be regarded as established once and for all, and that, in fact, knowledge once gained and spread is often, not disproved, but simply lost and forgotten.... The reason why in our field knowledge can be so lost is, of course, that is never established by experiment, but can be acquired only by following a rather difficult process of reasoning.... The result is that in economics you can never establish a truth once and for all but have always to convince every generation anew (p 38).

Herman, E. S., & Chomsky, N. (1998). *Manufacturing consent : The political economy of the mass media* (2002, Edward S. Herman and Noam Chomsky ; with a new introduction by the authors.; Updated ed. of: Manufacturing consent. 1st ed. c1988.; Includes bibliographical references and index. ed.). New York: Pantheon Books.

(1) QUESTION: You write in *Manufacturing Consent* [(Pantheon, 1988)] that it's the primary function of the mass media in the United States to mobilize public support for the special interests that dominate the government and the private sector. What are those interests?
CHOMSKY: Well, if you want to understand the way any society works, ours or any other, the first place to look is who is in a position to make the decisions that determine the way the society functions. Societies differ, but in ours, the major decisions over what happens in the society -- decisions over investment and production and distribution and so on -- are in the hands of a relatively concentrated network of major corporations and conglomerates and investment firms. They are also the ones who staff the major executive positions in the government. They're the ones who own the media and they're the ones who have to be in a position to make the decisions. They have an overwhelmingly dominant role in the way life happens. You know, what's done in the society. Within the economic system, by law and in principle, they dominate. The control over resources and the need to satisfy their interests imposes very sharp constraints on the political system and on the ideological system (Chomsky 1992).

Hess, E. H. (1973). *Imprinting; early experience and the developmental psychobiology of attachment*. New York: Van Nostrand Reinhold Co.

Hume, D. (1739). *A treatise of human nature: Being an attempt to introduce the experimental method of reasoning into moral subjects.*

(1) Our foregoing method of reasoning will easily convince us, that *there can be no demonstrative arguments to prove, that those instances, of which we have had no experience, resemble those, of which we have had experience* (Hume 1739, Book I, Vol I, p 137).

(2) To falsify a knowledge-claim is to provide evidence that it is false. Since the time of David Hume, empiricist philosophy of science has struggled with the problem of induction: namely, how is it possible to justify inference, from a finite set of instances, to the truth of a universal law whose scope is potentially infinite? In the absence of a convincing answer to this question, our everyday and scientific belief in a regular, ordered, and predictable universe must seem to be a physiologically indispensable, but still irrational, habit of mind.

The original approach to this problem pioneered by Karl Popper involved a reasoned rejection of the question itself. Popper accepted that the problem of induction was insoluble, but it did not follow that science was irrational, or that it could not progress. Instead of seeing discovery of the truth as the aim of science, we should, rather, see scientific activity as a systematic attempt to 'falsify'—or refute—bold and imaginative conjectures about the nature of the world. Popper's formulation of this principle is widely acknowledged as one of the most original contributions to the modern philosophy of science$_1$.

(3) It took a remarkably long time before the novelty of the intellectual situation was grasped. Few realized what had happened. David Hume...saw that a great step forward had been taken, but he did not understand just how great and how radical this advance in human knowledge really was. *I am afraid that even today many people still do not fully understand this* [italics mine] (Popper 1994, p 36).

(4) *The classical notion of science as true, secure and sufficiently justified knowledge still flourishes even today* [italics mine]. But it was overtaken sixty years ago by the Einsteinian Revolution; by Einstein's gravitational theory.

The outcome of this revolution is that Einstein's theory, whether true or false, demonstrates that knowledge in the classical sense, secure knowledge, certainly is impossible. *Kant was right: our theories are free creations of our intellect, which we try to impose upon nature. But we are only rarely successful in guessing the truth; and we can never be certain whether we have succeeded. We must make do with conjectural knowledge* [italics mine] (Popper 1994, p 37).

(5) Hume has permanently influenced the development of the best of philosophers who came after him. *Man has an intense desire for assured knowledge. That is why Hume's clear message seemed crushing* [italics mine] (Einstein 1956 p 21-22).

(6) There is a problem in inference well-known as the problem of induction. It is a problem that has been haunting science for a long time, but hard science has not been as harmed by it as the social sciences, particularly economics, even more the branch of financial

economics. (Taleb 2004, p 117)

(7) **THE PROBLEM OF INDUCTION**

According to a widely accepted view… the empirical sciences can be characterized by the fact that they use 'inductive methods', as they are called. According to this view, the logic of scientific discovery would be identical with inductive logic, i. e. with the logical analysis of these inductive methods. It is usual to call an inference 'inductive' if it passes from singular statements (sometimes also called 'particular' statements), such as accounts of the results of observations or experiments, to universal statements, such as hypotheses or theories. Now it is far from obvious, from a logical point of view, that we are justified in inferring universal statements from singular ones, no matter how numerous; for any conclusion drawn in this way may always turn out to be false: no matter how many instances of white swans we may have observed, this does not justify the conclusion that all swans are white.

The question whether inductive inferences are justified, or under what conditions, is known as the problem of induction. The problem of induction may also be formulated as the question of the validity or the truth of universal statements which are based on experience, such as the hypotheses and theoretical systems of the empirical sciences.…

Scientific statements can only attain continuous degrees of probability whose unattainable upper and lower limits are truth and falsity' [Reichenbach, Erkenntnis 1, 1930, p. 186]. At this stage I can disregard the fact that the believers in inductive logic entertain an idea of probability that I shall later reject as highly unsuitable for their own purposes (see section 80, below). I can do so because the difficulties mentioned are not even touched by an appeal to probability. For if a certain degree of probability is to be assigned to statements based on inductive inference, then this will have to be justified by invoking a new principle of induction, appropriately modified. And this new principle in its turn will have to be justified, and so on.

Nothing is gained, moreover, if the principle of induction, in its turn, is taken not as 'true' but only as 'probable'. In short, like every other form of inductive logic, the logic of probable inference, or 'probability logic', leads either to an infinite regress (Popper 1959, pp 31-35).

(8) There is dangerous innocence in the expectation of a future formed on the basis of probability. Any accident to which a human has been subject, however rare, however distant in time, is a possibility we must ready ourselves for (Botton 2000, p 90).

(9) The assumption that *economists* (italics Hayek's) can find predictable solutions to economic problems is undoubtedly the most inhibiting force in… economics. It has led to the increasing isolation of theoretical economists from the day-to-day practitioners of the subject—the actual participants in an economy, the consumers and the producers (Hayek 1991, p 9).

(10) Kant, in his *Critique of Pure Reason*, asserted under the influence of Hume that pure speculation or reason, whenever it ventures into a field in which it cannot possibly be checked by experience, is liable to get involved in contradictions or 'anti-anomies' and to produce what he unambiguously described as 'mere fancies' ; 'nonsense' ; 'illusions' ; 'a sterile dogmatism' ; and 'a superficial pretension to the knowledge of everything' (Popper, 1945, vII, p38).

[1]"falsification" A Dictionary of Sociology. John Scott and Gordon Marshall. Oxford University Press 2005. Oxford Reference Online. Oxford University Press. University of Prince Edward Island. 28 July 2006 <http://www.oxfordreference.com.rlproxy.upei.ca/views/ENTRY.html?subview=Main&entry=t88.e803>

Iceland Review. (2007). Iceland's cod catch down by 45 percent. *Iceland Review,* http://www.icelandreview.com/icelandreview/Daily_News/?ew_0_a_id=

Ten weeks into the current fishing season, long-line fishing boats have caught 2,000 tons of cod less than during the same period in 2006. The drop in the cod catch totals 45 percent, from 4,912 tons in 2006 to 2,718 this year.

The haddock catch is similar to the catch in 2006, or 5,547 tons, according to preliminary numbers from the Directorate of Fisheries, *Fréttabladid* reports.

Different types of fishing vessels have also experienced a drastic drop in cod fishing; their current catch is only half as much as in 2006, though 450 more tons of haddock have been caught this season, compared to the same period last year.

Institute of Island Studies. (1998). *Competing strategies of socio-economic development for small islands*. Charlottetown, P.E.I.: Institute of Island Studies, University of Prince Edward Island.

Jarvie, I. C., & Pralong, S. (1999). *Popper's open society after fifty years*. London ; New York: Routledge. http://rlproxy.upei.ca/login?url=http://site.ebrary.com.rlproxy.upei.ca/lib/upei/Doc?id=10017068

(1) In intellectual circles Popper was very much admired. But because The Open Society and Its Enemies was hostile to so much academic pretension it was treated less than respectfully by those in the various specialties upon whose turf it trod (p 6).

(2) In 1950, Popper went to Harvard to deliver the prestigious William James lectures. During his time in the States he appears to have given a talk at the University of Chicago, where Strauss taught. Strauss told Voegelin that the talk "was very bad," "the most

washed-out, lifeless positivism" (Emberly and Cooper 1993: 67), and inquired of his opinion of Popper. Voegelin replied with a vicious letter. He reports having reluctantly read Popper because so many people insist his Open Society is a masterpiece. His judgment is that the book is "impudent, dilettantish crap. Every single sentence is a scandal . . ." (ibid.). Noting that Popper takes the concept of open society from Bergson, he comments that Bergson did not develop it "for the sole purpose that the coffeehouse scum might have some-thing to botch." Voegelin believed that Bergson would have thought that "Popper's idea of the open society is ideological rubbish" (ibid.). Voegelin is only just getting started. He accuses Popper of "impertinent disregard for the achievements in this particular problem area [the history of political thought]" (Emberly and Cooper 1993: 68) and of being unable to reproduce accurately the ideas of Plato and Hegel. Popper is "a primitive ideological brawler." Voegelin then strings more epithets together, "a failed intellectual," "rascally impertinent, loutish; in terms of technical competence as a piece in the history of thought, it is dilettantish, and as a result is worthless" (Emberley and Cooper 1993: 67). The reader astonished at this undignified diatribe needs to remember that in the book in question Popper is vehement about the duty to think for oneself and not to defer to the authority of experts. Strauss and Voegelin agree on the opposite, and on the duty of the enlightened elite to defend standards. Strauss had said he was willing to keep Voegelin's remarks to himself. Voegelin concludes: "It would not be suitable to show this letter to the unqualified. Where it concerns its factual contents, I would see it as a violation of the vocational duty you identified, to support this scandal through silence" (Emberly and Cooper 1993: 69). Following this invitation, Strauss showed the letter to Kurt Riezler, "who was thereby encouraged to throw his not inconsiderable influence into the balance against Popper's probable appointment here [in the US]. You thereby helped to prevent a scandal." With hindsight one might think that the scandal is that someone who had dared to challenge the traditional Germanic learning, the worship of the great men, the enemies of science and Enlightenment, is not met out in the open with argument, but is disposed of behind the scenes, as quietly as possible, by the self-righteous use of power.

(3) In a June 17, 1996 article by Richard Lacayo, *Time* magazine named the late University of Chicago philosopher Leo Strauss (1899-1973) as one of the most influential and powerful figures in Washington, D.C.—the man most responsible for the Newt Gingrich "Conservative Revolution" on Capitol Hill, and the intellectual godfather of [Gingrich's] "Contract on America".

If Strauss' influence on politics in the capital of the most powerful nation on Earth was awesome in 1996, it is even more so today. The leading "Straussian" in the Bush Administration is Deputy Defense Secretary Paul Wolfowitz, who was trained by Strauss' alter-ego and fellow University of Chicago professor Allan Bloom. Wolfowitz leads the "war party" within the civilian bureaucracy at the Pentagon, and his own protégé, I. Lewis "Scooter" Libby, is Vice President Dick Cheney's chief of staff and chief national security aide, directing a super-hawkish "shadow national security council" out of the Old Executive Office Building, adjacent to the White House. According to Bloom biographer Saul Bellow, the day that President George H.W. Bush rejected Wolfowitz and Cheney's demand that U.S. troops continue on to Baghdad, during Operation Desert Storm in 1991, Wolfowitz called Bloom on his private phone line to bitterly complain. It seems that "Bush 41" was not enough of a Nietzschean "superman" for Wolfowitz's taste....

On March 3, in a widely circulated radio interview on the Jack Stockwell Show in Salt Lake City (see EIR, March 14), Lyndon LaRouche had singled out Strauss as one of the leading intellectual figures... steering the United States into a disastrous replay of the Peloponnesian War, which led to the collapse of Athens. Within days of the LaRouche interview, Leo Strauss was the subject of a series of public attacks, in the German, French and American media... for his role in producing the current generation of neo-conservatives.

Indeed, author Shadia B. Drury, in her 1997 book, *Leo Strauss and the American Right*, named the following prominent Washington players as among Strauss' protégés: Paul Wolfowitz; Supreme Court Justic Clarence Thomas; Judge Robert Bork; [neo-conservative] propagandist and former Dan Quayle chief of staff, William Kristol; former Secretary of Education William Bennett; the National Review publisher William F. Buckley; former Reagan Administration official Alan Keyes; current White House bio-ethics advisor Francis Fukuyama; Attorney General John Ashcroft; and William Galston, former Clinton Administration domestic policy advisor, and co-author, with Elaine Kamark, of the Joe Lieberman-led Democratic Leadership Council's policy blueprint.

Earlier Strauss allies and protégés in launching the post-World War II neo-conservative movement were Irving Kristol, Norman Podhoretz, Samuel Huntington, Seymour Martin Lipset, Daniel Bell, Jeane Kirkpatrick, and James Q. Wilson....

The hallmark of Strauss' approach to philosophy was his hatred of the modern world, his belief in a totalitarian system, run by "philosophers," who rejected all universal principles of natural law, but saw their mission as absolute rulers, who lied and deceived a foolish "populist" mass, and used both religion and politics as a means of disseminating myths that kept the general population in clueless servitude. For Strauss and all of his protégés (Strauss personally had 100 Ph.D. students, and the "Straussians" now dominate most university political science and philosophy departments), the greatest object of hatred was the United States itself (Steinberg 2003).

(4) In Germany and Austria Popper's vocabulary became standard in the attempt to build a philosophy for the democracies of those countries. Some German philosophers (but only some), and influential members of the intellectual and political class, took Popper's ideas for common currency, showering him with public honor and recognition. Translations into all the main European languages

ensured a wide currency for the ideas. It might be only a slight exaggeration to say that Popper is a philosophical icon for the European Union's liberals. Equally important, though less obvious, was Popper's impact in totalitarian areas of Europe, From Spain and Portugal, through Eastern Europe to the USSR and to China, his works were spread in translation and samizdat publication as a fulcrum of intellectual resistance to the official ideology. After the fall of the Eastern European empire of the USSR in 1989, there was much need to build free and democratic institutions, and to reintroduce notions of freedom of thought, critical thinking, and intellectual inquiry in the former Soviet bloc countries. Popper was one of the few Western philosophers whose ideas were of sufficient scope amd depth to be applied to the task of linking free inquiry, free communication, freedom to enter and exit, with openness and freedom in politics. George Soros, the American billionaire of Hungarian origin who had encountered Popper's ideas during studies at the LSE, set up a network of philanthropic institutions in the region - aptly called "Open Society Foundations" - to put into practice Popper's ideas, by encouraging critical thinking in education, and by contributing to the development of an active, lively, civil society. In addition, Soros set up the Central European University (CEU) in Prague and then Budapest, to provide, among other things, an intellectual training ground for these ideas (p 8).

(5) Yes, despite all this I remain an optimist toward the world. It is one's duty to be an optimist. Only from this point of view can one be active and do what one can. If you are a pessimist, you have given up. We must remain optimists, we have to look at the world from the point of view of how beautiful it is, and to try to do what we can to make it better (p 48).

Jefferson, Thomas. (1776). The Declaration of Independence, http://www.archives.gov/national-archives-experience/charters/declaration_transcript.htmlU.S.C.

Kahneman, D., Slovic, P., & Tversky, A. (1982). *Judgment under uncertainty : Heuristics and biases*. Cambridge ; New York: Cambridge University Press.

Kirzner, I. M. (2006). *The austrian economists: Lifetime achievement award to professor israel M. kirzner.* Retrieved 10/31/2007, 2007, from http://austrianeconomists.typepad.com/weblog/2006/11/lifetime_achiev.html

During my fifteen years as Mises' students, I learned many lessons from him. And I learned even more lessons by painstakingly studying his published writings over the decades. As you may know, although I consider myself a disciple of Mises in economic theory, I have never subscribed to the overarching philosophical system within which Mises saw his economics as occupying the central place.

Yet, perhaps the most important lesson, which I have learned from Mises, was a lesson located outside economics itself. What Mises taught us in his writings, in his lectures, in his seminars, and in perhaps everything he said, was that economics—yes, and I mean sound economics, Austrian economics—is primordially, crucially important. Economics is not an intellectual game. Economics is deadly serious. The very future of mankind—of civilization—depends, in Mises' view, upon widespread understanding of, and respect for, the principles of economics.

This is a lesson, which is located almost entirely outside economics proper. But all Mises' work depended ultimately upon this tenet. Almost invariably, a scientist is motivated by values not strictly part of the science itself. The lust for fame, for material rewards—even the pure love of truth—these goals may possibly be fulfilled by scientific success, but are themselves not identified by science as worthwhile goals. What drove Mises, what accounted for his passionate dedication, his ability calmly to ignore the sneers of, and the isolation imposed by, academic contemporaries, was his conviction that the survival of mankind depends on the development and dissemination of Austrian economics….

Austrian economics is not simply a matter of intellectual problem solving, like a challenging crossword puzzle, but literally a matter of the life or death of the human race…

Kuang, W., & Bloxham, J. (1997). *An earth-like numerical dynamo model.* Retrieved 11/12/2007, 2007, from http://www.nature.com.rlproxy.upei.ca/nature/journal/v389/n6649/abs/389371a0.html

The mechanism by which the Earth and other planets maintain their magnetic fields against ohmic decay is among the longest standing problems in planetary science. Although it is widely acknowledged that these fields are maintained by dynamo action, the mechanism by which the dynamo operates is in large part not understood. Numerical simulations of the dynamo process in the Earth's core have produced magnetic fields that resemble the Earth's field, but it is unclear whether these models accurately represent the extremely low values of viscosity believed to be appropriate to the core. Here we describe the results of a numerical investigation of the dynamo process that adopts an alternative approach to this problem in which, through the judicious choice of boundary conditions, the effects of viscosity are rendered unimportant. We thereby obtain a solution that at leading order operates in an Earth-like dynamical regime. The morphology and evolution of the magnetic field and the fluid flow at the core–mantle boundary are similar to those of the Earth, and the field within the core is qualitatively similar to that proposed on theoretical grounds.

Kuhn, T. S. (1962). *The structure of scientific revolutions*. Chicago: University of Chicago Press.

"Philosophies like Kuhn's narrow the possible futures of inquiry by politically methodizing and taming them."—William R. Everdell,

Washington Times (Fuller 2003, Dust Jacket).

The Structure of Scientific Revolutions by Thomas Kuhn was the most influential book on the nature of science in the second half of the 20th century – and arguably, the entire 20th century. Nevertheless, a reminder of the book's contents immediately makes this fact rather surprising. *Structure* purports to provide a general account of scientific change in 200 non-technical, lightly referenced pages, in the manner of an extended encyclopaedia entry, as the book was in fact originally conceived (Fuller 2003, pp18-19).

For Kuhn, science is simply good at solving its self-defined problems, whose purely technical nature led him to dub them 'puzzles'. But far from demoting the physical sciences, Kuhn was actually trying – as a latter-day Plato might – to insulate them from responsibility for real world effects, entanglement in which has historically prevented the social and biological science from taking full control of their inquiries (Fuller 2003, p69).

Kurlansky, M. (1997). *Cod : A biography of the fish that changed the world*. New York: Walker and Co.

(1) Only a decade after reassuring the Canadians and the world that the waters around Great Briain "show no sign of exhaustion," such a thing being scientificially impossible, the British discovered that the cod stocks in the North Sea had been depleted (Kurlansky 1997, p 144).

Larson, E. J. (2004). *Evolution : The remarkable history of a scientific theory* (Modern Library ed.). New York: Modern Library.

Laskar, J. (1990). The chaotic motion of the solar system: A numerical estimate of the size of the chaotic zones. *Icarus, 88*(2), 266-291.

Laxness, Halldór. (1946). *Independent people : An epic* [Sjálfstætt fólk.] . New York: A. A. Knopf.
"…are the small freeholders of the Icelandic countryside--operators of the one-man, one-family farm got by inheritance or puchase and held with grim tenacity against all connivances of nature and man by folk whose ruling passion is to be their own masters on their own acres." [Dust jacket]

Laxness, Halldór. (1955). *Nobel banquet speech, stockholm, december 10, 1955*. Retrieved 10/15/2007, 2007, from http://nobelprize.org/nobel_prizes/literature/laureates/1955/laxness-speech-e.html

I was travelling in the south of Sweden a few weeks ago, when I heard the rumour that the choice of the Swedish Academy might possibly fall on me. Alone in my hotel room that night, I naturally began to ask myself what it would mean to a poor wanderer, a writer from one of the most remote islands in the world, to be suddenly singled out by an institution famous for its promotion of culture, and brought here to the platform by its command.

It is not so strange perhaps that my thoughts turned then - as they still do, not least at this solemn moment - to all my friends and relations, to those who had been the companions of my youth and are dead now and buried in oblivion. Even in their lifetime, they were known to few, and today they are remembered by fewer still. All the same they have formed and influenced me and, to this day, their effect on me is greater than that of any of the world's great masters or pioneers could possibly have been. I am thinking of all those wonderful men and women, the people among whom I grew up. My father and mother, but above all, my grandmother, who taught me hundreds of lines of old Icelandic poetry before I ever learned the alphabet.

In my hotel room that night, I thought - as I still do - of the moral principles she instilled in me: never to harm a living creature; throughout my life, to place the poor, the humble, the meek of this world above all others; never to forget those who were slighted or neglected or who had suffered injustice, because it was they who, above all others, deserved our love and respect, in Iceland or anywhere in the world. I spent my entire childhood in an environment in which the mighty of the earth had no place outside story books and dreams. Love of, and respect for, the humble routine of everyday life and its creatures was the only moral commandment which carried conviction when I was a child.

I recall my friends whose names the world never knew but who, in my youth, and long into my adult life, guided my literary work. Though no writers themselves, they nevertheless possessed infallible literary judgment and were able, better than most of the masters, to open my eyes to what was essential in literature. Many of those gifted men are no longer with us, but they are so vivid in my mind and in my thoughts that, many a time, I would have been hard put to distinguish between which was the expression of my own self and which the voice of my friends within me.

I am thinking, too, of that community of one hundred and fifty thousand men and women who form the book-loving nation that we Icelanders are. From the very first, my countrymen have followed my literary career, now criticizing, now praising my work, but hardly ever letting a single word be buried in indifference. Like a sensitive instrument that records every sound, they have reacted with pleasure or displeasure to every word I have written. It is a great good fortune for an author to be born into a nation so steeped in centuries of poetry and literary tradition.

My thoughts fly to the old Icelandic storytellers who created our classics, whose personalities were so bound up with the masses that their names, unlike their lives' work, have not been preserved for posterity. They live in their immortal creations and are as much a part of Iceland as her landscape. For century upon dark century those nameless men and women sat in their mud huts writing books without so much as asking themselves what their wages would be, what prize or recognition would be theirs. There was no fire in

their miserable dwellings at which to warm their stiff fingers as they sat up late at night over their stories. Yet they succeeded in creating not only a literary language which is among the most beautiful and subtlest there is, but a separate literary genre. While their hearts remained warm, they held on to their pens.

As I was sitting in my hotel room in Skåne, I asked myself: what can fame and success give to an author? A measure of material well-being brought about by money? Certainly. But if an Icelandic poet should forget his origin as a man of the people, if he should ever lose his sense of belonging with the humble of the earth, whom my old grandmother taught me to revere, and his duty toward them, then what is the good of fame and prosperity to him?

Your Majesties, ladies and gentlemen - It is a great event in my life that the Swedish Academy should have chosen to link my name with the nameless masters of sagas. The reasons the Academy has given for singling me out in so spectacular a manner will serve as an encouragement to me for the rest of my days, but they will also bring joy to those whose support has been responsible for all that my work may have of value. The distinction you have conferred on me fills me with pride and joy. I thank the Swedish Academy for all this with gratitude and respect. Though it was I who today received the Prize from Your Majesty's hands, nevertheless I feel that it has also been bestowed on my many mentors, the fathers of Iceland's literary tradition.

Lippmann, W. (1922). *Public opinion* (1965th ed.). New York: Free Press.

Lorius, C., Jouzel, J., Raynaud, D., Hansen, J. & Le Treut, H. (1990). *The ice-core record: Climate sensitivity and future greenhouse warming.* Retrieved 11/12/2007, 2007, from http://www.nature.com.rlproxy.upei.ca/nature/journal/v347/n6289/abs/347139a0.html The prediction of future greenhouse-gas-induced warming depends critically on the sensitivity of Earth's climate to increasing atmospheric concentrations of these gases. Data from cores drilled in polar ice sheets show a remarkable correlation between past glacial–interglacial temperature changes and the inferred atmospheric concentration of gases such as carbon dioxide and methane. These and other palaeoclimate data are used to assess the role of greenhouse gases in explaining past global climate change, and the validity of models predicting the effect of increasing concentrations of such gases in the atmosphere.

Lovelock, J., & Whitfield, M. (1982). *Life span of the biosphere.* Retrieved 11/12/2007, 2007, from http://www.nature.com.rlproxy.upei.ca/nature/journal/v296/n5857/abs/296561a0.html

There has been life on Earth for at least 3,500 Myr but the assumption that a comparable future lies ahead may not be justified. Main sequence stars appear to increase their burning rate as they age. Thus the Sun, if a typical star, can be predicted to have increased its output by 30% since the Earth's origin 4,500 Myr ago[1]. The maintainance of an equable climate since life began probably required some means of planetary thermo-stasis. The Gaia hypothesis proposed by Lovelock and Margulis[2] included an unspecified biological means for climate control. Walker *et al*.[3] suggests an abiological automatic thermostasis in which the atmospheric abundance of CO_2, a greenhouse gas, adjusts to resist the warming tendency of the increased solar flux. Here we discuss possible links between the biological and geological control mechanisms. It is clear that whatever the mechanism, atmospheric CO^2 is now close to its lower limit of partial pressure, so the biosphere may soon, in geological terms, be exposed without protection to the predicted progressive increase of solar luminosity**.**

Mackay, C. (1967). *Extraordinary popular delusions and the madness of crowds. with facsim. title pages and reproductions of original illus. from the editions of 1841 and 1852*. Wells, N.J.: Fraser Publ. Co.

Magnússon, M. (2003). The vinland sagas: The norse discovery of america. *Penguin classics* [Graenlendinga Saga] (M. Magnússon, H Pálsson Trans.). (November 2003 POSTSCRIPT to The Vinland Sagas : the Norse discovery of America, 1965 ed., pp. 125). London: Penguin Books.

This edition allows me to pay tribute to my friend, collaborator and mentor Hermann Pálsson (1921-2002), Professor Emeritus of Icelandic Studies at the University of Edinburgh, who died after an accident in Bulgaria. He was one of the most eminent and erudite Icelandic scholars of his generation, and did an enormous amount to illuminate the Icelandic Sagas for the English-speaking world.

Herman was born on a farm in the north of Iceland, the sixth child in a family of twelve. He earned a degree in Icelandic studies at the University of Iceland (1943-7), and an honours degree in Celtic studies at teh University College, Dublin in 1950, which gave him a significant insight into Irish influences on Norse literature which few specialists in Icelandic could boast at the time. As a young lecturer at Edinburgh University in the 1950's he created a centre of excellence for Norse studies which became a magnet for students and the envy of many other institutions….

On one of the last occasions we were together, we found that our thoughts on the Vinland Sagas had been coalescing: we had come to believe that 'Vinland' had never existed as a precise geographical location in North America. The name itself--'Vinland the Good'--carries too many overtones of romance and fable: fables of the Hesperides, of the Fortunate Isles… 'Vinland the Good' smacks much more of a wistful and wishful concept that of a geographical reality. To the Norse explorers, *Vinland was always somewhere beyond the next horizon--tantalizingly near, but always just out of reach* [italics mine, pp 125-126].

Magnússon, M., & Pálsson, H. (*c.* 1000 A.D.a). Eirik's saga. *Penguin classics*(M. Magnússon, H Pálsson Trans.). (The Vinland sagas : the

Norse discovery of America, 1965 ed., pp. 75). London: Penguin Books.

Then Bjarni said that *the people who were to go should be chosen by lot, and not by rank* [italics mine].

But everyone tried to get into the boat. The boat, however, would not hold them all and so they agreed to this suggestion… When the lots were drawn it so happened that Bjarni himself, along with nearly half the crew, drew a place, and these all left the ship for the boat.

When they were in the boat one young Icelander who had been Bjarni's companion said, 'Are you going to leave me here, Bjarni?'

'This is how it has to be,' replied Bjarni.

The Icelander said, 'But that is not what you promised when I left my father's farm in Iceland to go with you.'

'I see no other way,' said Bjarni. 'What do you suggest?'

'I suggest we change places; you come up here and I shall go down there.'

'So be it,' said Bjarni. 'I can see that you would spare no effort to live, and are afraid to die.'

So they changed places. The Icelander stepped into the boat and Bjarni went back on board the ship; and it is said that Bjarni and all those who were on the ship with him perished (pp 103-104).

Magnússon, M., & Pálsson, H. (*c.* 1000 A.D.b). The greenland saga. *Penguin classics* [Graenlendinga Saga] (M. Magnússon, H Pálsson Trans.). (The Vinland sagas : the Norse discovery of America, 1965 ed., pp. 123). London: Penguin Books.

(1) A great swarm of skin-boats was then heading towards them down the fjord.

Thorvald said, 'We shall set up breastworks on the gunwales and defend ourselves as best we can, but fight back as little as possible.'

They did this. The Skraelings[1] shot at them for a while, and then turned and fled as fast as they could.

Thorvald asked his men if any of them were wounded; they all replied that they were unhurt.

'I have a wound in the armpit,' said Thorvald. "An arrow flew up between the gunwale and my shield, under my arm--here it is. This will lead to my death.'

'I advise you now to go back as soon as you can. But first I want you to take me to the headland I thought so suitable for a home. I seem to have hit on the truth when I said that I would settle there for a while. Bury me there and put crosses at my head and feet, and let the place be called Krossaness for ever afterwards' (pp 60-61).

(2) *He made an agreement with his crew that everyone should share equally in whatever profits the expedition might yield* [italics mine]….

They put to sea and arrived safe and sound at Leif's Houses [Vinland, possibly present day Newfoundland] and carried their hammocks ashore. Soon they had plenty of good supplies, for a fine big rorqual was driven ashore; they went down and cut it up, and so there was no shortage of food….

The livestock were put out to grass…. *They made use of all the natural resources of the country that were available, grapes and game of all kinds and other produce* [italics mine] (p 65).

[1]The term Skrailing was used in early Icelandic sources to designate the inhabitants of Greenland and North America. The Skrailings of Vinland have been tentatively identified with the Micmac or extinct Beothuk Native American tribes. The derivation of the word is uncertain, but is has contemptuous associations--something like 'wretches'.

Malhotra, R. (1994). Nonlinear resonances in the solar system. *Physica D: Nonlinear Phenomena, 77*(1-3), 289-304.

Orbital resonances are ubiquitous in the Solar system. They play a decisive role in the long term dynamics, and in some cases the physical evolution, of the planets and of their natural satellites, as well as the evolution of small bodies (including dust) in the planetary system. The few-body gravitational problem of hierarchical planetary-type systems allows for a complex range of dynamical timescales, from the fast orbital periods to the very slow orbit precession rates. The interaction of fast and slow degrees of freedom produces a rich diversity of resonance phenomena. Weak dissipative effects - such as tides or radiation drag forces - also produce unexpectedly rich dynamical behaviors. This paper provides a mostly qualitative discussion of simple dynamical models for the commonly encountered orbital resonance phenomena in the Solar system.

Marshall, A. (1891). *Principles of economics* (Second ed.). London and New York: Macmillan and Co.

McGuire, B. (2005). *Global catastrophes : A very short introduction*. Oxford ; New York: Oxford University Press.

Mead, M. (1928). *Coming of age in samoa : A psychological study of primitive youth for western civilization* (1964th ed.). New York, N.Y.: William Morrow.

Menger, C. (1883). *Problems of economics and sociology (untersuchungen über die methode der socialwissenschaften und der politischen oekonomie insbesondere)*. 1963 edition. Urbana: University of Illinois Press.

MITTELSTAEDT, M. (2006, 06/12/2006). PEI'S killing fields.

'Pesticides are what is killing our kids'.

Myerson, R. B. (1991). *Game theory : Analysis of conflict*. Cambridge, Mass.: Harvard University Press.

Myerson, R. B. (2005). *Probability models for economic decisions*. Belmont, CA: Thomson/Brooke/Cole.

Myerson, R. B. (2007). FUNDAMENTAL THEORY OF INSTITUTIONS: A LECTURE IN HONOR OF LEO HURWICZ. *Roger myerson's recent papers*. Retrieved 10/15/2007, 2007, from http://home.uchicago.edu.rlproxy.upei.ca/~rmyerson/research/index.html

Myrdal, Gunnar. (1975). *Prize lecture*. Retrieved 11/3/2007, 2007, from http://nobelprize.org/nobel_prizes/economics/laureates/1974/myrdal-lecture.html

OED. (2007). *Induction*. Retrieved 10/20/2007, from http://dictionary.oed.com.rlproxy.upei.ca/cgi/entry/50115654?single=1&query_type=word&queryword=induction&first=1&max_to_show=10

7. *Logic*. a. The process of inferring a general law or principle from the observation of particular instances (opposed to DEDUCTION, q.v.).

[Directly representing L. *inductio* (Cicero), rendering Gr. (Aristotle), in same sense.] 1553 T. WILSON *Rhet. 111 We mighte heape many men together, and prove by large rehersall, any thyng that we would, the whiche of the logicians is called induction. 1613 PURCHAS Pilgrimage (1614) Ep. Ded. iii, Others may hence learne by that most laborious, though not most learned Argument of Induction, two lessons fitting these times. 1656 STANLEY Hist. Philos. v. (1701) 182/1 Induction is every method of reason which proceedeth either from like to like or from singulars to generals. 1734 BERKELEY Analyst §19 You must take up with Induction, and bid adieu to Demonstration. 1812-16 PLAYFAIR Nat. Phil. I. 2 It is from induction that all certain and accurate knowledge of the laws of nature is derived. a*1862 BUCKLE *Misc.Wks. I. 41 Logic, considered as a science, is solely concerned with induction; and the business of induction is to arrive at causes. 1876 FOWLER Induct. Logic (ed. 3) Pref., Induction..may or may not employ hypothesis, but what is essential to it is the inference from the particular to the general, from the known to the unknown.*

*b. An act or instance of induction; the result of this; a conclusion derived from induction; formerly used in the wider sense of 'inference'. c*1440 J. CAPGRAVE *Life St. Kath. v. 1923 The hill in whiche god af the wrytyn lawe On-to the Iewes, ledeth to that perfeccyon Of crystis gospell..Paule in his bookis maketh swyche induccyon; He seyth it longeth to Ierusalem as in seruage With alle his children heere in pylgremage. c*1530 L. COX *Rhet. (1899) 49 He treateth of the fourme of Sillogismes, Enthimemes and Inductions. 1587 GOLDING De Mornay xxvi. 396 We would haue [God] to vse Inductions as Plato doth, or Syllogismes as Aristotle doth. 1697 tr. Burgersdicius his Logic II. xi. 46 In an induction..it's proved that animals void of bile are long-liv'd, because a man, a horse, an ass, &c., are long-liv'd. 1727-41 CHAMBERS Cycl. s.v., The conclusion of a syllogism, is an induction made from the premises. 1833 H. MARTINEAU Briery Creek iv. 86 They look..into the evidence of circumstance, and learn to make an induction for themselves. 1868 W. R. GREG Lit. & Social Judgm. 313 The contrast between his wide inductions and the apparently flimsy foundation on which they are made to rest. 1869 FOWLER Induct. Logic i. 1 [This] is an inference of that particular character which is called an Inductive Inference or an Induction*.

Online etymology dictionary. Retrieved 11/21/2007, 2007, from http://www.etymonline.com/index.php?term=economy

Plaidophile. (2007). *Plaidophile: Get your idioms right!* Retrieved 11/22/2007, 2007, from http://beesbuzz.biz/blog/e/2005/11/12-get_your_idioms.php

by fluffy at 01:57 PM It's "Without further *ado*," not "without further adieu."
"Ado" means "fuss" or "delay." "Adieu" is not a noun but a complete statement which simply means "goodbye."
Why have I been seeing "without further adieu" on weblogs so often lately? It's stupid and wrong and makes no sense in any way!
(Unless you're trying to cut a goodbye short.)
Comments:
#6702 big fat idiot 11/12/2005 07:12 pm
Of course it's wrong. It's wrong on purpose. A pun of sorts.
Personally, I love making those sorts of mixed metaphors and horrid euphemisms.
Don't jump to contusions.
We'll burn that bridge when we get to it.
A day late and a dog hair short.
#6703 mashuren 11/12/2005 09:23 pm reply
For all *intensive* purposes.
#6705 zetawoof 11/13/2005 12:25 am reply
"Water under the dam", or "water over the bridge".
"Let's nibble this in the butt."
"…know it like the back of his head."

"Killing two birds for the price of one."
"I don't want to sound like a dead horse."
#6707 ucblockhead 11/13/2005 09:35 am
Shackspeer said it best, This is "much adieu about nothing".
#6708 ucblockhead 11/13/2005 09:37 am reply
Oh my favorite improper idiom is "Rome wasn't burnt in a day".
#6920 Ali 01/05/2006 02:44 pm reply
ALSO IT IS "PRIMA DONNA" NOT "PRE-MADONNA"

Plato. (circa 360 B.C.). *The republic*(J. Adam Trans.). (2d , ed.). Cambridge, UK: At the University Press.

(1) The wise shall lead and rule, and the ignorant shall follow. [Plato, Laws, 690 b, Popper 1945, Vol. I, p 120].

(2) "Lies are necessary, Plato asserts, 'if your herd is to reach highest perfection' ; for this needs 'arrangements that must be kept secret from all butt the rulers, if we wish to keep the herd of guardians really free from disunion'. Furthermore, Plato "decrees that the rulers should fabricate, for the purpose of mating the young auxiliaries, 'an ingenious system of balloting, so that the persons who have been disappointed .. may blame their bad luck, and not the rulers', who are, secretly, to engineer the ballot" (Ibid, p 150).

(3) "Plato had used the term 'banausic' to describe a plebeian, abject, or depraved state of mind. Aristotle extends the disparaging use of the term so as to cover all interests which are not pure hobbies. In fact, his use of the term is very near to our use of the term 'professional', more especially in the sense in which it disqualifies in an amateur competition, but also in the sense in which it applies to any specialized expert, such as a physician. For Aristotle, every form of professionalism means a loss of caste. A feudal gentleman, he insists, must never take too much interest in 'any occupation, art or science... There are also some *liberal arts*, that is to say, arts which a gentleman may acquire, but always only to a certain degree. For if he takes too much interest in them, then these evil effects will follow', namely, he will become proficient, like a professional, and lose caste" (Popper 1945, Vol. II, pp 3-4).

(4) "Aristotle's thought is entirely dominated by Plato's. Somewhat grudgingly, he followed his great teacher as closely as his temperament permitted, not only in his general political outlook but practically everywhere. So he endorsed, and systematized, Plato's naturalistic theory of slavery : 'Some men are by nature free, and others slaves and for the later, slavery is fitting as well as just... A man who is by nature not his own, but another's, is by nature a slave... Hellenes do not like to call themselves slaves, but confine this term to barbarians... The slave is totally devoid of any faculty of reasoning', while free women have just a very little of it. (We owe to Aristotle's criticisms and denunciations most of our knowledge of the Athenian movement against slavery. By arguing against the fighters for freedom, he preserved some of their utterances.)" (Ibid p 3).

Popper, K. R. (1945). *The open society and its enemies*. London: G. Routledge & Sons, Ltd.

(1) The development of thought since Aristotle could, I think, be summed up by saying that every discipline, as long as it used the Aristotelian method of definition, has remained arrested in a state of empty verbiage and barren scholasticism, and that the degree to which the various sciences have been able to make any progress depended on the degree to which they have been able to get rid of this essentialist method. (this is why so much of our 'social science' still belongs to the Middle Ages.) This discussion of this method will have to be a little abstract, owing to the fact that the problem has been so thoroughly muddled by Plato and Aristotle, whose influence has given rise to such deep-rooted prejudices that the prospect of dispelling them does not seem very bright. (Popper 1945, Vol. II, p 9).

Popper, K. R. (1956). ON THE NON-EXISTENCE OF SCIENTIFIC METHOD. (preface from 1956 edition, Vol. I of the Postscript to 1983 edition of The Logic of Scientific Discovery edited by W.W. Bartley III ed.,). London: Routledge.

(1) But in fact, we know nothing from having seen it; for the truth is hidden in the deep.
-DEMOCRITUS

(2) Scientific Method holds a somewhat peculiar position in being even less existent than some other non-existent subjects.
What I mean is this. The founders of the subject, Plato, Aristotle, Bacon and Descartes, as well as most of their successors, for example John Stuart Mill, believed that there existed a method of finding scientific truth. In a later and slightly more sceptical perioud there were methodologists who believed that there existed a method, if not of finding a true theory, then at least of ascertaining whether or not some given hypothesis was true; or (even more sceptical) whether some given hypothesis was at least 'probable' to some ascertainable degree.
I assert that no scientific method exists in any of these three senses. To put it in a more direct way:

(i) There is no method of discovering a scientific theory.
(ii) There is no method of ascertaining the truth of a scientific hypothesis, i.e., no method of verification.

(iii) There is no method of ascertaining whether a hypothesis is 'probable', or probably true.
(pp 5-6).

Popper, K. R. (1959). *The logic of scientific discovery* [Logik der Forschung, 1935, Vienna, Austria] . London ; New York: Routledge.

(1) This is the book where Popper first introduced his famous "solution" to the problem of induction. Originally publish in German in 1934, this version is Popper's own English translation undertaken in the 1950s. It should go without saying that the book is a classic in philosophic epistemology--perhaps the most important such work to appear since Hume's "*An Enquiry Concerning Human Understanding*." Popper argues that scientific theories can never be proven, merely tested and corroborated. Scientific inquiry is distinguished from all other types of investigation by its testability, or, as Popper put, by the falsifiability of its theories. Unfalsifiable theories are unscientific precisely because they cannot be tested (Nyquist, 2001).

(2) There is no such thing as a logical method of having new ideas, or a logical reconstruction of this process. My view may be expressed by saying that every discovery contains 'an irrational element', or 'a creative intuition', in Bergson's sense. In a similar way Einstein speaks of the 'search for those highly universal laws . . . from which a picture of the world can be obtained by pure deduction. There is no logical path', he says, 'leading to these . . . laws. They can only be reached by intuition, based upon something like an intellectual love ('Einfühlung') of the objects of experience' (Popper 1959, p 37).

(3) Scientific discovery must ever depend upon some happy thought, of which we cannot trace the origin; — some fortunate cast of intellect rising above all rules. No precepts will elevate a man of ordinary endowments to the level of a man of genius: nor will an inquirer of truly inventive mind need to come to the teacher of inductive philosophy to learn how to exercise the faculties which nature has given him. [Whewell 1849, reprinted under the title 'Mr Mill's Logic' in Butts 1968], p. 117).

(4) The initial stage, the act of conceiving or inventing a theory, seems to me neither to call for logical analysis nor to be susceptible of it. The question how it happens that a new idea occurs to a man—whether it is a musical theme, a dramatic conflict, or a scientific theory—may be of great interest to empirical psychology; but it is irrelevant to the logical analysis of scientific knowledge. This latter is concerned not with questions of fact (Kant's quid facti?), but only with questions of justification or validity (Kant's quid juris?). Its questions are of the following kind. Can a statement be justified? And if so, how? Is it testable? Is it logically dependent on certain other statements? Or does it perhaps contradict them? In order that a statement may be logically examined in this way, it must already have been presented to us. Someone must have formulated it, and submitted it to logical examination.
Accordingly I shall distinguish sharply between the process of conceiving a new idea, and the methods and results of examining it logically. As to the task of the logic of knowledge—in contradistinction to the psychology of knowledge—I shall proceed on the assumption that it consists solely in investigating the methods employed in those systematic tests to which every new idea must be subjected if it is to be seriously entertained.

Some might object that it would be more to the purpose to regard it as the business of epistemology to produce what has been called a 'rational reconstruction' of the steps that have led the scientist to a discovery—to the finding of some new truth. But the question is: what, precisely, do we want to reconstruct? If it is the processes involved in the stimulation and release of an inspiration which are to be reconstructed, then I should refuse to take it as the task of the logic of knowledge. Such processes are the concern of empirical psychology but hardly of logic. It is another matter if we want to reconstruct rationally the subsequent tests whereby the inspiration may be discovered to be a discovery, or become known to be knowledge. In so far as the scientist critically judges, alters, or rejects his own inspiration we may, if we like, regard the methodological analysis undertaken here as a kind of 'rational reconstruction' of the corresponding thoughtprocesses. But this reconstruction would not describe these processes as they actually happen: it can give only a logical skeleton of the procedure of testing. Still, this is perhaps all that is meant by those who speak of a 'rational reconstruction' of the ways in which we gain knowledge.

It so happens that my arguments in this book are quite independent of this problem. However, my view of the matter, for what it is worth, is that there is no such thing as a logical method of having new ideas, or a logical reconstruction of this process. My view may be expressed by saying that every discovery contains 'an irrational element', or 'a creative intuition', in Bergson's sense. In a similar way Einstein speaks of the 'search for those highly universal laws . . . from which a picture of the world can be obtained by pure deduction. There is no logical path', he says, 'leading to these . . . laws. They can only be reached by intuition, based upon something like an intellectual love ('Einfühlung') of the objects of experience.' (Popper 1959, pp 7-9)

(5) (a) The method of the social sciences, like that of the natural sciences, consists in trying out tentative solutions to those problems from which our investigations start. Solutions are proposed and criticized. If a proposed solution is not open to objective criticism, then it is excluded as unscientific, although perhaps only temporarily.
(b) If the proposed solution is open to objective criticism, then we attempt to refute it; for all criticism consists in attempts at refutation.
(c) If a proposed solution is refuted through our criticism we propose another solution.
(d) If it withstands criticism, we accept it temporarily; and we accept it, above all, as worthy of further discussion and criticism.

(e) Thus the method of science is one of the tentative attempts (or brain-waves) to solve our problems which are controlled by the most severe criticism. It is a critical development of the method of 'trial and error'.
(f) The so-called objectivity of science lies in the objectivity of the critical method; that is, above all, in the fact that no theory is exempt from criticism, and further, in the fact that the logical instrument of criticism – the logical contradiction – is objective (Popper 1992, pp. 66-67).

(6) It is often difficult enough for the expert, and certainly in many instances impossible for the layman, to distinguish between legitimate and illegitimate claims advanced in the name of science.... If we are to safeguard the reputation of science, and to prevent the arrogation of knowledge based on a superficial similarity of procedure with that of the physical sciences, much effort will have to be directed toward debunking such arrogations, some of which have by now become the vested interests of established university departments. We cannot be grateful enough to such modern philosophers of science as Sir Karl Popper for giving us a test by which we can distinguish between what we may accept as scientific and what not - a test which I am sure some doctrines now widely accepted as scientific would not pass (F.A. Von Hayek, *Nobel Lecture*, 1974).

(7) Emile Zola described a work of art as a corner of nature seen through a temperament. The philosopher Karl Popper, the economist F.A. Hayek, and the art historian K. H. Gombrich have shown that the creative process in science and art consists of two main activities: an imaginative jumping forward to a new abstraction or simplified representation, followed by a critical looking back to see how nature appears in the light of the new vision (Peter Mitchell, *Nobel Banquet Speech*, 1978).

(8) My characteristics as a scientist stem from a non-conformist upbringing, a sense of being something of an outsider, and looking for different perceptions in everything from novels, to art to experimental results. I like complexity, and am delighted by the unexpected. Ideas interest me. I was influened early on by reading Arthur Koestler and Edward de Bono, and more recently by the writings of Karl Popper... (Peter C. Doherty, *Nobel Lecture*, 1996).

(9) Popper believed the "discovery was not a matter of logic" but rather the application of methodology, which fits the discovery of cointegration. This insight intrigues me... (Clive Granger, *Nobel Lecture*, 2003).

Popper, K. R. (1962). *Conjectures and refutations : The growth of scientific knowledge* (First Edition Preface from the 1963 Routledge edition ed.)

The essays and lectures of which this book is composed are variations upon one very simple theme--the thesis that we can learn from our mistakes. They develop a theory of knowledge and of its growth. It is a theory of reason that assigns to rational arguments the modest and yet important role of criticizing our often mistaken attempts to solve our problems... Though it stresses our fallibility it does not resign itself to skepticism, for it also stresses the fact that knowledge can grow, and that science can progress - just because we can learn from our mistakes (xi)

Popper, K. R. (1963). *Conjectures and refutations : The growth of scientific knowledge* (Originally published: 5th ed., rev. London ; New York : 2002. ed.). London ; New York: Routledge Classics.

This problem had been seen and solved long before; first, it appears, by Xenophanes, and then by Democritus, and by Socrates... The solution lies in the realization that all of us may and often do err, singly and collectively, but that this very idea of error and human fallibility involves another one-the idea of objective truth: the standard which we may fall short of. Thus the doctrine of fallibility should not be regarded as part of a pessimistic epistemology. This doctrine implies that we may seek for truth, for objective truth, though more often than not we may miss it by a wide margin. And it implies that if we respect truth, we must search for it by persistently searching for our errors: by indefatigable rational criticism, and self-criticism (p 21).

Popper, K. R. (1992). *In search of a better world* [Auf der Suche nach einer besseren Welt.] (Laura J. Bennett, with additional material by Melitta Mew Trans.). London ; New York: Routledge.

(1) There is, for instance, the misguided and erroneous methodological approach...which urges that it is high time that the social sciences learn from the natural sciences what scientific method is. This misguided naturalism establishes such demands as: begin with observations and measurements; this means, for instance, begin by collecting statistical data; proceed, next, by induction to generalizations and to the formation of theories (p 68).

(2) (i) The method of the social sciences, like that of the natural sciences, consists in trying out tentative solutions to those problems from which our investigations start.

Solutions are proposed and criticized. If a proposed solution is not open to objective criticism, then it is excluded as unscientific, although perhaps only temporarily.
(ii) If the proposed solution is open to objective criticism, then we attempt to refute it; for all criticism consists in attempts at refutation.

(iii) If a proposed solution is refuted through our criticism we propose another solution.
(iv) If it withstands criticism, we accept it temporarily; and we accept it, above all, as worthy of further discussion and criticism.
(v) Thus the method of science is one of the tentative attempts (or brain-waves) to solve our problems which are controlled by the most severe criticism. It is a critical development of the method of 'trial and error'.
(vi) The so-called objectivity of science lies in the objectivity of the critical method; that is, above all, in the fact that no theory is exempt from criticism, and further, in the fact that the logical instrument of criticism – the logical contradiction – is objective (pp 66-67).

(3) What, then, are we to trust? What are we to accept? The answer is: whatever we accept we should trust only tentatively, always remembering what we are in possession, at best, of partial truth (or rightness), and that we are bound to make at least some mistake or misjudgement somewhere (p 391).

(4) We can leave it to the competition between theories to eliminate the unusable ones (p 28).

(5) We can never excel others in our reasonableness in a way that would establish a claim to authority (p 227).

(6) No theory is final (p 261).

(7) All the great… scientists were intellectually modest; and Newton speaks for them all when he says: 'I do not know what I may appear to the world, but to myself I seem to have been only a boy playing on the seashore, and diverting myself in now and then finding a smoother pebble or a prettier shell than ordinary, whilst the great ocean of truth lay all undiscovered before me.'"

Moreover, all the great scientists realized that every solution to a scientific problem raises many new and unsolved problems. Our knowledge of our ignorance, becomes increasingly conscious, detailed and precise, the more we learn about the world. Scientific research is the best method we have for obtaining information about ourselves and about our ignorance. It leads us to the important insight that there may be great differences between us with regard to minor details of what wed may perhaps know, yet we are all equal in our infinite ignorance (p 40).

Popper, K. R. (1999). *All life is problem solving* [Alles Leben ist Problemlösen.] . London ; New York: Routledge.

(1) A follower of the Enlightenment speaks as simply as possible: we want to be understood. In this respect Bertrand Russell is our great master (p 206).

Popper, K. R., & Bartley, W. W. (1956). *Realism and the aim of science* (1983, including Popper's introduction from the 1982 edition and Popper's preface from 1956 edition ed.). London: Routledge.

Robinson, J. (1962). What are the rules of the game? *Economic philosophy* (1983rd ed., pp. 117). Singapore: Penguin Books.

Rand, A. (1969). Art and cognition. *The romantic manifesto; a philosophy of literature* (pp. 201). New York: World Pub. Co.

RICHARDSON, M., & KEUCK, G. (2002). *Haeckel's ABC of evolution and development*. Retrieved 11/20/2007, 2007, from http://journals.cambridge.org.rlproxy.upei.ca/action/displayAbstract;jsessionid=84F5151FF2470EC3D55D0CD66002FC32.tomcat1?fromPage=online&aid=135297#

Russell, B. (1928). *Sceptical essays*. London: G. Allen & Unwin.

(1) The search for happiness based upon untrue beliefs is neither very noble nor very glorious. There is a stark joy in the unflinching perception of our true place in the world, and a more vivid drama than any that is possible to those who hide behind the enclosing walls of myth (p 21).

(2) The results of failure in politeness, however bad from the point of view of social occasion, are admirable from the point of view of dispelling myths. There are two ways in which our natural beliefs are corrected: one the contact with fact, as when we mistake a poisonous fungus for a mushroom and suffer pain in consequence; the other, when our beliefs conflict, not directly with objective fact, but with the opposite beliefs of other men (pp 17-18).

(3) There are 'perilous seas' in the world of thought, which can only be sailed by those who are willing to face their own physical powerlessness. And above all, there is liberation from the tyranny of Fear, which blots out the light of day and keeps men grovelling and cruel. No man is liberated from fear who dare not see his place in the world as it is; no man can achieve the greatness of which he is capable until he has allowed himself to see his own littleness (pp 22).

Scharfe, S., & Briére, E. (1996). *Complicity : Human rights and canadian foreign policy : The case of east timor*. Montreal ; New York: Black Rose Books.

Sharratt, S. (2007). Pork farmers facing crisis: Major hog operators calling it quits across the province. *The Guardian,* http://www.theguardian.pe.ca/index.cfm?sc=98

The P.E.I. hog industry is on the verge of collapse as high feed prices, lacklustre federal policies and the high Canadian dollar has forced major interests to sell off herds and call it quits — all within the last month.

And the tide could continue to swamp the rest of the conventional pork industry here as producers see nothing in the financial columns but the same red as on the killing room floors.

"This is the perfect storm of agriculture destruction," said Anthony Nabuurs, chair of the P.E.I. Hog Board. "I'm not blaming anyone but farmers are taking a pounding."

Almost 30 per cent of producers — removing more than 50,000 animals from Island production — have closed their doors in the past few weeks because of the high dollar, the continued decline in market price and feed prices that have almost doubled.

Barley alone, a hog staple that normally sells for $130 a tonne this time of year, is well over $200 a tonne.

Beef producers are in trouble as well with the high Canadian dollar, but could find some solace if a government plan now in negotiation can be worked out to maintain the Atlantic Beef Products plant in Albany.

"My whole life has been with hogs and we did make good money on it," says veteran and respected Montague area producer Clayton Bulpitt, who has been in the business for the past 40 years.

"But I don't see any future . . . the hog industry here in the Maritimes is toast."

In the last six weeks, Island hog producers have been bailing out of the business like sailors in a sinking ship after taking a reality check on the future.

Major long-time producers like Gordon Lank in Hampshire with 900 sows, Frank Meerburg in Flat River with 700, and numerous others, including former hog board chairman Willem De Boer of Brudenell, are packing it in.

"Those who haven't got out will soon realize they won't have a choice," said one dispirited producer who didn't want to elaborate on his situation.

Some say the only remaining hog producers on P.E.I. will be a few who convert to organic or natural pork which, so far, is a niche market at best.

"The reality is that we're producing a pig right now for 95 cents a kilogram and it costs the farmer twice that," said Nabuurs. "The scary part is that the outlook isn't any better down the road and that's why people are leaving."

Prices have sunk to an all-time low in the conventional industry and with the high Canadian dollar (hog producers are paid according to American currency), the majority are losing as much as $60 to $80 per animal. With one third of producers leaving the industry, officials estimate less than 100 farms are still in the hog business — a once $30-million industry to the province.

"I guess the question is can we afford to totally lose this industry altogether," said Nabuurs. "We're hoping to find some solution, but it's not a great time to be chair of the hog board."

Wayne MacKinnon at the Department of Agriculture says beef and hog producers are being devastated by serious market declines.

"At the beginning of June of this year, the price for steers at the Atlantic Beef Products plant was $1.67 per hundredweight and hogs were $144.18 per hundred kilograms. At those prices, producers were making a modest profit," he explained.

"But five months later, the price for steers has plummeted to $1.14 and hogs are in the low $90 range. In the meantime, feed and other costs have risen, and the livestock industry is in crisis."

A recent report prepared by Kevin Grier of the George Morris Centre at the University of Guelph says P.E.I. is based on the Chicago Mercantile Exchange's live hogs futures contracts. P.E.I. conventional livestock prices are determined by markets elsewhere.

"In all Canadian farm product markets, from cattle to vegetables, the first determinant of pricing is the overall North American market conditions, particularly reflected in U.S. commodity pricing," he said.

Grier says if U.S. cattle were priced at $90 a hundredweight in 2003 when the Canadian dollar was trading at 65 cents against the U.S. dollar, cattle in Ontario would be priced at $139 per hundredweight ($90 divided by 0.65.).

In October of 2007, that same U.S. $90 steer would be worth just $87 in Canada with the exchange rate at 1.03.

The Canadian dollar appreciation of the past three years has resulted in 37 per cent lower cattle pricing and the same principal applies

to hogs.

"The province has been trying to help, but federal policies are killing us," said Bulpitt.

"The American farmer has the U.S. farm bill which subsidizes money into food production. They're coming off the best five years ever in agriculture and we're coming off the worst."

GO ORGANIC from ONT writes: It's time to take a look at the feasibility of this province competing in an international agri-business like pork and beef. It is totally not acceptable to drain resources needed for health, education and the wellbeing of marginalized Islanders, in order to prop up industries that can't make it in the international market place. The movement for farming is for smaller farms, producing food for local markets and trading in Organically grown food stuffs. We simply can't compete with Pork and Beef produced in much more favourable markets. But we can excel as a non GMO, organic farming community. It means change, and this doesn't seem to be on the political agenda. Particularly when you look at envirnoment being run by Mr. Potato Industry, Agriculture by Mr. Pork industry etc etc…So more tax payers money poured down this lost cause is the order of the day!!! Posted 17/11/2007 at 10:19 AM

Shaw, G. B. (1903). *Man and superman: Maxims for revolutionists.* Retrieved 10/30/2007, 2007, from http://www.bartleby.com/157/6.html

IDOLATRY
The art of government is the organization of idolatry. *5* The bureaucracy consists of functionaries; the aristocracy, of idols; the democracy, of idolaters. *6* The populace cannot understand the bureaucracy: it can only worship the national idols. *7* The savage bows down to idols of wood and stone: the civilized man to idols of flesh and blood. *8* A limited monarchy is a device for combining the inertia of a wooden idol with the credibility of a flesh and blood one. *9* When the wooden idol does not answer the peasant's prayer, he beats it: when the flesh and blood idol does not satisfy the civilized man, he cuts its head off. *10* He who slays a king and he who dies for him are alike idolaters. *11*

ROYALTY
Kings are not born: they are made by artificial hallucination. When the process is interrupted by adversity at a critical age, as in the case of Charles II, the subject becomes sane and never completely recovers his kingliness. *12* The Court is the servant's hall of the sovereign. *13* Vulgarity in a king flatters the majority of the nation. *14* The flunkeyism propagated by the throne is the price we pay for its political convenience. *15*

DEMOCRACY
If the lesser mind could measure the greater as a foot-rule can measure a pyramid, there would be finality in universal suffrage. As it is, the political problem remains unsolved. *16* Democracy substitutes election by the incompetent many for appointment by the corrupt few. *17* Democratic republics can no more dispense with national idols than monarchies with public functionaries. *18* Government presents only one problem: the discovery of a trustworthy anthropometric method. *19*

LIBERTY AND EQUALITY
He who confuses political liberty with freedom and political equality with similarity has never thought for five minutes about either. *23* Nothing can be unconditional: consequently nothing can be free. *24* Liberty means responsibility. That is why most men dread it. *25* The duke inquires contemptuously whether his gamekeeper is the equal of the Astronomer Royal; but he insists that they shall both be hanged equally if they murder him. *26* The notion that the colonel need be a better man than the private is as confused as the notion that the keystone need be stronger than the coping stone. *27* Where equality is undisputed, so also is subordination. *28* Equality is fundamental in every department of social organization. *29* The relation of superior to inferior excludes good manners. *30*

EDUCATION
When a man teaches something he does not know to somebody else who has no aptitude for it, and gives him a certificate of proficiency, the latter has completed the education of a gentleman. *31* A fool's brain digests philosophy into folly, science into superstition, and art into pedantry. Hence University education. *32* A learned man is an idler who kills time with study. Beware of his false knowledge: it is more dangerous than ignorance. *37* Activity is the only road to knowledge. *38* Every fool believes what his teachers tell him, and calls his credulity science or morality as confidently as his father called it divine revelation. *39* No man fully capable of his own language ever masters another. *40* No man can be a pure specialist without being in the strict sense an idiot. *41* Do not give your children moral and religious instruction unless you are quite sure they will not take it too seriously. *42*

RELIGION
Beware of the man whose god is in the skies. *83* What a man believes may be ascertained, not from his creed, but from the assumptions on which he habitually acts. *84*

THE PERFECT GENTLEMAN
The fatal reservation of the gentleman is that he sacrifices everything to his honor except his gentility. *113* A gentleman of our days is one who has money enough to do what every fool would do if he could afford it: that is, consume without producing. *114* The true

diagnostic of modern gentility is parasitism. *115* No elaboration of physical or moral accomplishment can atone for the sin of parasitism. *116* A modern gentleman is necessarily the enemy of his country. Even in war he does not fight to defend it, but to prevent his power of preying on it from passing to a foreigner. Such combatants are patriots in the same sense as two dogs fighting for a bone are lovers of animals. *117* The North American Indian was a type of the sportsman warrior gentleman. The Periclean Athenian was a type of the intellectually and artistically cultivated gentleman. Both were political failures. The modern gentleman, without the hardihood of the one or the culture of the other, has the appetite of both put together. He will not succeed where they failed. *118* He who believes in education, criminal law, and sport, needs only property to make him a perfect modern gentleman. *119*

REASON
The reasonable man adapts himself to the world: the unreasonable one persists in trying to adapt the world to himself. Therefore all progress depends on the unreasonable man. *124* The man who listens to Reason is lost: Reason enslaves all whose minds are not strong enough to master her. *125*

TIME'S REVENGES
Those whom we called brutes had their revenge when Darwin shewed us that they are our cousins. *129*

GOOD INTENTIONS
Hell is paved with good intentions, not with bad ones. *131*

CIVILIZATION
Civilization is a disease produced by the practice of building societies with rotten material. *144* Those who admire modern civilization usually identify it with the steam engine and the electric telegraph. *145* Those who understand the steam engine and the electric telegraph spend their lives in trying to replace them with something better. *146* The imagination cannot conceive a viler criminal than he who should build another London like the present one, nor a greater benefactor than he who should destroy it. *147*

GAMBLING
The most popular method of distributing wealth is the method of the roulette table. *148* The roulette table pays nobody except him that keeps it. Nevertheless a passion for gaming is common, though a passion for keeping roulette tables is unknown. *149* Gambling promises the poor what Property performs for the rich: that is why the bishops dare not denounce it fundamentally. *150*

STRAY SAYINGS
We are told that when Jehovah created the world he saw that it was good. What would he say now? *152* The conversion of a savage to Christianity is the conversion of Christianity to savagery. *153* No man dares say so much of what he thinks as to appear to himself an extremist. *154* Decadence can find agents only when it wears the mask of progress. *156* In moments of progress the noble succeed, because things are going their way: in moments of decadence the base succeed for the same reason: hence the world is never without the exhilaration of contemporary success. *157* Do not mistake your objection to defeat for an objection to fighting, your objection to being a slave for an objection to slavery, your objection to not being as rich as your neighbor for an objection to poverty. The cowardly, the insubordinate, and the envious share your objections. *162* Take care to get what you like or you will be forced to like what you get. Where there is no ventilation fresh air is declared unwholesome. Where there is no religion hypocrisy becomes good taste. Where there is no knowledge ignorance calls itself science. *163* If history repeats itself, and the unexpected always happens, how incapable must Man be of learning from experience! *165* Those who understand evil pardon it: those who resent it destroy it. *167* Acquired notions of propriety are stronger than natural instincts. It is easier to recruit for monasteries and convents than to induce an Arab woman to uncover her mouth in public, or a British officer to walk through Bond Street in a golfing cap on an afternoon in May. *168*

Sluckin, W. (1965). *Imprinting and early learning.* Chicago: Aldine Pub. Co.

Smith, V. L. (2002). *Constructivist and ecological rationality in economics* (http://nobelprize.org/nobel_prizes/economics/laureates/2002/smith-lecture.html ed.). Retrieved 10/27/2007.

Sokal, A. D. (1996). *A physicist experiments with cultural studies.* Retrieved 10/27/2007, 2007, from http://physics.nyu.edu/~as2/#papers
"The displacement of the idea that facts and evidence matter by the idea that everything boils down to subjective interests and perspectives is -- second only to American political campaigns -- the most prominent and pernicious manifestation of anti-intellectualism in our time."
-- Larry Laudan, *Science and Relativism* (1990)

For some years I've been troubled by an apparent decline in the standards of intellectual rigor in certain precincts of the American academic humanities. But I'm a mere physicist: if I find myself unable to make head or tail of *jouissance* and *différance*, perhaps that just reflects my own inadequacy.
So, to test the prevailing intellectual standards, I decided to try a modest (though admittedly uncontrolled) experiment: Would a leading North American journal of cultural studies -- whose editorial collective includes such luminaries as Fredric Jameson and

Andrew Ross -- publish an article liberally salted with nonsense if (a) it sounded good and (b) it flattered the editors' ideological preconceptions?
The answer, unfortunately, is yes. Interested readers can find my article, ``Transgressing the Boundaries: Toward a Transformative Hermeneutics of Quantum Gravity,'' in the Spring/Summer 1996 issue of *Social Text*. It appears in a special number of the magazine devoted to the ``Science Wars.''
What's going on here? Could the editors *really* not have realized that my article was written as a parody?

In the first paragraph I deride ``the dogma imposed by the long post-Enlightenment hegemony over the Western intellectual outlook'': that there exists an external world, whose properties are independent of any individual human being and indeed of humanity as a whole; that these properties are encoded in ``eternal'' physical laws; and that human beings can obtain reliable, albeit imperfect and tentative, knowledge of these laws by hewing to the ``objective'' procedures and epistemological strictures prescribed by the (so-called) scientific method. Is it now dogma in Cultural Studies that there exists no external world? Or that there exists an external world but science obtains no knowledge of it?

In the second paragraph I declare, without the slightest evidence or argument, that ``physical `reality' [note the scare quotes] ... is at bottom a social and linguistic construct.'' Not our *theories* of physical reality, mind you, but the reality itself. Fair enough: anyone who believes that the laws of physics are mere social conventions is invited to try transgressing those conventions from the windows of my apartment. (I live on the twenty-first floor.)

Throughout the article, I employ scientific and mathematical concepts in ways that few scientists or mathematicians could possibly take seriously. For example, I suggest that the ``morphogenetic field'' -- a bizarre New Age idea due to Rupert Sheldrake -- constitutes a cutting-edge theory of quantum gravity. This connection is pure invention; even Sheldrake makes no such claim. I assert that Lacan's psychoanalytic speculations have been confirmed by recent work in quantum field theory. Even nonscientist readers might well wonder what in heavens' name quantum field theory has to do with psychoanalysis; certainly my article gives no reasoned argument to support such a link.
Later in the article I propose that the axiom of equality in mathematical set theory is somehow analogous to the homonymous concept in feminist politics. In reality, all the axiom of equality states is that two sets are identical if and only if they have the same elements. Even readers without mathematical training might well be suspicious of the claim that the axiom of equality reflects set theory's ``nineteenth-century liberal origins.''

In sum, I intentionally wrote the article so that any competent physicist or mathematician (or undergraduate physics or math major) would realize that it is a spoof. Evidently the editors of *Social Text* felt comfortable publishing an article on quantum physics without bothering to consult anyone knowledgeable in the subject. The fundamental silliness of my article lies, however, not in its numerous solecisms but in the dubiousness of its central thesis and of the ``reasoning'' adduced to support it. Basically, I claim that quantum gravity -- the still-speculative theory of space and time on scales of a millionth of a billionth of a billionth of a billionth of a centimeter -- has profound *political* implications (which, of course, are ``progressive'') (pp2-3).

Sokal, A. D. (1996). *A plea for reason, evidence and logic*. Retrieved 10/27/2007, 2007, from http://physics.nyu.edu/~as2/#papers

1.
My goal is to defend what one might call a scientific *worldview* -- defined broadly as a respect for evidence and logic, and for the incessant confrontation of theories with the real world; in short, for reasoned argument over wishful thinking, superstition and demagoguery. And my motives for trying to defend these old-fashioned ideas are basically *political*. I'm worried about trends in the American Left -- particularly here in academia -- that at a minimum *divert* us from the task of formulating a progressive social critique, by leading smart and committed people into trendy but ultimately empty intellectual fashions, and that can in fact *undermine* the prospects for such a critique, by promoting subjectivist and relativist philosophies that in my view are inconsistent with producing a realistic analysis of society that we and our fellow citizens will find compelling.

David Whiteis, in a recent article, said it well:

"Too many academics, secure in their ivory towers and insulated from the real-world consequences of the ideas they espouse, seem blind to the fact that non-rationality has historically been among the most powerful weapons in the ideological arsenals of oppressors. The hypersubjectivity that characterizes postmodernism is a perfect case in point: far from being a legacy of leftist iconoclasm, as some of its advocates so disingenuously claim, it in fact ... plays perfectly into the anti-rationalist -- really, anti-*thinking* -- bias that currently infects "mainstream" U.S. culture."

2.
Now of course, no one will admit to being against reason, evidence and logic -- that's like being against Motherhood and Apple Pie.

Rather, our postmodernist and poststructuralist friends will claim to be in favor of some new and *deeper* kind of reason, such as the celebration of "local knowledges" and "alternative ways of knowing" as an antidote to the so-called "Eurocentric scientific methodology" (you know, things like systematic experiment, controls, replication, and so forth). You find this magic phrase "local knowledges" in, for example, the articles of Andrew Ross and Sandra Harding in the "Science Wars" issue of *Social Text* (pp 126-129).

Sokal, A. D. (1996). *Transgressing the boundaries: An afterword.* Retrieved 10/27/2007, 2007, from http://physics.nyu.edu/~as2/#papers

(1) Alas, the editors of *Social Text* have discovered that my article, ``Transgressing the Boundaries: Toward a Transformative Hermeneutics of Quantum Gravity", which appeared in *Social Text* #46/47, is a parody. In view of the important intellectual and political issues raised by this episode, they have generously agreed to publish this (non-parodic) Afterword, in which I explain my motives and my true views.1 One of my goals is to make a small contribution toward a dialogue on the Left between humanists and natural scientists -- ``two cultures" which, contrary to some optimistic pronouncements (mostly by the former group), are probably farther apart in mentality than at any time in the past 50 years.

Like the genre it is meant to satirize -- myriad exemplars of which can be found in my reference list -- my article is a mélange of truths, half-truths, quarter-truths, falsehoods, non sequiturs, and syntactically correct sentences that have no meaning whatsoever. (Sadly, there are only a handful of the latter: I tried hard to produce them, but I found that, save for rare bursts of inspiration, I just didn't have the knack.) I also employed some other strategies that are well-established (albeit sometimes inadvertently) in the genre: appeals to authority in lieu of logic; speculative theories passed off as established science; strained and even absurd analogies; rhetoric that sounds good but whose meaning is ambiguous; and confusion between the technical and everyday senses of English words.2 (N.B. All works cited in my article are real, and all quotations are rigorously accurate; none are invented.)

.... I'm a stodgy old scientist who believes, naively, that there exists an external world, *that there exist objective truths* [italics mine] about that world, and that my job is to discover some of them. (If science were merely a negotiation of social conventions about what is agreed to be ``true", why would I bother devoting a large fraction of my all-too-short life to it?...)

But my main concern isn't to defend science from the barbarian hordes of lit crit (we'll survive just fine, thank you). Rather, my concern is explicitly *political*: to combat a currently fashionable postmodernist/poststructuralist/social-constructivist discourse -- and more generally a penchant for subjectivism -- which is, I believe, inimical to the values and future of the Left.[1] (pp 2-3).

(2) Stanislav Andreski: So long as authority inspires awe, confusion and absurdity enhance conservative tendencies in society. Firstly, because clear and logical thinking leads to a cumulation of knowledge (of which the progress of the natural sciences provides the best example) and the advance of knowledge sooner or later undermines the traditional order. Confused thinking, on the other hand, leads nowhere in particular and can be indulged indefinitely without producing any impact upon the world.

As an example of ``confused thinking", I would like to consider a chapter from Harding (1991) entitled ``Why `Physics' Is a Bad Model for Physics". I select this example both because of Harding's prestige in certain (but by no means all) feminist circles, and because her essay is (unlike much of this genre) very clearly written. Harding wishes to answer the question, ``Are feminist criticisms of Western thought relevant to the natural sciences?" She does so by raising, and then rebutting, six ``false beliefs" about the nature of science. Some of her rebuttals are perfectly well-taken; but they don't prove anything like what she claims they do. That is because she conflates five quite distinct issues: 1) *Ontology.* What objects *exist* in the world? What statements about these objects are *true*? 2) *Epistemology.* How can human beings obtain *knowledge* of truths about the world? How can they assess the *reliability* of that knowledge? 3) *Sociology of knowledge.* To what extent are the truths *known* (or *knowable*) by humans in any given society influenced (or determined) by social, economic, political, cultural and ideological factors? Same question for the false statements erroneously believed to be true. 4) *Individual ethics.* What types of research *ought* a scientist (or technologist) to undertake (or refuse to undertake)? 5) *Social ethics.* What types of research *ought* society to encourage, subsidize or publicly fund (or alternatively to discourage, tax or forbid)?

These questions are obviously related -- e.g. if there are no objective truths about the world, then there isn't much point in asking how one can know those (nonexistent) truths -- but they are conceptually distinct (pp 4-5).

(3) A lot of the blame for this state of affairs rests, I think, with the scientists. The teaching of mathematics and science *is* often authoritarian; and this is antithetical not only to the principles of radical/democratic pedagogy but to the principles of science itself. No wonder most Americans can't distinguish between science and pseudoscience: their science teachers have never given them any rational grounds for doing so. (Ask an average undergraduate: Is matter composed of atoms? Yes. Why do you think so? The reader can fill in the response.) Is it then any surprise that 36% of Americans believe in telepathy, and that 47% believe in the creation account of Genesis?[2] (pp 8-9).

(4) Ross (1992, 549) expressed further (and quite justified) misgivings: "I'm quite skeptical of the ``anything goes" spirit that is

often the prevailing climate of relativism around postmodernism.... Much of the postmodernist debate has been devoted to grappling with the philosophical or cultural limits to the grand narratives of the Enlightenment. If you think about ecological questions in this light, however, then you are talking about ``real" physical, or material, limits to our resources for encouraging social growth. And postmodernism, as we know, has been loath to address the ``real," except to announce its banishment."

1 The natural sciences have little to fear, at least in the short run, from postmodernist silliness; it is, above all, history and the social sciences -- and leftist politics -- that suffer when verbal game-playing displaces the rigorous analysis of social realities.

2 Telepathy: Hastings and Hastings (1992, 518), American Institute of Public Opinion poll from June 1990. Concerning ``telepathy, or communication between minds without using the traditional five senses", 36% ``believe in", 25% are ``not sure", and 39% ``do not believe in". For ``people on this earth are sometimes possessed by the devil", it is 49-16-35 (!). For ``astrology, or that the position of the stars and planets can affect people's lives", it is 25-22-53. Mercifully, only 11% believe in channeling (22% are not sure), and 7% in the healing power of pyramids (26% not sure).

Creationism: Gallup (1993, 157-159), Gallup poll from June 1993. The exact question was: ``Which of the following statements comes closest to your views on the origin and development of human beings: 1) human beings have developed over millions of years from less advanced forms of life, but God guided this process; 2) human beings have developed over millions of years from less advanced forms of life, but God had no part in this process; 3) God created human beings pretty much in their present form at one time within the last 10,000 years or so?" The results were 35% developed with God, 11% developed without God, 47% God created in present form, 7% no opinion (pp 13-14).

Sokal, A. D. (1996). Transgressing the boundaries: Toward a transformative hermeneutics of quantum gravity. *Social Text,* (46/47, Science Wars), 217-252. http://links.jstor.org.rlproxy.upei.ca/sici?sici=0164-2472%28199621%2F22%290%3A46%2F47%3C217%3ATTBTAT%3E2.0.CO%3B2-S

There are many natural scientists, and especially physicists, who continue to reject the notion that the disciplines concerned with social and cultural criticism can have anything to contribute, except perhaps peripherally, to their research. Still less are they receptive to the idea that the very foundations of their worldview must be revised or rebuilt in the light of such criticism. Rather, they cling to the dogma imposed by the long post-Enlightenment hegemony over the Western intellectual outlook, which can be summarized briefly as follows: that there exists an external world, whose properties are independent of any individual human being and indeed of humanity as a whole; that these properties are encoded in "eternal" physical laws; and that human beings can obtain reliable, albeit imperfect and tentative, knowledge of these laws by hewing to the "objective" procedures and epistemological strictures prescribed by the (socalled) scientific method.

But deep conceptual shifts within twentieth-century science have undermined this Cartesian-Newtonian metaphysics (Heisenberg 1958; Bohr 1963); revisionist studies in the history and philosophy of science have cast further doubt on its credibility (Kuhn 1970; Feyerabend 1975; Latour 1987; Aronowitz 198%; Bloor 199 1); and, most recently, feminist and poststructuralist critiques have demystified the substantive content of mainstream Western scientific practice, revealing the ideology of domination concealed behind the facade of "objectivity" (Merchant 1980; Keller 1985; Harding 1986, 1991; Haraway 1989, 1991; Best 1991). It has thus become increasingly apparent that physical "reality," no less than social "reality," is at bottom a social and linguistic construct; that scientific "knowledge," far from being objective, reflects and encodes the dominant ideologies and power relations o f the culture that produced it; that the truth claims of science are inherently theory-laden and self-referential; and consequently, that the discourse of the scientific community, for all its undeniable value, cannot assert a privileged epistemological status with respect to counterhegemonic narratives emanating from dissident or marginalized communities. These themes can be traced, despite some differences of emphasis, in Aronowitz's analysis of the cultural fabric that produced quantum mechanics (1988b, esp. chaps. 9 and 12); in Ross's discussion of oppositional discourses in post-quantum science (1 99 1 intro. and chap. 1); in Irigaray's and Hayles's exegeses of gender encoding in fluid mechanics (Irigaray 1985; Hayles 1992); and in Harding's comprehensive critique of the gender ideology underlying the natural sciences in general and physics in particular (1986, esp. chaps. 2 and 10; 1991, esp. chap. 4) (pp 217 - 218).

Soros, G. (2006). Europe as a prototype for a global open society. Paper presented at the http://www.soros.org/resources/articles_publications/articles/europe_20061120. , *2007*(10/22/2007) Retrieved 10/22/2007

The concept of open society was first used by the French philosopher Henri Bergson in his book The Two Sources of Morality and Religion published in 1932. One source is tribal and that leads to a closed society whose members feel an affinity for each other and fear or hostility toward the other tribes. By contrast, the other source is universal and leads to an open society which is guided by universal human rights and seeks to protect and promote the freedom of the individual.

This scheme was modified by the Austrian-born British philosopher, Karl Popper in his seminal book *The Open Society and Its Enemies* published in [1945; see Popper 1945]. He pointed out that open society can be endangered by abstract, universal ideologies like

communism and fascism which claim to be in possession of the ultimate truth.

Popper was a philosopher of science and he argued that the ultimate truth is beyond the reach of the human intellect. Even scientific theories cannot be verified beyond doubt; they can only be falsified and it is only the fact that they can be falsified that qualifies them as scientific. We cannot base our decisions on knowledge alone and our imperfect understanding introduces an element of uncertainty into the world in which we live that is very difficult to cope with.

Ideologies like communism and fascism seek to eliminate uncertainty but they suffer from a fatal flaw: They are bound to be false and misleading exactly because they claim to be in possession of the ultimate truth. These ideologies can be imposed on society only by using various forms of repression. By contrast, an open society accepts the uncertainties inherent in our imperfect understanding (or fallibility), and seeks to establish laws and institutions which allow people with divergent views and interests to live together in peace. The distinguishing feature of these laws and institutions is that they safeguard the freedom of the individual....

The Second World War resulted in the defeat of the Nazi regime and its ideology. Europe was rebuilt with the generous help of the United States and eventually a process leading to the formation of the European Union was set in motion. The European Union became a textbook example of the open society. It consists of a number of nations and nationalities, none of which occupies a controlling position and all of which are pledged to maintain democratic institutions and protect individual freedoms and human rights. Even this may be appropriate to an open society because, as Karl Popper argued, our imperfect understanding does not permit permanent and eternally valid definitions of social arrangements. The arrangements must reflect the will of the participants and they must be open to adjustment and improvement. Accordingly, he refused to provide a definition of open society (Soros 2006).

Steinberg, P. E. (2001). *The social construction of the ocean*. Cambridge ; New York: Cambridge University Press.

Stewart, D. (2007). Barlow warns water crisis not just third world issue: Council of canadians chair speaking out against 'alarming trend' of water commodification, one result of which is rising rates of water-related deaths. *The Guardian: News,* http://www.theguardian.pe.ca/index.cfm?sc=98
ABSTRACT: Just as wars in the 20th century were fought over oil, world-renowned social justice advocate Maude Barlow believes wars of the 21st century will be fought over water.

(1) Barlow said the big problem on P.E.I. will be an agricultural one with pesticides and nitrates leaching into groundwater.
"For you, it will be an issue of preserving your way of life."
Barlow is calling for provincial and federal strategies in the form of legislation.

Stigler, G. J. (1982). *The process and progress of economics.* Retrieved 11/5/2007, 2007, from http://nobelprize.org/nobel_prizes/economics/laureates/1982/stigler-lecture.html

Abstract: The lecture focuses on the reasons that new ideas are accepted or rejected by a science. A distinction is drawn between pre-scientific and scientific stages of a discipline. The diverse fates of new ideas are illustrated by a variety of episodes in the history of economics, including the economics of information and the theory of economic regulation.

(1) Most economists enter this market in new ideas, let me emphasize, in order to obtain ideas and methods for the applications they are making of economics to the thousand problems with which they are occupied: these economists are not the suppliers of new ideas but only demanders. Their problem is comparable to that of the automobile buyer: to find a reliable vehicle. Indeed, they usually end up by buying a used, and therefore tested, idea. *Those economists who seek to engage in research on the new ideas of the science - to refute or confirm or develop or displace them - are in a sense both buyers and sellers of new ideas. They seek to develop new ideas and persuade the science to accept them, but they also are following clues and promises and explorations in the current or preceding ideas of the science* [italics mine]. It is very costly to enter this market: it takes a good deal of time and thought to explore a new idea far enough to discover its promise or its lack of promise. The history of economics, and I assume of every science, is strewn with costly errors: of ideas, so to speak, that wouldn't run far or carry many passengers (57).

Stiglitz, J. E. (2001). *Nobel autobiography.* Retrieved 10/25/2007, 2007, from http://nobelprize.org/nobel_prizes/economics/laureates/2001/stiglitz-autobio.html
Growing up in Gary Indiana gave me, I think, a distinct advantage over many of my classmates who had grown up in affluent suburbs. They could read articles that argued that in competitive equilibrium, there could not be discrimination, so long as there are some non-discriminatory individuals or firms, since it would pay any such firm to hire the lower wage discriminated - against individuals, and take them seriously. I *knew* that discrimination existed, even though there were many individuals who were not prejudiced. To me, the *theorem* simply proved that one or more of the assumptions that went into the theory was wrong; my task, as a theorist, was to figure out which assumptions were the critical ones.

Stiglitz, J. E. (2001). *INFORMATION AND THE CHANGE IN THE PARADIGM IN ECONOMICS.* Retrieved 10/25/2007, 2007, from

http://nobelprize.org/nobel_prizes/economics/laureates/2001/stiglitz-lecture.html

(1) My first visits to the developing world in 1967, and a more extensive stay in Kenya in 1969, made an indelible impression on me. Models of perfect markets, as badly flawed as they might seem for Europe or America, seemed truly inappropriate for these countries (p 473).

(2) More recently, I have turned my attention to some aspects of what might be called the political economy of information: the role of information in political processes, in collective decision making. For two hundred years, well before the economics of information became a subdiscipline within economics, Sweden had enacted legislation to increase transparency. There are asymmetries of information between those governing and those governed, and just as markets strives to overcome asymmetries of information, we need to look for ways by which the scope for asymmetries of information in political processes can be limited and their consequences mitigated (p 474).

(3) The reining paradigm of the twentieth century, the neoclassical model, ignored the warnings of the nineteenth century and earlier masters on how information concerns might alter the analyses, perhaps because they could not see how to embrace them in their seemingly precise models, perhaps because doing so would have led to uncomfortable conclusions about the efficiency of markets (p 475).

(4) The fact that information was imperfect was, of course, well recognized by all economists. While they may have hoped that economies with imperfect information behaved much like economies with perfect information, they real reason that models with imperfect information were not developed was that it was not obvious how do to so. There were several problems that had to be overcome: while there was a single way in which information is perfect, there are an infinite number of ways in which information can be imperfect (p 486).

(5) Perhaps the most important single idea in economics is that competitive economies lead, as if by an invisible hand, to a (Pareto) efficient allocation of resources, and that every Pareto efficient resource allocation can be achieved through a competitive mechanism, provided only that the appropriate lump sum redistributions are undertaken. It is these (fundamental theorems) of welfare economics which provide both the rationale for the reliance on free markets, and the belief that issues of distribution can be separated from issues of efficiency, allowing the economist the freedom to push for reforms which increase efficiency, regardless of their seeming impact on distribution; if society does not like the distributional consequences, it should simply redistribute income. The economics of information showed that neither of these results was, in general, true (p. 503).

(6) As in Darwinian ecological models, the major determinant of one's environment is the behavior of others, and their behavior may in turn depend on their beliefs about others' behavior. (Hoff and Stiglitz [2000]). As Darwin noted after his visit to the Galapagos (p 521-522):

How has it happened in the several islands situated within sight of each other, having the same geological nature, the same height, climate, &c… This long appeared to me a great difficulty: but it arises in chief part from the deeply-seated error of considering the physical conditions of a country as the most important for its inhabitants; whereas it cannot, I think he disputed that the nature of the other inhabitants, with which each has to compete, is at least as important, and generally a far more important element of success (Darwin 1859, p 400).

(7) Political processes inevitably entail asymmetries of information: our political leaders are supposed to know more about threats to defense, about our economic situation, etc., than ordinary citizens. There has been a delegation of responsibility for day-to-day decision making, just as there is within a firm.

The problem is to provide incentives for those so entrusted to act on behalf of those who they are supposed to be serving – the standard principle agent problem. Democracy – contestability in political processes – provides a check on abuses of the powers that come from delegation just as it does in economic processes; but just as we recognize that the take-over mechanism provides an imperfect check, so too we should recognize that the electoral process provides an imperfect check. Just as we recognize that current management has an incentive to increase asymmetries of information in order to enhance its market power, increase its discretion, so to in public life. And just as we recognize that disclosure requirements – greater transparency – and specific rules of the game (e.g. related to corporate governance) can affect the effectiveness of the take-over mechanism and the overall quality of corporate governance, so too the same factors can affect political contestabilty and the quality of public governance (p 522 - 523).

(8) We have the good fortune to live in democracies, in which individuals can fight for their perception of what a better world might be like. We as academics have the good fortune to be further protected by our academic freedom. With freedom comes responsibility: the responsibility to use that freedom to do what we can to ensure that the world of the future be one in which there is not only greater economic prosperity, but also more social justice (p 527).

Taleb, N. (2001). *Fooled by randomness : The hidden role of chance in the markets and in life* (2005, 2nd Edition ed.). New York:

(1) I am now convinced that, perhaps, most of econometrics could be useless—much of what financial statisticians know would not be worth knowing. For a sum of zeros, even repeated a billion times, remains zero; likewise an accumulation of research and gains in complexity will lead to naught if there is no firm ground beneath it (p 114).

(2) We are still very close to our ancestors who roamed the savannah. The formation of our beliefs is fraught with superstitions—even today (I might say, especially today). Just as one day some primitive tribesman scratched his nose, saw rain falling, and developed an elaborate method of scratching his nose to bring on the much-needed rain, we link economic prosperity to some rate cut by the Federal Reserve Board, or the success of a company with the appointment of the new president "at the helm". Bookstores are full of biographies of successful men and women presenting their specific explanation on how they made it big in life (we have an expression, 'the right time and the right place,' to weaken whatever conclusion can be inferred from them). This confusion strickes people of different persuasions; the literature professor invests a deep meaning into a mere coincidental occurance of word patterns, while the economist proudly detects 'regularities' and 'anomalies' in data that are plain random (p x).

(3) As I am witing these lines I see the following headlines on my Bloomberg:

The Dow is up 1.03 on lower interests rates
The Dollar down 0.12 yen onn higher Japanese surplus

and so on for an entire page. If I translate it well, the journalist claims to provide an explanation for something tht amounts to *perfect noise*. A move of 1.03 with the Dow at 11,000 constitutes less than a 0.01% move. Such a move does not warrant an explanation. There is nothing there an honest person can try to explain; there are no reasons to adduce" (pp 213-214).

(4) All of my colleagues who I have known to denigrate history blew up spectacularly—and I have yet to encounter some such person who has not blown up. But the truly interesting point lies in the remarkable similarities in their approaches. The blowup, I will repeat, is different from merely incurring a monetary loss; it is losing money when one does not believe that such fact is possible at all (pp 51-54).

TED. (1997). *Celand cod war.* Retrieved 11/13/2007, 2007, from http://www.american.edu/TED/icefish.htm

UNIPCC. (2007). *Intergovernmental panel on climate change.* Retrieved 11/1/2007, 2007, from http://www.ipcc.ch/
Global atmospheric concentrations of carbon dioxide, methane and nitrous oxide have increased markedly as a result of human activities since 1750 and now far exceed pre-industrial values determined from ice cores spanning many thousands of years (see Figure SPM-1). The global increases in carbon dioxide concentration are due primarily to fossil fuel use and land-use change, while those of methane and nitrous oxide are primarily due to agriculture.
• Carbon dioxide is the most important anthropogenic greenhouse gas.... The global atmospheric concentration of carbon dioxide has increased from a pre-industrial value of about 280 ppm to 379 ppm 3 in 2005. The atmospheric concentration of carbon dioxide in 2005 exceeds by far the natural range over the last 650,000 years (180 to 300 ppm) as determined from ice cores. The annual carbon dioxide concentration growth-rate was larger during the last 10 years (1995 – 2005 average: 1.9 ppm per year), than it has been since the beginning of continuous direct atmospheric measurements (1960 – 2005 average: 1.4 ppm per year) although there is year-to-year variability in growth rates.
• The primary source of the increased atmospheric concentration of carbon dioxide since the pre-industrial period results from fossil fuel use, with land use change providing another significant but smaller contribution. Annual fossil carbon dioxide emissions 4 increased from an average of 6.4 [6.0 to 6.8] 5 GtC (p 2).

Van der Post, L. (1958). *The lost world of the kalahari*. New York: Morrow.

Veblen, T. (1899). *The theory of the leisure class*. New York; London: The Macmillan Company; Macmillan.

The quasi-peaceable gentleman of leisure, then, not only consumes of the staff of life beyond the minimum required for subsistence and physical efficiency, but his consumption also undergoes a specialisation as regards the quality of the goods consumed. He consumes freely and of the best, in food, drink, narcotics, shelter, services, ornaments, apparel, weapons and accoutrements, amusements, amulets, and idols or divinities. In the process of gradual amelioration which takes place in the articles of his consumption, the motive principle and proximate aim of innovation is no doubt the higher efficiency of the improved and more elaborate products for personal comfort and well-being. But that does not remain the sole purpose of their consumption. The canon of reputability is at hand and seizes upon such innovations as are, according to its standard, fit to survive. Since the consumption of these more excellent goods is an evidence of wealth, it becomes honorific; and conversely, the failure to consume in due quantity and quality becomes a mark of inferiority and demerit.

This growth of punctilious discrimination as to qualitative excellence in eating, drinking, etc. presently affects not only the manner of life, but also the training and intellectual activity of the gentleman of leisure. He is no longer simply the successful, aggressive male, -- the man of strength, resource, and intrepidity. In order to avoid stultification he must also cultivate his tastes, for it now becomes incumbent on him to discriminate with some nicety between the noble and the ignoble in consumable goods. He becomes a connoisseur in creditable viands of various degrees of merit, in manly beverages and trinkets, in seemly apparel and architecture, in weapons, games, dancers, and the narcotics. This cultivation of aesthetic faculty requires time and application, and the demands made upon the gentleman in this direction therefore tend to change his life of leisure into a more or less arduous application to the business of learning how to live a life of ostensible leisure in a becoming way. Closely related to the requirement that the gentleman must consume freely and of the right kind of goods,
there is the requirement that he must know how to consume them in a seemly manner. His life of leisure must be conducted in due form. Hence arise good manners in the way pointed out in an earlier chapter. High-bred manners and ways of living are items of conformity to the norm of conspicuous leisure and conspicuous consumption.

Conspicuous consumption of valuable goods is a means of reputability to the gentleman of leisure. As wealth accumulates on his hands, his own unaided effort will not avail to sufficiently put his opulence in evidence by this method. The aid of friends and competitors is therefore brought in by resorting to the giving of valuable presents and expensive feasts and entertainments. Presents and feasts had probably another origin than that of naive ostentation, but they required their utility for this purpose very early, and they have retained that character to the present; so that their utility in this respect has now long been the substantial ground on which these usages rest. Costly entertainments, such as the potlatch or the ball, are peculiarly adapted to serve this end. The competitor with whom the entertainer wishes to institute a comparison is, by this method, made to serve as a means to the end. He consumes vicariously for his host at the same time that he is witness to the consumption of that excess of good things which his host is unable to dispose of single-handed, and he is also made to witness his host's facility in etiquette.

Wallace, A. R. (1880). *Island life* (1892nd ed.). London: Macmillan and Co.

Wallace, R. (1995). *Braveheart*. Retrieved 10/16/2007, 2007, from http://www.imsdb.com/scripts/Braveheart.html

Watts, R. L. In Baldacchino G., Milne D.(Eds.), *Constitutional models for islands: A survey*. Basingstoke: Macmillan.

Weale, D. (2007). *Chasing the shore : Little stories about spirit and landscape*. Charlottetown, P.E.I.: Tangle Lane.

Weale, D., & 20 University of Prince Edward Island. Institute of Island Studies. (1992). *Them times*. Charlottetown: Institute of Island Studies.

Weart, S. R. (2003). *The discovery of global warming*. Cambridge, Mass.: Harvard University Press.

Wisdom, J. (1985). *Meteorites may follow a chaotic route to earth*. Retrieved 11/12/2007, 2007, from http://www.nature.com.rlproxy.upei.ca/nature/journal/v315/n6022/abs/315731a0.html

It is widely believed that meteorites originate in the asteroid belt, but the precise dynamical mechanism whereby material is transported to Earth has eluded discovery. The observational data for the ordinary chondrites, the most common meteorites, impose severe constraints on any proposed mechanism. The ordinary chondrites are not strongly shocked, their cosmic ray exposure ages are typically <20 Myr, their radiants are concentrated near the antapex of Earth's motion and they show a pronounced 'afternoon excess' (for every meteorite which falls in the morning two fall in the afternoon). Wetherill[1] concluded that these data could only be explained by an "unobserved source" of material with perihelia near 1.0 AU and aphelia near Jupiter. His subsequent, more sophisticated investigations have not changed this basic conclusion. Recently I have shown[2,3] that there is a large chaotic zone in the phase space near the 3/1 mean motion commensurability with Jupiter and that the chaotic trajectories within this zone have particularly large variations in orbital eccentricity. Since asteroidal debris is quite easily injected into this chaotic zone, it could provide Wetherill's 'unobserved source' if chaotic trajectories which begin at asteroidal eccentricities (e<0.2) reach such large eccentricities that Earth's orbit is crossed (e>0.57)[4]. In this report I present a numerical integration which demonstrates that at least some of these chaotic trajectories do have the properties required to transport meteoritic material from the asteroid belt to Earth. Combined with the Monte Carlo calculations which show that the resulting meteorites are consistent with all the observational constraints, the case for this chaotic route to Earth is fairly strong.

Wisdom, J. (1987). Chaotic behavior in the solar system. *Nuclear Physics B - Proceedings Supplements, 2*, 391-414.

There are several physical situations in the solar system where chaotic behavior plays an important role. Saturn's satellite Hyperion is currently tumbling chaotically. Many of the other irregularly shaped satellites in the solar system had chaotic rotations in the past. There are also examples of chaotic orbital evolution. Meteorites are most probably transported to Earth from the asteroid belt by way of a chaotic zone. Chaotic behavior also seems to be an essential ingredient in the explanation of certain non-uniformities in the distribution of asteroids. The long-term motion of Pluto is suspiciously complicated, but objective criteria have not yet indicated that

the motion is chaotic.

Witt, U. (1999). Bioeconomics as economics from a darwinian perspective. *Journal of Bioeconomics, 1*(1), 19-34.

Zalta, E. N. (2006). *Karl popper.* Retrieved 10/27/2007, 2007, from http://plato.stanford.edu.rlproxy.upei.ca/entries/russell/

Karl Popper is generally regarded as one of the greatest philosophers of science of the 20th century. He was also a social and political philosopher of considerable stature, a self-professed 'critical-rationalist', a dedicated opponent of all forms of scepticism, conventionalism, and relativism in science and in human affairs generally, a committed advocate and staunch defender of the 'Open Society', and an implacable critic of totalitarianism in all of its forms. One of the many remarkable features of Popper's thought is the scope of his intellectual influence. In the modern technological and highly-specialised world scientists are rarely aware of the work of philosophers; it is virtually unprecedented to find them queuing up, as they have done in Popper's case, to testify to the enormously practical beneficial impact which that philosophical work has had upon their own.

Zinn, H. (1980). *A people's history of the united states* (http://www.historyisaweapon.com/zinnapeopleshistory.html ed.) Retrieved 11/17/2007.

1 As I was sitting in my hotel room in Skåne, I asked myself: what can fame and success give to an author? A measure of material well-being brought about by money? Certainly. *But if an Icelandic poet should… ever lose his sense of belonging with the humble of the earth, whom my old grandmother taught me to revere, and his duty toward them, then what is the good of fame and prosperity to him?* [italics mine, Halldór Laxness, *Nobel Banquet Speech*, December 1955].

2 One can be independent, or one can be subject to decisions made by others… This difference, embodied in the institutional distinction between the decision-making procedures 'market' and 'hierarchy', affects individual wellbeing beyond outcomes. Taking self-employment as an important case of independence, it is shown that the self-employed derive higher satisfaction from work than those employed in organizations, irrespective of income gained or hours worked. This is evidence for procedural utility: people value not only outcomes, but also the processes leading to outcomes (Benz & Frey, pre-publication release, abstract).

3 (a) The perverse effects frequently attributed to the welfare state are easy to interpret from a behavioral perspective. If people overestimate the magnitude of immediate benefits relative to more distant ones, you can actually–on net–harm them by offering them additional immediate benefits. They already tend to under-invest. Making their present more livable with cash gifts only amplifies this tendency. Similarly, if individuals systematically overestimate their own abilities, you could easily harm a student by admitting him to a program for which he is under-qualified. Blinded by over-confidence, he would be likely to select the best school that accepted him, scarcely considering the possibility that he will be out of his league. Looking at the welfare state from a behavioral standpoint lays the groundwork for a stronger claim: Potential welfare recipients' deviations from neoclassical assumptions tend to be especially pronounced. If the average American falls short of the neoclassical ideal, the average recipient of government assistance does not even come close (Beaulier & Caplan 2007, p 487).

(b) Once you accept the idea that you can hurt people by giving them more choices, you cannot dismiss the idea that you can help them by taking some of their choices away. In practice, of course, the latter is much more costly and intrusive than the former (Ibid, p 503).

4 The situation can be best described by comparison with a searchlight (the 'searchlight theory of science', as I usually call it in contrasdistinction to the 'bucket theory of the mind'). What the searchlight makes visible will depend upon its position, upon our way of directing it, and upon its intensity, colour, etc. ' although it will, of course, also depend very largely upon the things illuminated by it. Similarly, a scientific description will depend, largely, upon our point of view, our interests, which are as a rule connected with the theory or hypothesis we wish to test ; although it will also depend upon the facts described. Indeed, the theory or hypothesis could be described as the crystallization of a point of view (Popper 1945, vol. II, p 260).

5 Myrdal, 1975, p1. Also see Descartes 1637.

6 Weale, 2007, p 11.

7 Art is a selective re-creation of reality according to an artist's metaphysical value-judgments. Man's profound need of art lies in the fact that his cognitive faculty is conceptual, i.e., that he acquires knowledge by means of abstractions, and needs the power to bring his widest metaphysical abstractions into his immediate, perceptual awareness. Art fulfills this need: by means of a selective re-creation, it concretizes man's fundamental view of himself and of existence. It tells man, in effect, which aspects of his experience are to be regarded as essential, significant, important. In this sense, art teaches man how to use his consciousness (Rand 1969, p 45).

8 Arawak men and women, naked, tawny, and full of wonder, emerged from their villages onto the island's beaches and swam out to get a closer look at the strange big boat. When Columbus and his sailors came ashore, carrying swords, speaking oddly, the Arawaks ran to greet them, brought them food, water, gifts. He later wrote of this in his log:

> They… brought us parrots and balls of cotton and spears and many other things, which they exchanged for the glass beads and hawks' bells. They willingly traded everything they owned… . They were well-built, with good bodies and handsome features…. They do not bear arms, and do not know them, for I showed them a sword, they took it by the edge and cut themselves out of ignorance. They have no iron. Their spears are made of cane… . They would make fine servants…. With fifty men we could subjugate them all and make them do whatever we want (Zinn 1980, p 1).

9 HAPPINESS is generally considered an ultimate goal of life; virtually everybody wants to be happy. The United States Declaration of Independence of 1776 [see Jefferson 1776] takes it as a self-evident truth that the "pursuit of happiness" is an "unalienable right," comparable to life and liberty. It follows that economics is-or should be-about individual happiness; in particular, how do economic growth, unemployment and inflation, and institutional factors such as governance affect individual well-being? In addition to this intrinsic interest, there are important reasons for economists to consider happiness research. The first is economic policy. At the microlevel, it is often impossible to make a Pareto-improving proposal, because a social action entails costs for some individuals. Hence an evaluation of the net effects, in terms of individual utilities, is needed (Frey & Stutzer 2002, p 402).

10 One of the central, unresolved controversies in biology concerns the distribution of primitive *versus* advanced characters at different stages of vertebrate development. This controversy has major implications for evolutionary developmental biology and phylogenetics. Ernst Haeckel addressed the issue with his Biogenetic Law.... Haeckel's important but overlooked alphabetical analogy of evolution and development is an advance on von Baer.... Despite his obvious flaws, Haeckel can be seen as the father of a sequence-based phylogenetic embryology (Richardson & Keuck 2002, abstract).

11 Knowledge consists in the search for truth–the search for objectively true, explanatory theories... It is not the search for certainty. To err is human. All human knowledge is fallible and therefore uncertain. It follows that we must distinguish sharply between truth and certainty. That to err is human means not only that we must constantly struggle against error, but also that, even when we have taken the greatest care, we cannot be completely certain that we have not made a mistake.

In science, a mistake we make–an error–consists essentially in our regarding as true a theory that is not true... to combat the mistake, the error, means therefore to search for objective truth and to do everything possible to discover and eliminate falsehoods. This is the task of scientific activity. Hence we can say: our aim as scientists is objective truth; more truth, more interesting truth, more intelligible truth. We cannot reasonably aim at certainty. Once we realize that human knowledge is fallible, we realize also that we can never be completely certain that we have not made a mistake (Popper, 1992, p 4).

12 The genuine discipline of the Enlightenment, the true rationalist, does not even want to persuade, nor even to convince. He remains always aware that he may err. Thus he esteems too highly the *independence* [italics mine] of the other person to try to sway him in important matters; rather he wants objections and criticisms. He wants to arouse and stimulate the cut and thrust of argument. This is what is valuable to him. Not only because we may approach truth better with the free exchange of opinion, but also because he values this process as such (Popper 1999, pp 206-207).

13 Non-economists are using the results produced in modern economics and its publication system less and less, because they judge them to be far from relevant.... The Economist (1997: 13; 2000: 90), for example, wonders about the "Puzzling Failure of Economics", and asks "In the long run, is the subject dead?", or the New Yorker (Cassidy 1996: 50 - 1) remarks: "... a good deal of modern economic theory, even the kind that wins Nobel Prizes, simply does not matter much". This apparent failure has been reflected on the market for students. In most countries, economists have lost much ground to other disciplines, in particular to management. At least according to such evidence, it is not easy to defend the position that the existing journal publication process contributes greatly to making economics a generally relevant, innovative and exciting discipline (Frey 2002, p 16).

14 (a) My present design... is not to teach the method which each ought to follow for the right conduct of his reason, but solely to describe the way in which I have endeavoured to conduct my own.... This tract is put forth merely as a history, or, if you will, as a tale, in which, amid some examples worthy of imitation, there will be found, perhaps, as many more which it were advisable not to follow, I hope it will prove useful to some without being hurtful to any, and that my openness will find some favour with all (Descartes 1637, p 1).

(b) It is possible I may be mistaken; and it is but a little copper and glass, perhaps, that I take for gold and diamonds. I know how very liable we are to delusion in what relates to ourselves, and also how much the judgments of our friends are to be suspected when given in our favour (Ibid, p 1).

15 (a) Economics is not an intellectual game. Economics is deadly serious. The very future of mankind—of civilization—depends, in Mises' view, upon widespread understanding of, and respect for, the principles of economics (Kirzner 2006, p1).

(b) The assumption that *economists* (italics Hayek's) can find predictable solutions to economic problems is undoubtedly the most inhibiting force in… economics. It has led to the increasing isolation of theoretical economists from the day-to-day practitioners of the subject—the actual participants in an economy, the consumers and the producers (Hayek, Bartley, & Kresege 1991, pp 8-9).

(c) In contrast to the majority of economists, [Austrian economists]… produce relatively more books and contribute fewer articles to established journals.… They are very much concerned with methodological and philosophical fundamentals and what makes the label *extraordinary* most applicable to their work is that they share a conviction that orthodox economics is at the point of breakdown, that it is unable to provide a coherent and intelligible analysis of the present-day economic world (Edwin G. Dolan, "Austrian Economics as Extraordinary Science," in *The Foundations of Modern Austrian Economics* [Kansas City: Sheed & Ward, 1976]).

16 (a) Economic theory has suffered in the past from a failure to state clearly its assumptions. Economists in building up a theory have often omitted to examine the foundations on which it was erected. This examination is, however, essential not only to prevent the misunderstanding and needless controversy which arise from a lack of knowledge of the assumptions on which a theory is based, but also because of the extreme importance for economics of good judgment in choosing between rival sets of assumptions (Coase 1930, p 386).

(b) When I began the study of economics some forty one years ago, I was struck by the incongruity between the models that I was taught and the world that I had seen growing up, in Gary Indiana, a city whose rise and fall paralleled the rise and fall of the industrial economy. Founded in 1906 by U.S. Steel, and named after its Chairman of the Board, by the end of the century it had declined to but a shadow of its former self. But even in its heyday, it was marred by poverty, periodic unemployment, and massive racial discrimination. Yet the theories that we were taught paid little attention to poverty, said that all markets cleared – including the labour market, so unemployment must be nothing more than a phantasm, and that the profit motive ensured that there could not be economic discrimination. If the central theorems that argued that the economy was Pareto efficient – that, in some sense, we were living in the best of all possible worlds – were true, it seemed to me that we should be striving to create a different world (Stiglitz 2001, p 473).

17 As a rule, I begin my lectures on Scientific Method by telling my students that scientific method does not exist. I add that I ought to know, having been, for a time at least, the one and only professor of this non-existent subject within the British Commonwealth.

It is in several senses that my subject does not exist, and I shall mention a few of them.

First, my subject does not exist because subject matters in general do not exist. *There are no subject matters; no branches of learning—or, rather, of inquiry: there are only problems, and the urge to solve them* [italics mine]. A science such as botany or chemistry (or say, physical chemistry, or electrochemistry) is, I contend, merely an administrative unit. University administrators have a difficult job anyway, and it is a great convenience to them to work on the assumption that there are some named subjects, with chairs attached to them to be filled by the experts in these subjects. I do not agree: even serious students are misled by the myth of the subject. And I should be reluctant to call anything that misleads a person a convenience to that person (Popper 1956, p 5).

18 There are, so Montaigne implied, no legitimate reasons why books in the humanities should be difficult…; wisdom does not require a specialized vocabulary or syntax, nor does an audience benefit from being wearied….Every work presents us with a choice of whether to judge the author inept for not being clear, or

ourselves stupid for not grasping what is going on. Montaigne encouraged us to blame the author. (de Botton 2001, p 158).

19 (a) Every intellectual has a very special responsibility. He has the privilege and the opportunity of studying. In return, he owes it to his fellow men (or 'to society') to represent the results of his study as simply, clearly and modestly as he can. The worst thing that intellectuals can do–the cardinal sin–is to try to set themselves up as great prophets vis-à-vis their fellow men and to impress them with puzzling philosophies. Anyone who cannot speak simply and clearly should say nothing and continue to work until he can do so (Popper 1992, p 83).

(b) What I called the cardinal sin above…—the presumptuousness of the three-quarters educated—is simply talking hot air, professing a wisdom we do not possess….

When a student comes up to university he has no idea what standards he should apply, and so he adopts the standards he finds. Since the intellectual standards in most departments… permit pomposity and presumed knowledge (all these people seem to know an awful lot), even good heads are completely turned (Ibid, p 86).

20 It is important to realize that the national accounts statistics may well understate the real contribution of the fishing industry to the economies in question. There are two fundamental reasons for this. First there are a number of economic activities closely linked with the fishing industry but not part of it. These activities consist of the production of inputs to the fishing industry, the so-called backward linkages, and the various secondary uses of fish products, the so-called forward linkages (Arnason 1994). The backward linkages include activities such as ship building and maintenance, fishing gear production, the production of fishing industry equipment and machinery, the fish packaging industry, fisheries research, educations and so on. The forward linkages comprise the transport of fish products, the production of animal feed from fish products, the marketing of fish products, retailing of fish products, part of the restaurant industry and so on. According to Arnason 1994, these backward and forward linkages may easily add at least a quarter to the GDP contribution of the fishing industry. The other reason why the national accounts may underestimate the true contribution of the fishing industry to the GDP is the role of the fishing industry as a disproportionately strong exchange earner. To the extent that the availability of foreign currency constrains economic output, the economic contribution of a disproportionately strong export earner may be greater than is apparent from the national accounts. While the size of this "multiplier effect" is not easy to measure, some studies suggest it may be of a significant magnitude (Arnason 1994). If that is true, the total contribution of the fishing industry to the GDP might easily be much higher than the above direct estimates suggest, in the sense that removal of the fishing industry would, ceteris paribus, lead to this reduction in the GDP (Agnarsson & Arnason, 2003, p 8).

21 (a) The successful politician owes his power to the fact that he moves within the accepted framework of thought, that he thinks and talks conventionally. It would be almost a contradiction in terms for a politician to be a leader in the field of ideas. His task in a democracy is to find out what the opinions held by the largest number are, not to give currency to new opinions which may become the majority view in some distant future (Hayek 1982).

(b) Politicians do not find any attractions in a view which does not lend itself to party declamation, and ordinary mortals prefer views which attribute misfortune to the machinations of their enemies. Consequently people fight for and against quite irrelevant measures, while the few who have a rational opinion are not listened to because they do not minister to any one's passions (Russell 1928, p3).

22 Even the official motto belies its aspirations. The motto of Prince Edward Island, Parva sub ingenti, "the small under the protection of the great," is an apt metaphor for Canada's smallest province. It is also a bitterly paradoxical expression of the Island's status as a "have not" province, largely dependent on others for its survival [italics mine], first as a colony under British rule and then as a somewhat reluctant new province of Canada. As Prince Edward Island comes to the end of the 20th century, the goal of greater self-sufficiency and self-reliance remains as elusive as ever (Baldacchino & Greenwood 1998, p 175).

23 It seems a consensus on this position has not yet been reached. While editing this paper, my wife marked this

line for omission.

24EXT. CORNER OFFICE -- NIGHT

Bam. Jerry's door opens. He exits his office with box. He is now in a state of advancing melancholy, slightly unhinged. Many of the other agents now try not to watch him leaving.

JERRY
Well, don't worry! I'm not going to do what you think I'm going to do, which is FLIP OUT!

JERRY
(continuing)

Jerry goes to a water dispenser, calming himself, and fills a small Dixie cup. Downs it and fills it again, rubbing his face..

JERRY
(continuing)
But let me just say, as I ease out of the office I helped build -- sorry, but it's a fact --

ON DOROTHY -- WATCHING

from her cubicle.

JERRY
-- that there is such a thing as manners. A way of treating people...

He notices the fish tank nearby. He attemps to be profound.

JERRY
(continuing)
These fish have manners! They have manners.

And now Jerry feels bravado, mixed with a wave of anger. Another cup of water as he finds power.

JERRY
(continuing)
In fact. They're coming with me! I'm starting a new company, and the fish will come with me and... you can call me sentimental.

He begins dipping into the tank, grabbing the one exotic fish that failed to escape his cup. It's a fire-tailed Peruvian beauty. He grabs a baggie from an assistant's desk, shakes out some crumbs, and dumps the fish inside.

JERRY
(continuing; to fish)
it's okay... it's okay...

Nearby, a Xerox Repair Guy watches the human train wreck.

JERRY
(continuing)
But if anybody else wants to come with me, this moment will be the ground floor of something real and fun and inspiring and true in this godforsaken business and we will do it together! Who's coming with me besides... "Flipper" here?

But clearly even Flipper is not happy with the new arrangement. Panicked, he whips around the small baggie.

JERRY
(continuing)
Anybody going with me?

Silence, someone coughs, as agents and office personnel look on with equal parts pity and embarrassment. Jerry downs another small cup of water. His lid is blowing off with each second.

JERRY
(continuing)
Wendy? Shall we?

Assistant Wendy looks at Maguire. Painfully polite:

WENDY
I'm three months away from the pay increase, Jerry. I have to, uh... you know, stay.

Jerry absorbs the blow, and takes the keys from the top of her desk. She can't look at him. Jerry stands alone, the blue Mission Statement on Wendy's desk sits accusingly in frame. There is only silence now, the loudest kind.

JERRY
Okay, anybody else?

ON DOROTHY

She looks around. Doesn't anybody believe in the very thing they were applauding three days ago? She has an odd reaction, a muscle twitch of the soul. Before she knows it, she stands boldly, unfortunately knocking a cup of coffee onto herself in the process.

DOROTHY
I'll go with you.
(quietly, on her coffee mess)
Wonderful...

She dabs at her pants. Next to her, Cleo looks on sadly.

ON JERRY

halfway across the office.

JERRY
Dorothy Boyd! Thank you!

She gathers her things, increasingly aware of what she's done.

JERRY
(continuing)
We will see you all again. Sleep tight!

He walks to Dorothy, and together they exit down the hallway corridor, past the framed posters and awards.

WIDE-SHOT

rising over the huge office. For the first time, we see the full expanse of the huge SMI headquarters. And down in the corner of the frame, two small figures leave carrying boxes.

JERRY
(to Dorothy)
Let's see how they do without us.

A beat of silence, then noise returns to its normal commercial roar. A couple of fleas have been swatted off the carcass of an immense beast.

(Crowe 1996, pp 36-39)

25 (a) Iceland is an island of some 103 100 km^2 located in the North Atlantic just south of the Arctic Circle. Iceland's central point is approximately 65 North and 19 West. The country's exclusive economic zone (EEZ) is 758 000 km^2 or more than seven times the surface area of the mainland. Shortest distances to neighbouring countries are: to Greenland 290 km, to the Faroe Islands 435 km, to Scotland 812 km and to Norway 970 km (Arnason 1995, p 5).

(b) Settled by Norwegian and Celtic (Scottish and Irish) immigrants during the late 9th and 10th centuries A.D., Iceland boasts the world's oldest functioning legislative assembly, the Althing, established in 930. Independent for over 300 years, Iceland was subsequently ruled by Norway and Denmark. Fallout from the Askja volcano of 1875 devastated the Icelandic economy and caused widespread famine. Over the next quarter century, 20% of the island's population emigrated, mostly to Canada and the US. Limited home rule from Denmark was granted in 1874 and complete independence attained in 1944. *Literacy, longevity, income, and social cohesion are first-rate by world standards* [italics mine, *CIA World Factbook*, updated 1 November 2007].

26 Alone in my hotel room that night, I naturally began to ask myself what it would mean to a poor wanderer, a writer from one of the most remote islands in the world….

I spent my entire childhood in an environment in which the mighty of the earth had no place outside story books and dreams. Love of, and respect for, the humble routine of everyday life and its creatures was the only moral commandment which carried conviction when I was a child….

My thoughts fly to the old Icelandic storytellers who created our classics, whose personalities were so bound up with the masses that their names, unlike their lives' work, have not been preserved for posterity. They live in

their immortal creations and are as much a part of Iceland as her landscape. For century upon dark century those nameless men and women sat in their mud huts writing books without so much as asking themselves what their wages would be, what prize or recognition would be theirs. There was no fire in their miserable dwellings at which to warm their stiff fingers as they sat up late at night over their stories. Yet they succeeded in creating not only a literary language which is among the most beautiful and subtlest there is, but a separate literary genre. While their hearts remained warm, they held on to their pens (also see Laxness 1955).

27 Iceland is the cradle of narrative art here in the North. This is ultimately due to the peculiar nature and development of the Icelandic community. In Iceland there were no conditions for the rise of the class society elsewhere so characteristic of the Middle Ages, with its sharp contrast between Church and people, between the learned and the peasants. There books were not, as in other lands, the privilege of a few priests versed in Latin. Even in the Middle Ages literacy was far more widespread among the common people in Iceland than in other parts of Europe (Wessén 1995, *The Nobel Prize in Literature Presentation Speech*).

28 Contrary to popular opinion, "*The Problem of Global Warming*," is *not*, I submit, ecological distress due to the superheating of the Earth--because this is clearly not the problem—it is merely a single symptom of far more significant problems, which, I further submit, stem from the *Problem of Induction* (see Hume 1739). In short, *The Problem of Induction* has generated convenient myths (see Archbar, Wintonick, Symansky, & Chomsky 1992), which encourage men to act irrationally. Irrationality spawns and maintains irrational institutions which manufacture consent (see Herman and Chomsky 1992), drive irrational conspicuous consumption (Veblen 1899), and, moreover, foster hyperirrational resource consumption— which is certainly not limited to the consumption of superheating fossil fuels. I propose a variety of counter-intuitive, viable solutions, but conclude the problem may be insoluble, as the philosophical and methodological foundations (see Popper 1945, 19556, 1959, & 1963, Russell 1928, 1938, 1941, Rowbottom & Aiston 2006) render dominant irrational agents and institutions unable to recognize the true nature of the problem (see Festinger 1957) and/or unwilling to act upon otherwise viable solutions (Funk 2007a).

29 (a) Prior to 1970 or so, most researchers in judgement and decision-making believed that people are pretty good decision–makers… Since then, however, opinion has taken a decided turn for the worse…. The view that people are irrational is real in the sense that people hold it to be true. But the reality is mostly in the rhetoric." (Lopes, 1991, p 66, 80) (Smith 2002, p 524).

(b) Many psychologists appear to find irrationality everywhere, and many economists appear to see the findings as everywhere irrelevant" (Smith 2002, p525).

(c) The economist may attempt to ignore psychology, but it is sheer impossibility for him to ignore human nature. If the economist borrows his conception of man from the psychologist, his constructive work may have some chance of remaining purely economic in character. But if he does not, he will not thereby avoid psychology. Rather, he will force himself to make his own, and it will be bad psychology (Clark 1918).

30 We have… a hierarchy of comforting beliefs: those private to the individual, those which he shares with his family, those common to his class or his nation, and finally those that are equally delightful to all mankind. If we desire good relations with a man, we must respect these beliefs; we do not, therefore, speak of a man to his face as we should behind his back. The difference increases as his remoteness from our selves grows greater. In speaking to a brother, we have no need of conscious politeness as regards his parents. The need of politeness is at its maximum in speaking with foreigners, and is so irksome as to be paralyzing to those who are only accustomed to compatriots. I remember once suggesting to an unravelled American that possibly there were a few small points in which the British Constitution compared favourably with that of the United States. He instantly fell in to a towering passion; having never heard such an opinion before, he could not imagine that anyone seriously entertained it. We had both failed in politeness, and the result was a disaster (Russell 1928, p 17).

31 (a) I uphold the ancient theory of truth… according to which truth is the agreement with the facts of what is

being asserted. Kuhn's views on this fundamental question seem to me affected by relativism; more specifically, by some for of subjectivism and of elitism, as proposed for example by Polanyi. Kuhn seems to me also affected by Polanyi's fideism: the theory that a scientist *must* have faith in the theory he proposes (while I think that scientists--like Einstein in 1916 or Bohr in 1913--often realize that they are proposing conjectures that will, sooner or later, be superseded). There are many other such points of difference, of which perhaps the most important is my emphasis on objective rational criticism: I regard as characteristic of ancient and modern science the critical approach towards theories, from the point of view of whether they are true or false. Another important point seems to me that Kuhn does not seem to see the great importance of the many purely scientific revolutions that are *not* connected with *ideological* revolutions [all italics Popper's] (pp xxxi-xxxii).

(b) *My goal is to defend what one might call a scientific worldview* [italics mine] -- defined broadly as a respect for evidence and logic, and for the incessant confrontation of theories with the real world; in short, for reasoned argument over wishful thinking, superstition and demagoguery. And my motives for trying to defend these old-fashioned ideas are basically political. I'm worried about trends in… [America]… -- particularly here in academia -- that at a minimum divert us from the task of formulating a progressive social critique, by leading smart and committed people into trendy but ultimately empty intellectual fashions, and that can in fact undermine the prospects for such a critique, by promoting subjectivist and relativist philosophies that in my view are inconsistent with producing a realistic analysis of society that we and our fellow citizens will find compelling (Sokal 1996, pp 126-129).

32 When economics was yet a fledgling science, Adam Smith carefully elaborated his vision of a productive economy which achieves economic growth and prosperity by relying on individual initiative and limited government. His implicit acceptance o the revolutionary slogan which asserts “that government governs best which governs least” rests on the belief that coordination will come about in a market economy through the free play of competition.

Marx argued that Smith merely parroted the interests of the ruling capitalist class, which he called the bourgeoisie…. *To Marx, it made no sense to describe the market as organized economic activity because there was no organizer* (Eklelund and Hebert 1997, 236).

33 c.1530, "household management," from L. oeconomia, from Gk. oikonomia "household management," from oikonomos "manager, steward," from oikos "house" (cognate with L. vicus "district," vicinus "near;" O.E. wic "dwelling, village;" see villa) + nomos "managing," from nemein "manage" (see numismatics). The sense of "manage the resources of a country" (short for political economy) is from 1651. Hence, economic (1835) means "related to the science of economics," while economical (1780) retains the sense "characterized by thrift." Economist is 1586 in the sense of "household manager," 1804 meaning "student of political economy." Economy (adj.) as a term in advertising at first meant simply "cheaper" (1821), then "bigger and thus cheaper per unit or amount" (1950) (Online Etymology Dictionary 2007).

34 The derivatives genie is now well out of the bottle, and these instruments will almost certainly multiply in variety and number until some event makes their toxicity clear. Knowledge of how dangerous they are has already permeated the electricity and gas businesses, in which the eruption of major troubles caused the use of derivatives to diminish dramatically. Elsewhere, however, the derivatives business continues to expand unchecked. Central banks and governments have so far found no effective way to control, or even monitor, the risks posed by these contracts.

Charlie and I believe Berkshire should be a fortress of financial strength – for the sake of our owners, creditors, policyholders and employees. We try to be alert to any sort of megacatastrophe risk, and that posture may make us unduly apprehensive about the burgeoning quantities of long-term derivatives contracts and the massive amount of uncollateralized receivables that are growing alongside. In our view, however, derivatives are financial weapons of mass destruction, carrying dangers that, while now latent, are potentially lethal [Buffett 2003, p 15 ; also see Jon Danielsson's (2000) *The Emperor has no Clothes: Limits to Risk Modelling*].

35 Economic power, unlike military power, is not primary, but derivative. Within on State, it depends on law; in international dealings it is only on minor issues that it depends on law, but when large issues are involved it depends upon war or the threat of war. It has been customary to accept economic power without analysis, and this has led, in modern times, to an undue emphasis upon economics, as opposed to war and propaganda, in the causal interpretation of history.

Apart from the economic power of labour, all other economic power, in its ultimate analysis, consists in being able to decide, by the use of armed force if necessary, who shall be allowed to stand upon a given piece of land and to put things into it and take things from it [italics mine, Russell 1928, p 95].

36 Godfrey Baldacchino has kindly directed me to the works of Anthony Doeman, who may offer an exception to this general observation.

37 Jevons' romance with statistical investigations unfortunately carried him to the most fanciful and, unfortunately, the most ridiculed idea of his life, the explanation of commercial crises on the basis of the periodic alteration of spots on the sun. The "sunspot theory" integrated Jevons' earlier work on the prices with his lifelong interest in astronomical and meteorological phenomena. In "The Solar Period and the Price of Corn" (1875), he put the matter succinctly:

> If the planets govern the sun, and the sun governs the vintages and harvests, and thus the prices of food and raw materials and the state of the money market, it follows that the configurations of the planets may prove to be the remote causes of the greatest commercial disasters (Ekelund and Hebert 1997, p332).

38 (a) Abstract: Hayek (1991) lamented the difficulty in distinguishing between economics and excrement, and Hemingway (1958) noted "The most essential gift for a good writer is a built-in, shock-proof, bullshit detector." In this spirit and within the context of Frankfurt's (2004) Theory of Bullshit, this paper constructs a bullshit detector for economics. This apparatus is carefully calibrated to detect the Seven Deadly Sins of 'Hollywood Economics': Hubris, Intellectual Dishonesty, Greed, Mathematical Mania, Physics Fetishes, Conditions of Emptiness, and Sunspots. We trace the philosophical and methodological origin of these traits to its source, The Problem of Induction, then illustrate with examples from Plato to the present, including detailed analysis from the illuminating cases of Long Term Capital Management and William Stanley Jevons' sunspot theory. Furthermore, we demonstrate the contemporary effectiveness of this apparatus by detecting hereto undetected economic bullshit, namely Arthur de Vany's (2004) Hollywood Economics: How Extreme Uncertainty Shapes the Film Industry. In the process, we falsify de Vany's 'Nobody knows anything' theory and advance our replacement theory: George Lucas knows something (Funk 2007b).

(b) The differential equations used to solve the Black-Scholes formula were adapted from physics equations that describe, among other phenomena in the physical world, the way cream spreads through a cup of coffee. Any *one* molecule's trip is random, but as a group, the molecules distribute themselves in predictable fashion, from the centre out. The cream will never go all to one side (Lowenstein 2000, p 66).

39 It appears almost all ecological and evolutionary processes…are amplified on islands; generally speaking, the smaller the island, the more amplified these processes are. Small size and low diversity seem to be the main factors. With populations existing in miniature, they are prone to stochastic, or random, processes…. Such a mosaic of habitats in a tiny area promotes evolutionary radiation. Conversely, the small size of islands means that they are exquisitely vulnerable to biological invasion and disturbance as there are few distance barriers to dispersal, and few areas are immune to disturbance by inaccessibility. On the plus side, 'amplification by compression' makes islands particularly useful…on islands, process that may be subtle on continents tend to be more clearly exposed (Baldacchino 2007b, p 193).

40 The assumption that *economists* (italics Hayek's) can find predictable solutions to economic problems is undoubtedly the most inhibiting force in… economics. It has led to the increasing isolation of theoretical economists from the day-to-day practitioners of the subject—the actual participants in an economy, the

consumers and the producers (Hayek, Bartley, & Kresge, 1991, pp 8-9).

41 Towards the end of her life, Robinson's work concentrated mostly on methodological problems in economics (notably, stressing her dissatisfaction with "equilibrium" theories) and trying to revive the original message of Keynes's General Theory. Her many popular writings… [including 1962] brought her an even greater pominence with a wider public. She was invited to address the American Economic Association in 1971, wherein she gave one of her most provocative deliveries…

Robinson was also intensely interested in problems in underdeveloped and developing countries - a natural outgrowth of her work on growth…

Robinson joined the British Academy in 1958 and was elected fellow of Newnham College in 1962. In 1965, she finally became a full professor and a fellow of Girton College (Cepa 2007, p 1).

42 During the course of his newspaper work [Menger] noticed a discrepancy between what the classical economics he was taught in school said about price determination and what real world market participants believed. In 1867 Menger began a study of political economy which culminated in 1871 with the publication of his *Principles of Economics* (*Grundsätze der Volkswirtschaftslehre*), thus becoming the father of the Austrian School of economic thought. It was in this work that he challenged the classical labour theory of value with his theory of marginality. At the time *Principles* was largely ignored….

Ensconced in his professorship he set about refining and defending the positions he took and methods he utilized in Principles, the result of which was the 1883 publication of *Investigations into the Method of the Social Sciences with Special Reference to Economics* (*Untersuchungen über die Methode der Socialwissenschaften und der politischen Oekonomie insbesondere*). The book caused a firestorm of debate, during which members of the Historical School of economics began to derisively call Menger and his students the 'Austrian School' to emphasize their departure from mainstream economic thought in Germany. In 1884 Menger responded with the pamphlet *The Errors of Historicism* in German Economics and launched the infamous Methodenstreit, or methodological debate, between the Historical School and the Austrian School (Hayek pp. 14-15).

43 It is the fact that in [economics] no knowledge can be regarded as established once and for all, and that, in fact, knowledge once gained and spread is often, not disproved, but simply lost and forgotten…. The reason why in our field knowledge can be so lost is, of course, that is never established by experiment, but can be acquired only by following a rather difficult process of reasoning…. The result is that in economics you can never establish a truth once and for all but have always to convince every generation anew (Hayek, Bartley, & Kresege 1991, p 38).

44 For comic relief, see Plaidophile (2007).

45 In economics the most fundamental of these central problems is the theory of value. The theory of value must explain how the comparative values of different goods and services are established. Until that problem is solved, it is not possible to analyse for scientific purposes what will be produced and in what quantities, how the resources will be employed in producing the menu of outputs, and how the resources will be valued. Without a theory of value the economist can have no theory of international trade nor possibly a theory of money. This central problem of value does not change in its essential content if one seeks to explain values in rural or urban societies, or in agricultural or industrial societies. Indeed, if the problem of value were so chameleon like as to alter its nature whenever the economic or political system altered, each epoch in economic life would require its own theory, and short epochs would get short-lived theories (Stigler 1982, p 61).

46 (a) Education is a mere contrivance for moulding people to be exactly like one another: and the mould in which it casts them is that which pleases the predominant power in the government, whither this be a monarch, a priesthood, and aristocracy, or the majority of the existing generation; in proportion as it is efficient and successful, it establishes a despotism over the mind, leading by natural tendency to one over the body (Mill 1946, p 376).

(b) State education… produces, so far as it is successful, a herd of ignorant fanatics, ready at the word of command to engage in war or persecution as may be required of them. So great is this evil that the world be a better place (at any rate, in my opinion) if State education had never been inaugurated (Russell 1955, p 526).

47 That *the manufacture of consent* [italics mine] is capable of great refinements no one, I think, denies. The process by which public opinions arise is certainly no less intricate than it has appeared in these pages and the opportunities for manipulation open to anyone who understands the process are plain enough.

The creation of consent is not a new art. It is a very old one which was supposed to have died out with the appearance of democracy. But it has not died out. It has, in fact, improved enormously in technic, because it is now based on analysis rather than on rule of thumb. And so, as a result of psychological research, coupled with the modern means of communication, the practice of democracy has turned a corner. A revolution is taking place, infinitely more significant than any shifting of economic power.

Within the life of the generation now in control of affairs, persuasion has become a self-conscious art and a regular organ of popular government. None of us begins to understand the consequences, but it is no daring prophecy to say that the knowledge of how to create consent will alter every political calculation and modify every political premise…It has been demonstrated that we cannot rely upon intuition, conscience, or the accidents of casual opinion if we are to deal with the world beyond our reach (Lippmann 1922, p 158).

48 Compliments of Plato, Lippmann, and Kuhn (see Fuller 2003 ; Plato *c.* 360 B.C. ; Lippmann 1922 ; Kuhn 1962).

49 (1) Cognitive dissonance theory suggests that we have an inner drive to hold all our attitudes and beliefs in harmony and avoid disharmony (or dissonance).

Cognitive dissonanc**e** refers to a situation involving conflicting attitudes, beliefs or behaviours. This produces a feeling of discomfort leading to an alteration in one of the attitudes, beliefs or behaviours to reduce the discomfort and restore balance etc. For example, when people smoke (behaviour) and they know that smoking causes cancer (cognition).

Attitudes may change because of factors within the person. An important factor here is the principle of cognitive consistency, the focus of Festinger's (1957) theory of cognitive dissonance. This theory starts from the idea that we seek consistency in our beliefs and attitudes in any situation where two cognitions are inconsistent. Festinger… proposed cognitive dissonance theory, which states that a powerful motive to maintain cognitive consistency can give rise to irrational and sometimes maladaptive behaviour. According to Festinger, we hold many cognitions about the world and ourselves; when they clash, a discrepancy is evoked, resulting in a state of tension known as cognitive dissonance. As the experience of dissonance is unpleasant, we are motivated to reduce or eliminate it, and achieve consonance (i.e. agreement) (Simplypsychology 2007, p1).

(2) Just as we be with children, we support those in whom we have a heavy investment of food and time until they are able to propagate our genes, so we do with ideas. An academic who became famous for espousing an opinion is not going to voice anything that can possibly devalue his own past work and kill years of investment (Taleb 2001, p 240).

(3) Human beings are perhaps never more frightening than when they are convinced beyond doubt that they are right (van der Post 1958).

(4) The strongest guard is placed at the gateway to nothing…. because the condition of emptiness is too shameful to be divulged (Fitzgerald 1934, p 60).

50 (1) "Bioeconomics refers to that school of economics stressing the fact that the human species is a part of the larger biosystem of the planet and ultimately subject to the same laws and limitations as other life forms," [Gordy 1991, p77]. The 'Island' aspect denotes an economic modelling technique developed in Funk (2007): an island-based (amplification through compression), highly descriptive model which offers several advantages to

well-known (and equally suspect) mathematical modelling techniques. In reality, however, all life is *problem solving*.

(2) The success of Darwinism and its view of evolution have induced economists who are interested in an evolutionary approach in economics to borrow, more or less extensively, concepts and tools from Darwinian theory. Particularly prominent are constructions based on analogies to the theory of natural selection. Because several objections to such analogy constructions can be raised, generalization rather than analogy is advocated here as a research strategy. This means to search for abstract features which all evolutionary theories have in common. Third, the question of what a Darwinian world view might mean for assessing long term economic evolution is discussed. Such a view, it is argued, can provide a point of departure for reinterpreting the hedonistic approach to economic change and development. On the basis of such an interpretation bioeconomics may not only go beyond the optimization-cum-equilibrium paradigm currently prevailing in economics. It may also mean adding substantial qualifications to the subjectivism the neoclassical economists, at the turn of the century, were proud to establish in the course of their scientific revolution (Witt 1999, abstract).

51 The term "Viking" has come to be applied to all Scandinavians of the period, but in the Viking age itself the term *vikingr* applied only to someone who went *i viking,* that is plundering (Haywood 1995, p 8).

52 The existence of social norms is one of the big unsolved problems in social cognitive science. Although no other concept is invoked more frequently in the social sciences, we still know little about how social norms are formed, the forces determining their content, and the cognitive and emotional requirements that enable species to establish and enforce social norms….

Human societies represent a spectacular outlier with respect to all other animal species because they are based on large-scale cooperation among genetically unrelated individuals. In most animal societies, cooperation is either orders of magnitude less developed compared with humans, or it is based on substantial genetic relatedness (Fehr & Fischbacher 2004, p 1).

53 A man who has suffered some humiliation invents a theory that he is King of England, and develops all kinds of ingenious explanations of the fact that he is not treated with that respect which his exalted position demands. In this case, his delusion is one with which his neighbours do not sympathize, so they lock him up. But if, instead of asserting only his own greatness, he asserts the greatness of his nation or his class or his creed, he wins hosts of adherents, and becomes a political or religious leader, even if, to the impartial outsider, his views seem just as absurd as those found in asylums. In this way a collective insanity grows up, which follows laws very similar to those of individual insanity. Every one knows that it is dangerous to depute with a lunatic who thinks he is King of England; but as he is isolated, he can be overpowered. When a whole nation shares a delusion, its anger is of the same kind as that of an individual lunatic if its pretensions are disputed, but nothing short of war can compel it to submit to reason (Russell 1928, pp 6-7).

54 (a) Nothing is easier than to admit in words the truth of the universal *struggle for life*, or more difficult--at least I have found it so--than constantly to bear this conclusion in mind. *Yet unless it be thoroughly engrained in the mind, I am convinced that the whole economy of nature, with every fact on distribution, rarity, abundance, extinction, and variation, will be dimly seen or quite misunderstood*. We behold the face of nature bright with gladness, we often see superabundance of food; *we do not see, or we forget, that the birds which are idly singing round us mostly live on insects or seeds, and are thus constantly destroying life; or we forget how largely these songsters, or their eggs, or their nestlings, are destroyed by birds and beasts of prey; we do not always bear in mind, that though food may be now superabundant, it is not so at all seasons of each recurring year.*

I should premise that I use the term Struggle for Existence in a large and metaphorical sense, including dependence of one being on another, and including (which is more important) not only the life of the individual, but success in leaving progeny [all italics mine, Darwin 1859, p 62].

(b) It is interesting to contemplate an entangled bank, clothed with many plants of many kinds, with birds

singing on the bushes, with various insects flitting about, and with worms crawling through the damp earth, and to reflect that these elaborately constructed forms, so different from each other, and dependent on each other in so complex a manner, have all been produced by laws acting around us. These laws, taken in the largest sense, being Growth with Reproduction; inheritance which is almost implied by reproduction; Variability from the indirect and direct action of the external conditions of life, and from use and disuse; a Ratio of Increase so high as to lead to a Struggle for Life, and as a consequence to Natural Selection, entailing Divergence of Character and the Extinction of less-improved forms. Thus, from the war of nature, from famine and death, the most exalted object which we are capable of conceiving, namely, the production of the higher animals, directly follows. There is grandeur in this view of life, with its several powers, having been originally breathed into a few forms or into one; and that, whilst this planet has gone cycling on according to the fixed law of gravity, from so simple a beginning endless forms most beautiful and most wonderful have been, and are being, evolved (Ibid, pp 489-490).

55 Learning from history does not come naturally to us humans.... It is a platitude that children learn only from their own mistakes; they will cease to touch a burning stove only when they are themselves burned; no possible warning by other s can lea to developing the smallest form of cautiousness. Adults, too, suffer from such a condition. This point has been examined by behavioural economics pioneers Daniel Kahneman and Amos Tvesrsky.... In some respects we do not learn from our own history. Several branches of research have been examining our inability to learn from our own reactions to past events: For example, people fail to learn that their emotional reactions to past experiences (positive or negative) were short-lived—yet they continuously retain the bias of thinking that the purchase of an object will bring long-lasting , possibly permanent happiness or that a setback will cause severe and prolonged distress (when in the past similar setbacks did not affect them for very long and the joy of the purchase was short-lived) (Taleb 2001).

56 Try to understand the world...and try to improve the world...and develop *courses of intellectual self defence* [emphasis Chomsky's].... *I don't mean go to school, cause you're not going to get it there*. [italics mine]. It means you have to develop an *independent mind* [emphasis Chomsky's] and work on it—and that's extremely hard to do alone.... Each person is sitting alone in front of the tube and it's very difficult to have ideas or thoughts under those circumstances (Archbar, Wintonick Symansky, & Chomsky1992).

57 *The classical notion of science as true, secure and sufficiently justified knowledge still flourishes even today* [italics mine]. But it was overtaken sixty years ago by the Einsteinian Revolution; by Einstein's gravitational theory.

The outcome of this revolution is that Einstein's theory, whether true or false, demonstrates that knowledge in the classical sense, secure knowledge, certainly is impossible. *Kant was right: our theories are free creations of our intellect, which we try to impose upon nature. But we are only rarely successful in guessing the truth; and we can never be certain whether we have succeeded. We must make do with conjectural knowledge* [italics mine] (Popper 1994, p 37).

58 A similar discomfort was encountered when *On the Revolutions of the Celestial Orbs* (Copernicus 1543) advanced the argument that the sun, not the earth, was at the centre of our solar system.

59 The main conclusion arrived at in this work, namely, that man is descended from some lowly organised form, will, I regret to think, be highly distasteful to many. But there can hardly be a doubt that we are descended from barbarians. The astonishment which I felt on first seeing a party of Fuegians on a wild and broken shore will never be forgotten by me, for the reflection at once rushed into my mind-such were our ancestors. These men were absolutely naked and bedaubed with paint, their long hair was tangled, their mouths frothed with excitement, and their expression was wild, startled, and distrustful. They possessed hardly any arts, and like wild animals lived on what they could catch; they had no government, and were merciless to every one not of their own small tribe. He who has seen a savage in his native land will not feel much shame, if forced to acknowledge that the blood of some more humble creature flows in his veins. *For my own part I would as soon be descended from that heroic little monkey, who braved his dreaded enemy in order to save the life of his keeper, or from that old baboon, who descending from the mountains, carried away in triumph his young comrade from a crowd of astonished dogs--as*

from a savage who delights to torture his enemies, offers up bloody sacrifices, practices infanticide without remorse, treats his wives like slaves, knows no decency, and is haunted by the grossest superstitions (italics mine, Darwin 1883, conclusion).

60 The final lesson: extinction. We are pre-conditioned to disbelieve the possibility that human life on Earth is capable of destroying human life on Earth because there are, quite obviously, no recorded instances (data) of such events. The general acceptance of inductive logic (inductive inferences) and probability theory in the social sciences (most notably economics) lead us to this and innumerable other false conclusions and *may be* (note the cautionary qualifier) leading us towards self-destruction (Funk 2007a, p 3).

61 For the Greeks the distinction between earth and water was elemental. *They saw themselves inhabiting an Earth Island completely surrounded by a watery chaos*….

Even in the waters [the Greeks] knew best, the eastern Mediterranean, they always tried to stay within sight of land… They were more comfortable onshore than off, and did not sleep or take meals on ships if they could help it….

For the Greeks the sea was a non-place, a void, "as worrying metaphysically as it was physically"… For them it was boundless space (*aperion*), representing everything they feared: "vast extent, impassibility, atavism, and monstrous disorder" [(Romm 1992, p 26)]. Earth, by contrast, represented order (cosmos). By constructing their mythical geography in this dichotomous way, the Greeks managed to project all they found disturbing beyond their shores, thus reinforcing their own unshakable sense of earthly order. Greek city-states have been described as "islands on dry land," and Greece itself as a "pattern of islands"… *This preference for insularity would be one of Greece's legacies to Western civilization* [all italics mine, Gillis 2004, pp 5-9].

62 (a) open societies, closed societies:
These terms were introduced by Karl Popper in his book *The Open Society and its Enemies* (1945), and further explored in *The Poverty of Historicism* (1957). Popper argued that both science and human history are essentially indeterminate and fluid. Applied to social theory, this produced Popper's lively and devastating attack on historicism. Theories such as those of Plato, Hegel, and Marx, which proposed the existence of laws of history and a knowable human destiny, were dismissed by Popper as scientifically insupportable and politically dangerous. He proposed that all such theories would lead to authoritarian and inhumane regimes, which he called closed societies because they were closed to the normal processes of change. Open societies by contrast were based on the activity, creativity, and innovation of many individuals, and would develop unpredictably through piecemeal social engineering. They are those societies in which social policies are monitored for unintended consequences, openly criticized, and altered in the light of such criticism. Such societies must be both liberal and democratic, in the sense that it must be possible to remove from office rulers who fail to respond to justified criticism.[1]

(b) Popper was one of the few Western philosophers whose ideas were of sufficient scope amd depth to be applied to the task of linking free inquiry, free communication, freedom to enter and exit, with openness and freedom in politics. George Soros, the American billionaire of Hungarian origin who had encountered Popper's ideas during studies at the LSE, set up a network of philanthropic institutions in the region - aptly called "Open Society Foundations" - to put into practice Popper's ideas, by encouraging critical thinking in education, and by contributing to the development of an active, lively, civil society. In addition, Soros set up the Central European University (CEU) in Prague and then Budapest, to provide, among other things, an intellectual training ground for these ideas (Jarvie & Pralong 1999, p 8).

1"open societies and closed societies" A Dictionary of Sociology. John Scott and Gordon Marshall. Oxford University Press 2005. Oxford Reference Online. Oxford University Press. University of Prince Edward Island. 28 July 2006 <http://www.oxfordreference.com.rlproxy.upei.ca/views/ENTRY.html?subview=Main&entry=t88.e1613>

63 The selection of issues that should rank high on the agenda of concern for human welfare and rights is, naturally, a subjective matter. But there are few choices that seem unavoidable, because they bear so directly on the prospects for decent survival. Among them are at least three: nuclear war, environmental disaster, and the fact

that the government of the world's leading power is acting in ways that increase the likelihood of these catastrophes (Chomsky 2007, Preface).

64 In the ultimatum game, a proposer offers a responder a fraction *s* of a fixed amount of money put up by the experimenter [typically a figure between zero and ten]. If the responder accepts *s*, he gets *s* and the proposer keeps the remainder. If the responder rejects *s*, both get 0. A rational, profit-maximizing responder would accept any *s,* no matter how small. However, in one-shot experiments with complete anonymity conducted in numerous cultures, proposers routinely offer much more than 0, and in a few societies many responders reject even relatively generous offers (Hagen & Hammerstein 2006, p 340).

65 I must confess that, since completing this paper, my recent reformulation of *The Problem of Global Warming* has resulted in a decision to recant my critical position regarding U.S. foreign policy: Given the levels of uncertainty surrounding the three inter-related Problems of *Ohmic Decay* (see Kuang & Bloxham 1997), *Solar Flux* (see Lovelock & Whitfield 1982), and *Meteorites* (see Wisdom 1985), I am no longer able to reasonably conclude that U.S. foreign policy represents sub-optimal strategy. In fact, I am considering presenting the arguement *for* a standing army and industrial military complex which, in turn, finance space exploration, which could enable the possibility of the continuity of lifefoms (of earthly origin) in the event of dire consequences given the possibility of one or more of the above (and/or, naturally, something else, such as a VEI-8 volcanic eruption or trophic collapse, see McGuire, 2002). I will add, however, that, in the unlikely event that U.S. foreign policy should prove optimal, I maintain it may be largely due to luck and through the relatively inhumane machinations of a failed democratic state.

66 Human events spring from passions, which generate systems of *attendant myths* [italics mine]. A man who has suffered some humiliation invents a theory that he is King of England, and develops all kinds of ingenious explanations of the fact that he is not treated with that respect which his exalted position demands. In this case, his delusion is one with which his neighbours do not sympathize, so they lock him up. But if, instead of asserting only his own greatness, he asserts the greatness of his nation or his class or his creed, he wins hosts of adherents, and becomes a political or religious leader, even if, to the impartial outsider, his views seem just as absurd as those found in asylums. In this way a collective insanity grows up, which follows laws very similar to those of individual insanity. Every one knows that it is dangerous to depute with a lunatic who thinks he is King of England; but as he is isolated, he can be overpowered. When a whole nation shares a delusion, its anger is of the same kind as that of an individual lunatic if its pretensions are disputed, but nothing short of war can compel it to submit to reason (Russell 1928, pp 6-7).

67 Modern industrial civilization has developed within a certain system of *convenient myths* [italics mine]. The driving force of modern civilization has been individual material gain which is accepted as legitimate, even praiseworthy, on the grounds that private vices yield public benefits in the classic formulation. Now it's long been understood, very well, that a society that is based on this principle will destroy itself in time. It can only persist with whatever suffering and injustice it entails as long as it's possible to pretend that the destructive forces that humans create are limited, that the world is an infinite resource, and that the world is an infinite garbage can. At this stage of history either one of two things is possible. Either the general population will take control of its own destiny and will concern itself with community interests guided by values of solidarity and sympathy and concern for others. Or alternatively, there will be no destiny for anyone to control. In this possibly terminal phase of human existence, democracy and freedom are more than values to be treasured, they may well be essential to survival (Chomsky 1992, Finale).

68 The simple yet difficult solution to this problem lies *not*, as corporate agricultural interests will readily offer, in growing more food, it is growing fewer people.

69 Barlow said the big problem on P.E.I. will be an agricultural one with pesticides and nitrates leaching into groundwater.

"For you, it will be an issue of preserving your way of life" (Stewart 2007).

70 The Roman Catholic Church on P.E.I. is preparing to close churches as congregations shrink, but participants at a public forum Thursday night were ready to fight for them (CBC 2007b).

71 Islands are synecdoches: their understanding facilitates a 'coming to grips' with a more complex whole. They also act as advance indicators or extreme reproductions of what is future elsewhere. Crucial, new insights into evolutionary theory, and the realization of so much species differentiation on islands in modern zoogeography, are primarily due to the unwitting and haphazard stumbling of what, at first sight, may have appeared to be inconsequential, island-based, island-specific fieldwork. This includes such investigations as the study of Darwin's finches on the Galapagos Islands (Darwin, 1979; Lack, 1947) or Alfred Wallace's study of birds-of-paradise on the Aru Islands (Wallace, 1975)… The forays of Bronislaw Malinowski amongst the Trobriand (or Kiriwina) Islanders of Papua New Guinea (1922), Margaret Mead to Samoa and the Admiralty Islands (1928; 1934) and Raymond Firth to Tikopia (1936) led to the birth of ethnography (Baldacchino 2007b, p 9).

72 (a) The peculiar character of the problem of a rational economic order is determined precisely by the fact that the knowledge of the circumstances of which we must make use never exists in concentrated or integrated form, but solely as the dispersed bits of incomplete and frequently contradictory knowledge which all the separate individuals possess. The economic problem of society is thus not merely a problem of how to allocate "given" resources-if "given' is taken to mean given to a single mind which deliberately solves the problem set by these "data." It is rather a problem of how to secure the best use of resources known to any of the members of society, for ends whose relative importance only these individuals know. Or, to put it briefly, it is a problem of the utilization of knowledge not given to anyone in its totality. *This character of the fundamental problem has, I am afraid, been rather obscured than illuminated by many of the recent refinements of economic theory, particularly by many of the uses made of mathematics* [italics mine, Hayek 1956, pp 519-520].

(b) What has gone wrong with the development of economics as a science? Answer: There was a bunch of intelligent people who felt compelled to use mathematics just to tell themselves that they were rigorous in their thinking, that theirs was a science. Someone in a great rush decided to introduce mathematical modelling techniques…without considering the fact that either the class of mathematics they were using was too restrictive for the class of problems they were dealing with, or that perhaps they should be aware that the precision of the language of mathematics could lead people to believe that they had solutions when in fact they had none (Taleb 2001, p 177).

(c) It is an interesting speculation to think what direction the development of Menger's thought would have taken if he had been acquainted with these founders of mathematical analysis. It is a curious fact that, so far as I am aware, he has nowhere commented on the value of mathematics as a tool of economic analysis. There is no reason to assume that he lacked either the technical equipment or the inclination. On the contrary, his interest in the natural sciences is beyond doubt, and a strong bias in favour of their methods is evident throughout his work….He does not even refer to the mathematical method in any of his writings on methodology…Must we conclude that he felt rather sceptical about its usefulness? (Hayek p 15).

(d) Mathematicians may flatter themselves that they possess new ideas which mere human language is as yet unable to express. Let them make the effort to express these ideas in appropriate words without the aid of symbols, and if they succeed, they will not only lay us laymen under a lasting obligation, but, we venture to say, they will find themselves very much enlightened during the process, and will even be doubtful whether the ideas as expressed in symbols had ever quite found their way out of the equations into their minds (Maxwell 1873, p 400).

(d) Mathematicians… set to work to purge their subject of fallacies and slipshod reasoning. The great mathematicians of the seventeenth century were optimistic and anxious for quick results; consequently they left the foundations of analytical geometry and the infinitesimal calculus insecure (Russell 1945, p).

(e) In the *Principles*, Marshall [1891] confined his use of diagrams and other mathematical notations to footnotes and appendixes so as not to allow his mathematics to detract from his economics. He was interested above all in

plain communication—with businessmen as well as with students. Moreover, he was acutely aware that over reliance on mathematics "might lead us astray in pursuit of intellectual toys, imaginary problems not conforming to the conditions of real life: and, further, might distort our sense of proportion by causing us to neglect factors that could not easily be worked up in the mathematic machine" (Pigou, Memorials, p. 84) (Ekelund, p 341).

73 Mathematics is a study which, when we start from its most familiar portions, may be pursued in either of two opposite directions. The more familiar direction is constructive, towards gradually increasing complexity : from integers to fractions, real numbers, complex numbers ; from addition and multiplication to differentiation and integration, and on to higher mathematics. *The other direction, which is less familiar, proceeds, by analysing, to greater and greater abstractness and logical simplicity ; instead of asking what can be defined and deduced from what is assumed to begin with, we ask instead what more general ideas and principles can be found, in terms of which what was our starting-point can be defined or deduced* [italics mine]....

We may state the same distinction in another way. The most obvious and easy things in mathematics are not those that come logically at the beginning ; they are things that, from the point of view of logical deduction, come somewhere in the middle. Just as the easiest bodies to see are those that are neither very near nor very far, neither very small nor very great, so the easiest conceptions to grasp are those that are neither very complex nor very simple (using "simple" in a logical sense) (Russell 1919, pp1-2).

74 Compared with continents... [islands] have a restricted area and definite boundaries, and in most cases their biological and geographical boundaries coincide. The number of species and of genera they contain is always much smaller then in the case of continents, and their peculiar species and groups are usually well defined and strictly limited in range... their relations with other lands are often direct and simple and even when they are more complex are far easier to comprehend than those of continents (Wallace 1880, pp 241-242).

75 It appears almost all ecological and evolutionary processes...are amplified on islands; generally speaking, the smaller the island, the more amplified these processes are. Small size and low diversity seem to be the main factors. With populations existing in miniature, they are prone to stochastic, or random, processes.... Such a mosaic of habitats in a tiny area promotes evolutionary radiation. Conversely, the small size of islands means that they are exquisitely vulnerable to biological invasion and disturbance as there are few distance barriers to dispersal, and few areas are immune to disturbance by inaccessibility. On the plus side, 'amplification by compression' makes islands particularly useful...on islands, process that may be subtle on continents tend to be more clearly exposed (Baldacchino 2007b, p 193).

76 *Rapid evolution of island immigrants is not only possible but frequent. Change after arrival is inevitable.*

"Explosive" evolution is demonstrated by various groups thathave had good ecological oppurtunities (Carlquist 1974, p 20).

77 There is no such thing as a logical method of having new ideas, or a logical reconstruction of this process. My view may be expressed by saying that every discovery contains 'an irrational element', or 'a creative intuition', in Bergson's sense. In a similar way Einstein speaks of the 'search for those highly universal laws . . . from which a picture of the world can be obtained by pure deduction. There is no logical path', he says, 'leading to these . . . laws. They can only be reached by intuition, based upon something like an intellectual love ('Einfühlung') of the objects of experience' (Popper 1959, p 37).

(b) Scientific discovery must ever depend upon some happy thought, of which we cannot trace the origin; — some fortunate cast of intellect rising above all rules. No precepts will elevate a man of ordinary endowments to the level of a man of genius: nor will an inquirer of truly inventive mind need to come to the teacher of inductive philosophy to learn how to exercise the faculties which nature has given him. (Whewell 1849, reprinted under the title 'Mr Mill's Logic' in Butts 1968, p. 117).

78 All things living are in search of a better world.

Men, animals, plants, even unicellular organisms are constantly active. They are trying to improve their

situation, or at least to avoid its deterioration. Even when asleep, the organism is actively maintaining the state of sleep: the depth (or else the shallowness) of sleep is a condition actively created by the organism, which sustains sleep (or else keeps the organism on the alert). Every organism is constantly preoccupied with the task of solving problems. These problems arise from its own assessments of its condition and of its environment; conditions which the organism seeks to improve.

An attempted solution often proves to be misguided, in that it makes things worse. Then follow further attempts at solution – further trial and error movements.

We can see that life – even at the level of the unicellular organism - brings something completely new into the world, something that did not previously exist: problems and active attempts to solve them; assessments, values: trial and error.

It may be supposed that, under the influence of Darwin's natural selection, it is the most active problem solvers, the seekers and the finders, the discoverers of new worlds and new forms of live, that undergo the greatest development.

Each organism also strives to stabilize its internal conditions of life and to maintain it's individuality – an activity whose results biologists call 'homoeostasis'. Yet this too is an internal agitation, an internal activity: an activity that attempts to restrict the internal agitation, a feedback mechanism, a correction of errors. The homoeostasis must be incomplete. It must restrict itself. Were it completely successful, it would mean the death of the organism, or, at the very least, the temporary cessation of all its vital functions. Activity, agitation, search are essential for life, for perpetual restlessness, perpetual imperfection; for perpetual seeking, hoping, evaluation, finding, discovering, improving, for learning and for the creation of values; but also for perpetual error…

Darwinism teaches that organisms become adapted to the environment through natural selection. And it teaches that they are passive throughout this process. But it seems to me far more important to stress that the organisms find, invent and reorganize new environments in the course of their search for a better world [italics mine]…

All organisms are fully occupied with problem-solving. Their first problem is survival. But there are countless concrete problems that arise in the most diverse situations. And one of the most important problems is the search for better living conditions: for greater freedom; for a better world.

According to this optimistic interpretation, it is through natural selection and (we may suppose) through an external selection pressure that a strong internal selection pressure comes into being at a very early stage; a selection pressure exerted by the organisms upon their environment. This selection pressure manifests itself as a kind of behavior that we may interpret as searching for a new ecological niche. Sometimes it is even the construction of a new ecological niche.

This pressure from within results in a choice of niches; that is, in forms of behavior that may be regarded as a choice of lifestyles and of surrounding. This must be taken to include choice of friends, symbiosis, and above all, perhaps most importantly… the choice of a mate" (Popper 1992).

79 [Do not] believe *anything* that I suggest! Please do not believe a word! I know that that is asking too much, as I will speak only the truth, as well as I can. But I warn you: I know *nothing*, or *almost nothing*. We all know nothing or almost nothing. I *conjecture* that that is a basic fact of life. We know nothing, we can only conjecture: we guess [all italics Popper's 1999, p 37].

80 The great logician, mathematician, and philosopher Bertrand Russell faced as much violent opposition from mediocre minds as Einstein had, and in light of this opposition Einstein (1940) wrote a letter to a professor of philosophy at the College of the City of New York, defending the appointment of Bertrand Russell to a teaching position:

> *Great spirits have always encountered violent opposition from mediocre minds. The mediocre mind is incapable of understanding the man who refuses to bow blindly to conventional prejudices and chooses instead to express his opinions courageously and honestly.*

81 Einstein's genius reminds us that a society's competitive advantage comes not from teaching the multiplication or periodic tables but from nurturing rebels.... And, as recent research into Einstein's personal papers shows, there's no better glimpse into his offbeat creativity than the way he puzzled out the special theory of relativity.... *Einstein alienated so many professors that he was unable to earn a doctorate, much less land an academic job* [italics mine]. At the age of 26, he was working as a third-class examiner at the Swiss patent office in Bern.... *Other scientists had come close to his insight, but they were too confined by the dogmas of the day* [italics mine]. Einstein alone was impertinent enough to discard the notion of absolute time, one of the sacred tenets of classical physics since Newton. "Imagination is more important than knowledge," Einstein later said. Indeed, if we are ever going to unravel the further mysteries of dark matter, come up with a unified theory, or discover the true nature of energy, we should carve that proclamation above all of our blackboards (Isaacson 2007, pp35-36).

82 *If we are to safeguard the reputation of science, and to prevent the arrogation of knowledge based on a superficial similarity of procedure with that of the physical sciences, much effort will have to be directed toward debunking such arrogations, some of which have by now become the vested interests of established university departments. We cannot be grateful enough to such modern philosophers of science as Sir Karl Popper for giving us a test by which we can distinguish between what we may accept as scientific and what not - a test which I am sure some doctrines now widely accepted as scientific would not pass* [italics mine, Hayek 1974].

83 (a) The New Zealand interlude was... notable because there Eccles met the philosopher, Karl Popper, from whom he learnt the relationship of the scientist to hypotheses; how to be daring in developing hypotheses of the greatest generality, and at the same time how to test them with the utmost rigour with the consequence either of falsification in whole or in part, or at best corroboration; but never confirmation. *He feels that this relationship to hypotheses has not only increased his conceptual power, but has also greatly helped emotionally! He can now rejoice even in the falsification of a cherished theory, because even this is a scientific success* [italics mine] (Nobel 1963).

(b) This... point is extremely important. We are always learning a whole host of things through falsification. We learn not only that a theory is wrong; we learn why it is wrong. Above all else, we gain a new and more sharply focused problem; and a new problem, as we already know, is the real starting point for a new development in science [all italics Popper's 1999, p 13].

84 Einstein, 1956, p 21-22.

85 . . . a stone, a leaf, an unfound door; of a stone, a leaf, a door. And of all the forgotten faces.

Naked and alone we came into exile. In her dark womb we did not know our mother's face; from the prison of her flesh have we come into the unspeakable and incommunicable prison of this earth.

Which of us has known his brother? Which of us has looked into his father's heart? Which of us has not remained forever prison-pent? Which of us is not forever a stranger and alone?

O waste of loss, in the hot mazes, lost, among bright stars on this most weary unbright cinder, lost! Remembering speechlessly we seek the great forgotten language, the lost lane-end into heaven, a stone, a leaf, an unfound door. Where? When? O lost, and by the wind grieved, ghost, come back again (Thomas Wolfe, *Look Homeward, Angel*, epigraph, 1929).

86 (a) Sceptic: A seeker of truth. One who, like Pyrrho and his followers in Greek antiquity... holds that there are no adequate grounds for certainty as to the truth of any proposition... Those who deny the competence of reason, or the existence of a justification for certitude, outside the limits of experience. The difference between the two usages becomes clearer when considering 'sceptic's' Latin origin (scepticus): inquiring, reflective, assumed by the disciples of Phyrrho as their distinctive epithet... to look out (Oxford English Dictionary 1997).

(b) Our instinctive apparatus consists of two parts -- the one tending to further our own life and that of our descendants, the other tending to thwart the lives of supposed rivals. The first includes the joy of life, and love, and art, which is psychologically an offshoot of love. The second includes competition, patriotism, and war. Conventional morality does everything to suppress the first and encourage the second. True morality would do

the exact opposite. Our dealings with those whom we love may be safely left to instinct; it is our dealings with those whom we hate that ought to be brought under the dominion of reason. In the modern world, those whom we effectively hate are distant groups, especially foreign nations. We conceive them abstractly, and deceive ourselves into the belief that acts which are really embodiments of hatred are done from love of justice or some such lofty motive. Only a large measure of *scepticism* can tear away the veils which hide this truth from us. (Russell 1928, p 13).

87 I am wiser than this man, for neither of us appears to know anything great and good; but he fancies he knows something, although he knows nothing; whereas I, as I do not know anything, so I do not fancy I do. In this trifling particular, then, I appear to be wiser than he, because I do not fancy I know what I do not know (Socrates 399 BC).

88 If… harsh words are spoken about some of the greatest among the intellectual leaders of mankind, my motive is not, I hope, the wish to belittle them. It springs rather from my conviction that, if our civilization is to survive, we must break with the habit of deference to great men. Great men may make great mistakes ; and… some of the greatest leaders of the past supported the perennial attack on freedom and reason. Their influence, too rarely challenged, continues to mislead those on whose defense civilization depends, and to divide them. The responsibility for this tragic and possibly fatal division becomes ours if we hesitate to be outspoken in our criticism of what admittedly is a part of our intellectual heritage. By our reluctance to criticize some of it, we may help to destroy all of it (Popper 1945, preface).

89 (1) There is no country where people tolerate the truth about themselves.… Opposing systems of violent belief are built up, the falsehood of which is evident from the fact that they are believed only by those who share the same national bias. But the application of reason to these systems of belief is thought as wicked as the application of reason to religious dogmas was formerly thought. When people are challenged as to why skepticism in such matters should be wicked, the only answer is that myths help to win wars, so that a rational nation would be killed rather than kill. The view that there is something shameful in saving one's skin by wholesale slander of foreigners is one which, so far as I know, has hitherto found no supporters among professional moralists outside the ranks of Quakers. If it is suggested that a rational nation would find ways of keeping out of wars altogether, the answer is usually more abuse (Russell 1928, pp 5-6).

90 Einstein, 1918, Vol 8, Doc 560.