



On The Frontier

Views From The Leading Edge

Genocognition

Innovation in the Stone Age[©]

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Hegel was right when he said that we learn from history that man can never learn anything from history.

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.

George Bernard Shaw (1856-1950)

As long as I can remember I was drawn to inventing. As a youngster I was told over and over how much our society needs innovators and new ideas. The influences of this notion are everywhere.

Slick corporate ads promote innovation making “new and improved” household words. Educators like to tell us about how much business and industry wants talented graduates who can think outside the box. Government programs provide grants and loans for innovative activity. At first glance, it appears that innovation, especially breakthrough invention, is a valued and recognized commodity.

Unfortunately that view is mostly hype. What typically passes for innovation is little more than predictable incrementalism. Radically new inventions are not

welcomed because they are disruptive to the status quo, often come from people who shouldn't be able to produce them and can't be predicted in advance.

New ideas and their originators are not enthusiastically sought by business but are instead regarded with deep skepticism and suspicion.

Educators cynically perpetuate the myth of institutional innovation, mostly as a hustle to line their pockets with income from government grant program money.

Private, state and federal funding programs, often billed as promoting innovation, do little more than funnel cash to the usual suspects in their pursuit of incremental engineering and mainstream science, not transformative invention.

The hard truth is that a large percentage of the population doesn't really want anything new and wouldn't recognize it if it walked up and bit them in the behind. Many people think that the present ways of doing things are just fine and can't understand those who want to upset the status quo. (i.e., If it ain't broke, don't fix it.) Change has always been resisted by most of humanity and agents of change are usually regarded as suspect.

The rate of change may well be accelerating in modern times but so too is opposition to it. The fact that breakthrough innovation occurs at all in spite of everything society does to discourage it is nothing short of a miracle. The current rate of new invention is a ghostly shadow of what it would be with rational policies and organized support of the sort lavished on amateur and professional sports.

Instead, it is confined to the back alleys of industrial parks, suburban basements and backyard garages. When transformative innovation does arise, it is too often ignored or hounded back into oblivion by mindless pathological skepticism of the sort that once characterized religious inquisitions.

Resistance to new ideas is not completely random as is often believed by those who are unfamiliar with innovative pursuits. There are patterns. It is a universal facet of all cultures, some more than others. The problem of unwarranted skepticism directed at radical invention is not limited to a few disciplines or countries as one might expect based on cultural norms. Its effects are felt across all human activity and geographical boundaries.

This suggests a common thread running through the overwhelmingly negative reactions to new ideas. Resistance to radical innovation does not flow from the invention itself, from its inventor nor from the circumstances of the invention. It comes from society at large. Resistance to new ideas typically manifests itself as unreasoned hostility to the message and its bearer, often disguised as rational debate.

In most other areas of human endeavor we have made progress over the course of time in enlightening and informing human behavior while at the same time curbing ignorance and fear. Yet when it comes to breakthrough inventions we are still in the Stone Age.

There is virtually no organized effort to understand and promote real radical innovative activity. In all of human history we have learned little or nothing and have made virtually no progress in reforming the social structures at the heart of this problem.

The same destructive pattern is woven over and over again with each radical new idea. Among those charged with evaluating or discovering breakthrough invention, ignorance of historical mistakes make it quite obvious that they are simply not competent to perform their duties.

It is critical for the future of our species to understand the cause of this stubborn refusal to accept and develop new ideas and to find ways to promote more innovative change and improvement. Major problems beset us from every quarter, some with the potential to end civilization.

Rapid rates of innovation are more necessary now than at any time in human history. Yet in spite of this, there is a profound ignorance of the basic elements of invention and the barriers that prevent funding and development of new ideas.

A few scholars such as Armstrong, Kidd, Sacherman, Truzzi, Nissani and others have investigated limited elements of this issue.

But organizations like the Kauffman Foundation, ostensibly founded to further understanding of the powerful economic impact of entrepreneurship and innovation, actually do little or nothing to provide a coherent picture of the inventive process and barriers to innovation.

And broadly speaking, the whole of academia is in denial of a broad sociological bias against innovative activity that is absolutely vital to our survival as a species.

I discovered the sordid truth of unreasoned resistance to new invention while promoting certain innovative devices I created. In spite of their usefulness and transformative nature, I had absolutely no luck in raising interest or developmental funding for these inventions over an extended period of time.

As I dug deeper into the matter, I became aware of the lack of a coherent understanding of the issue or even any comprehensive source of information about the nature of resistance to new ideas.

This lack of comprehension regarding the problem of what amounts to suppression of innovation is gaping hole one of the most important areas of human knowledge.

As advanced as modern societies have become, there is still a very primitive comprehension of how invention happens and the barriers to it.

While our technical development is in the 21st Century, our understanding of the forces that created it is still in the dark ages. Innovation is treated more like magic than science. Even the legal community, rarely at a loss for words, can't adequately describe or define invention.

One of the definitions of a patentable invention in the United States is codified in patent law as advances not obvious to those ordinarily skilled in the art. This characterization doesn't really define innovation at all but does help explain why it is so often ignored.

Most professionals in any given field, at least those ordinarily skilled in the technical arts, quite literally can't recognize a transformational new invention because by definition it is not obvious to them.

As an innovator, I fully realize that this area is an outpost at the frontiers of human knowledge. It is a field of study that doesn't even have a proper name.

Since it is difficult to discuss something that has no proper label, I suggest that this subject be called "**genocognition**" from the Old English be+geondan (beyond) and Latin cognitio (knowledge).

The term, taken literally, means beyond knowledge. This makes perfect sense because invention is literally the act of pushing out into the darkness beyond existing human knowledge, thereby extending it.

I also propose a definition for this term. Genocognition is the study of transformative human innovation; its origins, methods of promoting it, barriers inhibiting it and ways of enhancing its practice.

This meaning and definition seems fitting because the best breakthrough inventions come from beyond the boundaries of our current understanding. When Einstein hacked out the monolith of general relativity, he was reaching well beyond the scientific knowledge of his day.

This inventive act not only revolutionized our thinking but it also resulted in many technical advances made since. That is the very essence of transformative invention which has never been adequately studied or explained. Worse, many such feats go unrecognized and some of this knowledge is irretrievably lost to us forever.

Radical innovation is almost supernatural in that it involves an innate human capacity to interact with the unknown in a way that causes it to become known.

This is more than mere serendipitous discovery, because oftentimes the goal is deliberately pursued. The roots of invention go deep into the human psyche and what it means to be human. We are not a race of toasters but have within each of us the ability to ask transcendent questions and come up with the correct answers.

I am certain that there will be no shortage of pedanticism, pseudoskepticism and scholarly objections to the proposed name and definition for this field. Some may even believe, wrongly as it happens, that the area is already part of some recognized profession. Being an inventor, I am accustomed to such rejection of new ideas by the mainstream but knowing what I do, I cannot take any other course.

There is to my knowledge no other specialty that delves deeply enough into the subject of transformative invention in a way that seeks to explain it, chart its outlines and enhance its chances for success.

Some of the resources necessary to successfully do this haven't yet been invented. Our knowledge of the human mind is very rudimentary at best and we can't even construct general artificial intelligence yet, let alone explain the subtly and scope of our own natural mental abilities.

Study of the process, outcome and impact of breakthrough invention is a legitimate area of inquiry like any other field. It is not engineering, science, sociology or philosophy, although it certainly involves elements of all those areas.

While there is little doubt that this concept will be received in much the same way as all new ideas, let us hope that the discipline takes root and flourishes for the sake of all humankind.

Raising the general level of awareness about radical innovation is perhaps one of the most important reasons for the writing herein. "On The Frontier" is as much a statement of its purpose as it is the name of the publication itself.