Crank Theories

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You may have noticed a lot of … well … crank theories showing up on television, and in films, and at newsstands. Sometimes, they are marketed as science fiction and fantasy. It might be a good idea to clear up what is real science, and what is pseudo-science, not even science fiction.

The release of Disney's *Atlantis: The Lost Empire* was hardly the first thing to bring this subject to my mind. Five years ago and more, a wave of disaster movies appeared – and simultaneous TV documentaries – about meteor strikes, and tidal waves, and UFO abductions, and catastrophic volcanic eruptions.

We've seen all this before. In fact there seem to be irregular waves of crank theories and fake science and popular nonsense, as in the late 1960s and early 1970s; or in the 1920 and 30s, or in the 1890s, for that matter. (But I've got my own theory about that.)

Now, I love crank theories. I collect them the same way I collect conspiracy theories, with the same detached, sardonic enjoyment I get from science fiction. But a crank theory is any theory, idea, or belief that can make you think the person expressing it has some mental problem. Usually, there is at least a kernel of fact to start the whole ball rolling; but doubtful information, some outright lies, not to mention some very dodgy reasoning, soon become part of the theory.

One problem with crank theories in science fiction stories is, how many readers can tell where the actual science leaves off, in novels like *The HAB Theory* and James Hogan's *Giants* trilogy? How many can tell where the crank theories – or the science fiction – take over? Not everybody can, and not all writing makes the transition plain.

Anomalies in General: Fort, de Camp, Ivan Sanderson, et al.

Crank theories often start out by detailing some curious, little-known facts which don't fit conventional scientific models. We should start by paying due attention to the kind of anomalies they use.

Charles Fort, who began a career of detailing anomalies in the 19th century, was avowedly seeking to bring up anomalous evidence and phenomena – which conventional scientists brushed off. His books included rains of fish,

reports of apemen and dinosaurs, spontaneous combustion, human footprints and civilized artifacts in fossilized rock, places where cars roll uphill, mystery airships, people vanishing into thin air, and much more. I find Fort hard to read, but even more entertaining and readable catalogues of novelties have been published by Ivan T. Sanderson and one of our own tribe, L. Sprague de Camp.

"Anomalies" is the right word, I guess. On the one hand, you have to admit that the stories published by Fort, de Camp and Sanderson seem to contradict the standard-science accounts of evolution, human prehistory, ancient technology, even the behaviour of mass and energy and time. They are embarrassments. If you've been taught a dogmatic standard-science by mostly ineffective science teachers, they are also a delight.

On the other hand … the standard-science accounts seem to be based on the largest collection of consistent evidence. If someone finds a shale fossil of a dinosaur footprint and human footprints, side by side in the same strata … or a gold thread, or a machined bearing, in coal strata vastly predating modern man's time period … how much does the one point of evidence count?

The problem here seems to be with standards of evidence. It takes a whole body of evidence, not just one item, to argue a case for lost civilizations, or unknown species, or visitors from outer space, to make a convincing case; especially when a conflicting, conventional standard-science account already exists.

Cranks often seem not to have gotten the word.

Classic Crank Theories

My definition of a crank theory is one that is more spectacular than it is well-grounded in fact, or more an exhibition of conviction than of close reasoning. Mind you, that isn't to say that a crank theory is necessarily wrong.

I know what you're probably thinking. Yes, the ideas that planets move around the Sun, or that stones fall from the sky, or that continents move from place to place, used to be crank theories – *if* you define a crank theory as anything denied by established authority. But extraordinary claims require extraordinary evidence; or, each of the new theories required a paradigm shift, an entirely new way to make sense of a range of phenomena; or, in order to be generally accepted, new scientific evidence mainly required that an older generation of scientists retire and die off.

The Flat Earth, The Hollow Earth, Perpetual Motion Machines, and Garage/Basement Inventors

One of my favourite characters in fiction, Evan Michael Tanner, not only joined every screwball nationalist organization on the Earth, not only studied all sorts of languages, but was a card-carrying member of the Flat Earth Society. As Lawrence Block had Tanner say himself, the Flat Earth Society was less about believing that the Earth is actually flat than it is about not believing things simply on authority, but believing the evidence of your senses. This classic crank theory was founded in (where else?) England, and now has members worldwide.

The idea that the Earth is hollow is one of several crank theories used by Edgar Rice Burroughs in his fiction; after it showed up in the 1920s, and was incorporated for a time in (where else?) Nazi ideology. One enthusiast even lobbied the U.S. Congress to send an expedition to find a hole in the Arctic leading to the inner world.

The United States Patent and Trademark Office, among others, is burdened with hundreds of patent applications – if not more – for machines that will allegedly produce energy forever. It's hard to say why the belief persists that such machines are possible. I have read a suggestion that one of the first European visitors to China saw a sort of municipal water clock, and not understanding the motive power behind it, came home talking about a machine that moved ceaselessly of itself.

Perhaps we should include among classic crank theories the idea of the Garage or Basement Inventor. This is, let's face it, a classic mythic figure in the United States, and other industrial societies. Perhaps Thomas Edison, who was actually an entrepreneur and corporation manager far more than an inventor, is most to blame. Or perhaps the writers of the *Tom Swift* boys' novels share some responsibility. In fact, as a very little thought will convince you, most research and development seems to require a large capital investment, which is why government institutions and large corporations dominate the field. (Research and development at universities seems to require public or private investment; at least, universities such as I'm familiar with are government dependents, and do not command their own pools of capital.)

But there are special circumstances when independent inventors can become successful garage entrepreneurs, as witness Steve Wozniak and Steve Jobs, the founders of Apple Computers. What are the special circumstances? Perhaps that requires a whole separate article.

Intentional Communities, Eugenics, and Constructed Languages

Logically I have to include, among crank theories, designed societies – in which I include political ideologies, and intentional communities – and eugenics, and proposals for constructed languages.

All these theories seem to be based on the idea that we can improve how people live, or even improve people, by a design. In a way this idea is not hard to understand: it seems obvious that our languages, and our societies, and the human genome itself were all knocked together by random circumstance; and a very little thought can reveal some very irrational, even harmful things about our languages, our societies, and the human genome.

Robert Heinlein, among others, saw natural English language as an irrational construction, hard to think in logically and even conducive to unreason. He once wrote that there were really multiple meanings for the verb "to be", all of which were false to fact. If I were to pick on just one feature of English, I would point out the saying that "Beauty is in the eye of the beholder". That is to say, when you think about it, "beauty" is less a feature of what is beheld – as English, or French or other languages construct it – than it is a response of the beholder. Another language might construct a sentence "I [beauty] your cousin", where [beauty] is a verb for my reaction to the young lady. You may think of other examples.

I have an ongoing interest in constructed languages. There have been many such languages proposed, Esperanto and Interlingua and Lojban among them. For a time I pursued a university linguistics program, and I can point out technical problems with several constructed languages in science fiction. Jack Vance's *Languages of Pao* is based on a misunderstanding of the Sapir-Whorf hypothesis, that the ways a language may shape thought can begin with the kind of *sounds* it uses. Heinlein's novelette "Gulf" described something called Speedtalk, in which a wide range of single phonemes and syllables stood for concepts. (This, despite the fact that proposed basic ranges of language concepts number to at least a few hundred, and usually a few thousand, which is two orders of magnitude greater than the range of sounds in any language.)

A more important feature that constructed languages have in common is that either they died out, or they have only a few enthusiasts. ("A few", relatively speaking; there may be over eight million Esperantists worldwide. But there are something over six billion people in the whole world.)

You might define a society as "hardware", so many people in the same time and place, or in constant communication and interaction with each other, and the "software" they are running as their culture. When a large population of grown and presumably sensible adults persist in doing things we find irrational, or abominable – mutilating young women, for example; denying

equal pay, education or career opportunities to a large segment of the population; or jailing people without just cause and due process – we have to look to their culture to find what compels them. Our industrial societies have regularly generated criticisms of inequality and injustice, with varying effect. If I were to question any features of our culture, I would ask what key concepts like "perfect", "success" or "normal" actually mean, if anything; or why half our efforts are devoted to fixing *blame* on others, rather than fixing *problems* … or avoiding blame, rather than taking responsibility.

There have been a lot of ideologies for, basically, constructed societies, from Christian sects to fascism to various kinds of socialism (even for outright anarchism). One feature they have in common is that the administrations allegedly practicing these ideologies all seemed to fail, in competition with the industrial nations dominated by large corporations. (The story is actually more involved, but few people care to know any more.)

I was interested in constructed societies such as communes, and intentional communities, in the late 1970s. But the common feature of such communities, at least in North America – from the Oneida and Amana communities in the 19th century, through the Bruderhofen of the 1930s, to the varied communes of the 1960s – is that they failed to catch on. Communes which have survived – like the Bruderhofen and like Walden Two, a Skinnerian commune – appear to be those which had an economic base, and marketed something to the larger economy … not unlike any other municipality. You might think that the whole subject lacked some criteria for social program design. Is there a system analyst in the house?

A novelist with some rather fantasy-oriented novels behind her, Katherine Neville, once remarked that a movement which begins by trying to create a perfect society often ends by trying to create a more perfect human. That calls to mind the various eugenics movements, and their somewhat fuzzy ideas of perfecting humanity. The history of eugenics movements is a vast subject, and not an edifying one, as Stephen Jay Gould among others has demonstrated. I call eugenics a crank theory because the theory seemed to be based on "perfecting" humanity, long before a *definition* of "perfect" was established, let alone before the basis of genetics was understood. This subject, again, calls for a whole separate article.

Keep Watching the Skies!

In some respects this section is in the nature of a reply to Burt Webb, who serialized an article on UFO phenomena in *Westwind*.

A mythology has been developing over the last century, in English-speaking and other countries, about lights in the sky, encounters with Alien Beings, or missing time and abduction by outsiders.

UFO sightings since 1947 rather resemble the “mystery airship” stories across North America, from the 1890s to the 1930s … and, in some respects, the sightings of the Blessed Virgin Mary, all over the world, from medieval times to the present. Make of this what you will.

It also appears that what people report they saw, or experienced, changes from decade to decade, or from year to year, according to popular beliefs or anxieties. I have seen stories and books about Space Brothers bringing the Good Word from on high, alternating with stories of high-handed alien abductors, or evil sinister insidious invaders from outer space. Angels or demons, under other names. Only in recent decades have the conflicting UFO sightings been summarized as so many different species all visiting this neck of the woods … in a fashion that rather reminds you of contending nation-states maneuvering for advantage, and all out to exploit a Third World region.

It’s hard not to think that people’s minds force an experience, unlike anything they’ve had before, into a form they can grasp. It ought to be agreed by everyone by now, something out of the ordinary is in fact witnessed, or experienced, by thousands of sane and in fact unimaginative people. It also ought to be agreed that whatever they witness or experience is not likely to be, literally, strange beings from other planets, or other dimensions.

I would be perfectly happy to stop there, myself; but that doesn’t satisfy most people, they seem to have no concept of suspended judgment. Apparently most of us want a final answer, right away. We will have more occasions in future to wish for suspended judgments.

The thing I enjoy about UFO stories – at least, before the rough edges of the stories get worn down, and accommodated to the consensus of the moment – is their refusal to make sense. One of my favourites, from Robert A. Wilson’s initial *Cosmic Trigger* volume, involved the man in Illinois who saw a UFO land in his backyard; he then saw a little green man come out and approach him, delivering … some pancakes. Then the little man flew off.

Why *pancakes*, of all things??

Is it possible, is it really credible, that people from another planet who could travel interstellar distances would come all this way … to preach IQ-minus New Age sermons, or to play sophomoric mind games; to conduct rectal examinations, or preposterous cross-breeding experiments? Let alone to commandeer covert military installations, as some paranoid conspiracy theorists suggest.

The most persuasive explanations anyone has offered come from Dr. Michael Persinger (at Laurentian University) and Dr. Susan Blackmore (from the

United Kingdom). People who have UFO contact experiences are said to be people who have been electrocuted, or hit by lightning, or otherwise had a shock to their nervous systems; the experiences they report rather resemble the experiences of people who have volunteered for neuroinduction experiments at Laurentian University; a majority of UFO sightings contact reports come from the same tectonically-active areas, where strong magnetic induction fields, and possibly high-altitude plasmoids, might occur. To me it sounds as though a transient, unidentified geomagnetic phenomenon sometimes creates lights in the sky, and sometimes induces hallucinatory experiences, if someone's nervous system is susceptible.

Strength is lent to this account of things by the resemblance of some UFO experiences to the experience of "sleep paralysis", the occasional experience that you're not entirely asleep but you can't quite manage to move; and, sometimes, the sensation of being invaded and violated.

The weakness of this account is that photographs of lights in the sky can show complex structure in an alleged UFO; some experiencers show marks and even patterned burns; and there are persistent claims of artifacts, implants, and other solid physical evidence left by UFOs.

Make of all this what you will. Personally I am reminded of sophomores and interns at play.

Flood Myths

From time to time I hear a story that flood myths, like vampire myths, can be found worldwide, in every culture. Hearing that, you have to wonder why.

A little review of conventional geology might be in order here. Between (roughly) 12,000 and 9,000 years ago, the world underwent a global climatic change; an Ice Age ended, and our world entered the current "interglacial" period, the Holocene. Of course this meant that large ice caps melted, especially in the Northern Hemisphere, but it also meant that world sea levels rose, and not necessarily gradually in all areas.

A map of the world of 12,000 years ago would be startlingly different than ours, because the continental shorelines would extend farther out from the centres of continents than they do today – sometimes vastly farther out, as in the North Sea, the Caribbean, the Grand Banks and Southeast Asia. It is pretty well accepted that the Bering Strait was then a land bridge between Siberia and Alaska. The current theory of Amerindian migration is that the Proto-Amerinds crossed eastward over Beringia, and then most likely moved down the Pacific Northwest coast, or what was then the coast.

So. If legends can be passed on for 10,000 years or more … which seems a little far-fetched, but bear with me here … then it seems entirely likely that people living in the glacial-era coastal lands, who fled the rising sea levels, originated the worldwide flood legends. (The fact that they often described the days before the Flood as a golden age could simply be nostalgia.)

In fact, some hard evidence accumulated in the year 2000 that there was a drowned inhabited area in the Black Sea, before it was apparently flooded by salt water from the Mediterranean. The case being made to us is that Eurasian flood legends – going back to early Indo-Europeans, proto-Semites and Sumerians, originate with the inhabitants of a fertile lowland basin, now drowned by the Black Sea. I don't know how far from "mainstream" archaeology this case lies.

In addition, Dale Speirs, one of my fannish correspondents, once printed in *Opuntia* a bibliography of articles asserting that other lands and Neolithic settlements were similarly drowned, in the Red Sea and the Persian Gulf. Like any settlements in the Black Sea, such settlements would be flooded abruptly, very fast, compared to the slow drowning of many coastlines.

I might throw in here, for what it's worth, the crank theory that cost John M. Allegro his career: that Sumerian, ancient Semitic and ancient Indo-European languages had a common source, and common religious formulas, which formed words and names in later languages. This is much more credible if there were proto-Sumerian, proto-Semitic and Proto-Indo-European speakers in neighbouring communities on the lake shore now drowned under the Black Sea.

Atlantis, and reasonable facsimiles

One of several ideas which dominated Greco-Romans and Medieval Europeans – and, I suspect, they were pathological ideas – was the idea of a lost and "perfect" former age. One form of this idea was the myth of a lost land called Atlantis.

The story from conventional anthropology and archeology is that the story of Atlantis started with Plato, and despite his attributing the story to ancient Egyptian traditions, there are no previous versions in hieroglyphic texts.

In later times, especially in the 19th century, the myth of a lost civilization became highly embroidered. Cultists and occultists grabbed a naturalist's term for a lost land-bridge, "Lemuria", and ran away to embroider another lost-civilization story; a Col. James Churchward, and Madame Blavatsky (founder of Theosophy) came up with stories about Mu, or Lemuria, respectively; and on it went.

Reality check

But, and this is a big but, the greatest rise of sea level was no more than 400 feet. This would not expose the highest submerged peaks of the mid-Atlantic Ridge, nor even much land area around the Azores.

There is no recognized geological or archeological evidence for a sunken centre of civilization corresponding to Atlantis – not in the Atlantic, not 9600-odd years ago, not a "high civilization" with advanced technology, as the current Atlantis myth has it.

A capsule review of convention anthropology might go like this: modern humans arose at least 40,000 to 100,000 years ago (opinion varies); humans all lived as hunter-gatherers until about 10,000 years ago, when the Pleistocene ended and the modern Holocene epoch started; humans started planting crops and herding animals when they had to, not because they wanted to – the end of the Ice Age was essentially an ecological disaster for hunters and food-gatherers, as their traditional food sources died out or disappeared in their areas; what we call "civilization" arose not once, in only one place, but several times, in areas which offered the plants and animals and an environment that afforded domestication; and it only really got started at most 7,000 years ago, near where Europe, Asia and Africa get all mixed up.

You have to ask at some point, what *is* a "civilization"? What is a "technology", for that matter? The conventional definition seems to be, a civilization is simply a way to support more lives in a habitat than hunting and food-gathering will support; alternatively, any society that maintains permanent towns, where specialized trades are practiced. Atlantis theorists and Erich von Daniken and pyramidologists seem to think that a "civilization" is anything that practices some astronomy, some mathematics, or any high-energy technologies.

Now, notice! I have presented no logical reason why lost civilizations – up to and including the high-energy, high-technology kind – might not have risen *several times* in the past 100,000 years, *precisely for the conventional reasons*. In fact there are crank theories that this actually happened, and the cranks point to various puzzling artifacts and records and legends as proof. But my point is, if they existed, *they are still lost civilizations*, as there is not sufficient evidence to prove they existed. Once again, extraordinary claims require extraordinary evidence; and apart from a few lonely fragments, from different eras and places, there is no body of supporting evidence.

Ancient "High" Technology

I left a question hanging a while ago. The conventional definition of technology seems to be any craft at all, starting with cracking flints and sharpening fire-

hardened sticks. But Atlantis theorists and Erich von Daniken and pyramidologists seem to think that a "technology" is anything that involves refined metals, and high energies, from the steam-engine level on up to atomic energy.

As previously indicated, there are puzzling anomalies that turn up in the archaeological record. Most can probably be explained in natural ways. Those that cannot be explained … don't add up to a consistent picture, and aren't numerous enough to force us to a shift of scientific paradigm. Yet.

Frequent entrants in the lost-art sweepstakes include the Egyptian pyramids, with Mesoamerican pyramids and various ancient Asian sites as close runners-up. Three of the most frequent claims made of pyramids can easily be dismissed. We keep hearing that their proportions encode the value of pi; well, designing a stable pyramid from a square foundation naturally leads to such a proportion. The reason why pyramids are found in diverse locations is that pyramids are some of the easiest initial structures to form. In fact, pyramids form naturally, given natural earth forms and erosive forces. Finally, pyramids and other massive stone structures do not all date to the same, nearly Pleistocene era.

Less easy to explain are the astronomical alignments found in many ancient stone monuments, or how Neolithic and Chalcolithic societies shaped and moved massive stones. I've seen the conventional documentaries, and I must have missed the part where the precision shaping of *e.g.* Teotihuacan and Incan stonework was explained. There is, quite simply, no agreement – between conventional archaeologists, anyway, and writers such as Graham Hancock and Herbie Brennan – as to how ancient engineers moved massive stones in Egypt or Teotihuacan.

Writers who point to man-made wonders sometimes undermine their case by claiming that extraordinary lost arts, or even mystical powers were at work. Herbie Brennan, for one, makes claims for "sonic" and "psychotronic" technologies, in ancient Egypt and Atlantis, which are hard to credit.

The Wandering Pole

Imagine this: the surface of the earth starts moving, slowly, so that the ice caps are moved closer to the tropics … and nobody notices, or understands what is happening … until with a tremendous JERK, the poles shift a good two thousand miles, in a day or two. Much destruction of life and habitats ensues.

Charles Hapgood, a careful academic, came to the conclusion that this has happened to our world – not once but several times – and that a mass of evidence points to the North Pole inhabiting a range of locations, scattered

over northern Canada and Siberia (The Path of the Pole). He also analyzed some ancient maps which appeared in the medieval era, far too sophisticated and accurate to be produced by medieval, or even Classical cultures (*Maps of the Ancient Sea Kings*). He concluded that there was an unknown seafaring culture, predating all recognized civilizations, which accurately charted much of the globe and in fact mapped the coastline of Antarctica before it was obscured by the polar ice cap.

There are some troubling consequences to a theory like this. One is that the evidence for past Ice Ages would have to be reassessed, as it might mean only that the polar ice caps were in different places, rather than reaching to different latitudes. Another is that it might mean sea levels did not rise or fall nearly as much as previously thought. But the most important consequence, and hardest to take, is that this sort of planetary catastrophe could happen to us again; in fact, we might be overdue now, and living on borrowed time.

These claims ended Hapgood's academic career. They also spawned a perennial story that keeps showing up in crank-theory magazines; and they inspired at least one novel, Allan Eckert's *The HAB Theory*.

A different version of the past is constructed in Herbie Brennan's books; he considers that a distant astronomical catastrophe led to a fragment of a supernova passing close to the Earth, about 9,600 years ago, creating immense tidal waves drawn to the northern hemisphere, distorting the face of the Earth and creating new mountain ranges, destroying such civilizations as existed, and leading to worldwide Flood legends.

A lawyer, or former lawyer, in the United States published a book-length argument, *5/5/2000*, that another catastrophic pole shift would occur in May 2000. Well … we're still here. Even before the Tremendous Jerk was to occur, I found the lawyer's argument … um, ill-constructed. He seemed to flit back and forth between two or more lines of reasoning, and to treat Biblical citations as equally conclusive with geological or astronomical evidence.

Atlantis in Antarctica: The Hancock - Flem-Ath - Wilson Synthesis

The latest version of "I've found Atlantis!" is a theory by Rose and Rand Flem-Ath, on Vancouver Island: that before the last alleged shift of the poles, much of Antarctica was free of ice, temperate and subtropical, and home to a rather advanced seafaring civilization. In The Atlantis Blueprint, co-written with Colin Wilson, this case concludes with an actual latitude and longitude for the city of Atlantis:

81° 52' 5" South, 111° 18' 10" West.

Today, there seems to be a synthesis of Bauval's, Hancock's, Hapgood's, and the Flem-Ath's ideas. In this synthesis, there *was* an antediluvian civilization, they *were* worldwide mariners, they *were* based in a temperate or subtropical Antarctica before the last pole shift – *and* they established observation points all around the world, to check earth movements against celestial transits.

If you grant any of the foregoing premises, then the idea that such observation points were established, in the late Pleistocene or early Holocene, at points all around the earth might make you think: "Well, places that had any monuments from *that* early, or were known as somehow special to later newcomers, might well seem like good places for later cultures to put their temples." So you might rationalize that massive monuments on these special points, dating to many *different* centuries, might simply point to *later* populations taking over *earlier* sites. But it would *be* a rationalization, and it would depend on the prior assumptions.

Taken in isolation, Robert Bauval's and Rand Flem-Ath's theses can seem pretty convincing. I am somewhat less convinced by Graham Hancock's presentations. The bottom line, though, is that *they don't meet the criteria* of mainstream, conventional anthropology and archaeology. Evidently the bar for extraordinary evidence is set fairly high.

A version of this modern synthesis has spawned at least one novel, Clive Cussler's *Atlantis Found*. Cussler's novel, like Herbie Brennan's version of prehistory, rests on a different astronomical catastrophe (a comet strike on what is now Hudson Bay, in Cussler's case). Unlike *The HAB Theory*, Cussler's story does not close with an impending catastrophe threatening the Earth again.

Where Did They Come From?

One of the counter-arguments I have not seen advanced, against the "Atlanteans-originated-everything" idea, is based on emerging evidence about the descent of languages and populations.

Research into the human genome and some research into the relationships of languages have discovered quite a high correlation between humans' genetic profiles, and the languages they speak. This is extraordinary, in an age of worldwide transportation and communication; but it does appear that most people speak the languages their physical forebears spoke. Merritt Ruehlen goes beyond this to trace, tentatively, the movements of population beyond ancient history, into prehistory.

Nothing in their evidence particularly suggests that there was a missing period of human evolution, when early humans must have developed in lands that

no-one can find now. Especially, there is no suggestion that blond Caucasians must have originated in Antarctica, which is one reading that crank theorists put upon the legends of Viracocha/Quetzalcoatl.

Conspiracy Theories

No, I'm not going to repeat *ad nauseam* all the conspiracy theories I surveyed at length, in a previous serialized article. What I'm going to do is to make a few general observations … starting with the observation that conspiracy theories, properly speaking, are a special subset of crank theories.

Let me repeat here something I said at the beginning of "Crank Theories": it isn't even an issue to me whether any of the assertions in a theory are true or not. I barely notice how well or badly it's argued, though the leaps of illogic of an earnest nut add to my enjoyment. What I like is the absurdity and surreality – and the imaginative originality – of a good crank theory. It's *entertainment* to me.

Jonathan Vankin and John Whalen, who compiled *The 60 Greatest Conspiracies of All Time* (later online as "The 70 Greatest Conspiracies of All Time"), observed that a classic conspiracy theory presented "fact mixed with conjecture, blended with error, and expressed with certitude". They were speaking of the *Key to the Gemstone File*, but as they said, it was classic conspiracy theory.

There are a lot of criticisms that can be leveled at conspiracy theories generally, regardless of their content, on the basis of their form. We can cite poor scholarship – citing secondary sources at best, or reasoning from mere speculation with no facts; we can cite poor reasoning – a failure either to face standards of evidence or to stick to rules of probability; and we can cite the frequent failure to present extraordinary evidence for extraordinary claims … which may boil down to a failure to recognize how much people can, or cannot believe.

Come to think of it, the same criticisms that can be leveled at conspiracy theories can be leveled at crank theories generally.

My own observation is perhaps superficial. In the late 1980s through the 90s, there was an upsurge of interest in conspiracy theories; at least, they made more of an appearance in public media, and on bookshelves. At about the same time, there seemed to be an upsurge in "new religions", too; in cults, in New Age beliefs, and in occultism. This rise in interest in conspiracy theories might have been linked to the rise in interest, or paranoia, about natural threats such as floods, earthquakes, droughts, unforeseen or unlikely threats such as alien abduction or meteor impacts. We've seen all this before, of

course – about a generation earlier, in the late 1960s through the 1970s. And in the 1920s and 30s, and in the 1890s … I ask myself, is some irregular cycle at work here?

Maybe people turn to conspiracy theories – and to other alternatives to standard reality – when they feel insecure, and threatened by unknown forces outside their control. Depressions and wars will do that to you.

Until about a generation ago, conspiracy theories mostly revolved around some few familiar themes: the suspicions people had about governments, British and other royalty, banking systems, Evil Corporations, the Catholic Church, new religions, the Freemasons, other secret societies going back to the Bavarian Illuminati and even the Knights Templar; suspicions about assassinations (both real and imagined) of political figures and other celebrities; paranoias about Nazis and neo-Nazis, intelligence agencies ranging from the CIA (a paranoid favourite) to CSIS, the End of the World, UFOs, and the Hollow Earth.

In more recent years, conspiracies have emphasized aliens out to get us, the Government out to get us (as witness the Oklahoma City bombers), computers and new technology and the medical establishment out to get us (as witness the Unabomber manifesto), nuclear power out of control (the Karen Silkwood story), and you name it.

Obviously there is no firm division between the material scooped up by crank theories and the material scooped up conspiracy theories. I say “scooped up” because the incorporation of themes in popular culture is a feature, not only of cranks and conspiracy theories, but of some kinds of mental illness. It is precisely as if a mind that isn’t thinking too well Hoovers up almost anything in its path.

It is almost not worthwhile to ask how much of this material is true and verifiable. Almost.

Obviously there really are conspiracies, from time to time. The Oklahoma City bombing, the World Trade Center bombings, and the Columbine high school massacre alike were each the work of small conspiracies – if only a couple of high-school students, in the last case.

We have to distinguish real conspiracies from conspiracy theories, both well- and ill-founded. I observed previously that people seem to come up with conspiracy theories as a response to events out of their control. Now, I put it to you, we’re seeing some tasteless conspiracy theories going around, about the World Trade Center bombing; I have actually seen people speculating that it was, not a foreign extremist, but a false-flag CIA operation, *meant* precisely to motivate the current “war on terrorism”, and the attendant restrictions on

civil liberties. *On no undisputed evidence*. That says a lot about what some people are willing to believe.

Evil Spirits, Magic, Fortunetelling, Prophecy, Etc.

As a matter of logic, some very ancient, widespread folk beliefs can be lumped under the heading of crank theories. I mean specifically the traditional folk beliefs in magic, and witchcraft, and foretelling the future, and ghoulies, and ghosties, and long-leggedy beasties, and unicorns, and virgins, and competent bureaucrats, and other fabulous beasts.

Monsters and Unknown Critters

A naïve naturalist from another planet might innocently investigate pixies and gremlins and chindi and wendigo on the same basis as beavers, and giraffes, and the nine-spined stickleback. Such a newcomer might imagine that creatures of myth and fable were simply encountered in a limited area, by the humans who first colonized the habitat, in the same way as they encountered other unique species.

Vampires: The main clues we have that vampires do not literally exist are that a) coroners do not regularly report corpses sitting up and walking around in their morgues, b) historical accounts of vampires are so inconsistent, and *change* so much over time. Having read collections of vampire stories ranging over several generations, it does seem to me that they were myths of unquiet corpses that preyed on the living and spread pestilence, in the original versions.

As entertaining and sometimes absorbing as modern vampire fiction can be, there is really no very good explanation for the supernatural attributes given to vampires. Or I just missed reading those stories. I have simple mass-energy-cube-and-square-law problems with the story that vampires can turn themselves into wolves or bats or invisible mist, or the story that vampires have the ability to cloud our minds. (Hell, most science teachers can do that!)

There seem to be a number of real ailments that might have originated the vampire legend, ranging from porphyria to simple rabies. My pet theory is that vampires symbolize a general anxiety, that we're going to be metaphorically preyed on and sucked to death – by taxation departments, actually, and public utilities and large, private service corporations; by any powers, in fact, that are not accountable to citizens.

Werewolves: The main clues we have that werewolves and other shapechangers do not literally exist have to do with biology, or specifically with disciplines like biophysics.

We know of several species which change their physical forms radically in the course of their lifetimes, notably pupating insects. We also know of species which change their appearance frequently to survive, as for instance chameleons. But we do *not* know of any large land mammals which can repeatedly alter their limb and trunk proportions, the lengths of their teeth or nails, or the mass of their body hair, for whatever cause. I have simple mass-energy-distance-cube-and-square-law problems with these supernatural attributes … but I've said this before.

One of the science documentary shows established that some psychological problems, or some medieval hallucinogens, could induce in people the belief that they are turning into wolves. There is also a suggestion, how authentic I do not know, that the eastern Canadian legend of the wendigo originated as some physical and psychological ailment.

My pet theory is that werewolves, like vampires, symbolize a general anxiety that we're going to be devoured alive without warning, by some sudden invader outside our control … perhaps a biker, perhaps a city policeman, perhaps a serial killer or a Family Services social worker.

Sasquatch-Bigfoot-Yeti: Stories about manlike apes, or apelike men in the wilderness, come from practically all parts of the earth. If they exist, it is astonishing that they leave so little physical evidence that the scientific establishment won't acknowledge it.

If we were to take our local sasquatch legend seriously, we would either grant some form of citizenship to sasquatches, or give them protected-species status, and probably reserve wilderness areas for them. Our naturalists would be advocating a program to preserve the species with a breeding program. Hunters' associations would petition to cull the species when it overbreeds. Our anemic civil liberties association would campaign in their defense. *None* of this has happened. (Except, I think, for the protected-species legislation, which says something about the B.C. legislature.)

Stories about apemen and monstrous predators and shapechangers sound awfully *as though we are driven to populate the unknown*, to cover up our areas of ignorance with made-up bogies. Kim Stanley Robinson mentions in his "future Mars" trilogy a 'desert man' figure, glimpsed but never tracked down in the Martian wilderness, so he is probably alive to this motivation.

Cadborosaurus-Ogopogo-Nessie *et al.*: Same as above, only substitute "big fishy thing" for "sasquatch".

Mysterious Powers

I've always been interested in real magic, as opposed to stage magic. Under this heading we might as well lump in parapsychology, ESP, spoonbending, psychic healing, pyramid power, voodoo, Santeria, crystal energy and dowsing.

If magic were logically examined, you might define it as a set of phenomena reputed to affect probability, health, or physical objects at any distance, based mainly on a human's visualization and force of will. Under the name of "ESP" or "paranormal" faculties, claims for magic sound like the effects of a field force that doesn't behave much like the known physical forces, because it ignores cube-square laws of distance and time. Sounds like a crank theory, doesn't it?

(Of course, if there were some such field force, and if any critters with a complex nervous system could respond to it, or modulate it … some critters would surely evolve to take advantage of it; just as many animals evolved senses of smell, sight, and hearing, and even electrostatic and thermosensing organs; just as most animals have pheromones, muscles, and sound organs, and some even have emergency lights.)

Alternatively, you might define classical folk magic as any half-baked theory about natural phenomena that neither explains anything adequately, nor really helps anyone to control a malady or solve a practical problem. It struck me very early on that carrying a rabbit's foot, crossing the street to avoid a black cat, or other superstitions serve the same purpose as folk magic: *We kid ourselves into feeling we have some control* over random, uncontrollable, and frankly unknown circumstances. Sounds like a crank theory, doesn't it?

I actually read at some depth on the subject in the mid-1970s. I was a lot more skeptical coming out of this period than I was going in; the only thing I learned for sure is that *you have to make yourself believe* a whole lot, in order to carry on an interest in the occult. I guess, in that respect, it's a lot like belonging to a cult, or holding a military office.

Neopaganism and Modern Witchcraft

At the risk of alienating some of my friends and readers, logically I have to include neopaganism and modern witchcraft among crank theories.

The story that neopagans and modern witches tell seems to go like this: "Until perhaps 7,000 to 9,000 years ago, people in many parts of Europe, Asia and Africa practiced peaceful, life-affirming forms of nature worship, often involving an Earth or Moon Goddess. Then, over a period of several thousands of years, aggressive, arrogant, patriarchal peoples repeatedly invaded many parts of these continents, and usually outlawed and demonized the peace-loving goddess-worshippers. During the Christian era, the witch-cults of

Western Europe survived underground, to re-emerge only when tolerant civil societies were established." Oh, yes, and they say they practice magic.

I reserve opinion. To be honest about it, so do a good many neopagans these days. A little reading on the subject turns up much the same story, from various sources, entirely within the 20th century: a man named Gerald Gardner appeared in Britain in the 1950s and promoted a new, alternative, nature-worship which he called witchcraft; *and* he claimed to have uncovered an ancient, pre-Christian tradition, surviving covertly in British pagan families. This, apparently, appealed to some people. That appeal requires some explanation.

At some point it has to be admitted that, in effect, conventional Christianity appeared to invent its own sins, including institutional self-righteousness. This, among other things, has alienated a good many people in allegedly Christian countries from any form of Christianity. (And perhaps this is a twice-told tale to you; but I haven't seen it put down in print before.) It is not too hard to see why some people would seek a more life-affirming religion. Also they say they practice magic, which may be a more satisfying way of dealing with life's problems than worship and prayer alone.

It is entirely possible that there were survivals of pre-Christian religion in many parts of Europe, and in the form of folk magic or family traditions. I couldn't prove otherwise. But it appears to me much more likely that modern witchcraft started as a local cult, originating with Gerald Gardner.

A matter of even greater interest is how and why modern witchcraft became a relatively accepted part of the contemporary religious landscape. One of my acquaintances attributes the tolerance of modern paganism in B.C. to one man, Samuel Wagar. I first heard of Sam Wagar when he was connected to science fiction fandom in Toronto. Later, he appeared in British Columbia, and ran for a candidate in a local byelection; he lost the election after being cornered into admitting he was a pagan. But the effect of the press that ensued was to establish, to some people at least, that the set of all pagans is not equal to the set of all Satanists. (Perhaps people in Abbotsford still reserve opinion about that.)

If enough people take any form of magic seriously, we may expect to see it licensed and regulated. I await the foundation of a B.C. Magicians' and Witches' Association with a set of standard examinations, a licensing board, and an allocation in the provincial budget. One Rachel Pollack has already written novels about a recognizable modern, urban society – with such an authority, licensing professional magic practitioners.

Fortunetelling and Prophecy

Every kind of animal, vegetable, mineral, astronomical and party-game objects have been used for some kind of divination. The key thing seems to be a) an arbitrary number of arbitrary meanings given to arbitrary symbols, b) some game board, or pattern, in which the symbols can be interpreted, c) some random element of chance for throwing the symbols into the pattern.

You may recognize these elements from *I Ching* and Tarot card readings and rune casting, but what about astrology? Most of us come across astrology as if the signs of the planets were just now thrown randomly across the skies, and therefore across the houses of the zodiac. In physical fact, of course, the planets orbit in predictable paths. The first known civilizations charted the positions of stars and planets over time and learned to predict them by rule of thumb, even if the mathematical principles to calculate orbits were not discovered until about three and a half centuries ago.

If the values assigned to planets and houses and aspects were more concrete and definite, one grave drawback to astrology is that astrological almanacs, until at least the 19th century, were over two millennia out of date. The precession of the equinoxes means that the point on the zodiac where the Sun rises, at the vernal equinox, "creeps" from one house to the next over the course of centuries. As it is, the meanings and interpretations given to astrology are highly subjective.

Do you get the impression that the symbolic system in any form of fortunetelling is just an excuse, a diversion to skin a mark? Or do you prefer to believe that it facilitates some nonrational faculties?

Predicting Doomsday, Identifying the Antichrist, and Otherwise Decoding Revelations

Given that foretelling the future is almost explicitly forbidden in the Judeo-Christian tradition, it seems sort of contradictory that about half the books of the Old Testament are named after prophets. Upon reflection, though, it appears the prophets were less like fortunetellers and more like Pat Robertson or Jimmy Swaggart, without the power of television. "Change what you're doing or Suffer the Wrath …" You have to wonder how they were qualified to be prophets, or how they were publicly recognized as such.

Generations of alleged Christians have also spent (or wasted) man-centuries trying to interpret the Book of Revelations, including Isaac Newton among other cranks. A significant subculture still believes this is a coded roadmap into the future, or the end of the future. But Revelations has been described as an un-Christian, in fact anti-Christian book, and there was a good deal of argument about including it in the New Testament.

I have been informed that in the first century A.D., and for some centuries before and after, similar apocryphal books were circulating in the Mediterranean world, enjoying a popularity rather similar to science fiction today … but the colourful symbolism disguised *political* tracts, usually anti-Roman in sentiment. Robert Graves made an argument that the Book of Revelations in fact equated the Antichrist with the Caesar Nero.

If Revelations is an ancient seditious pamphlet, rather than a book of religious prophecy, it would explain why so many different people have been identified as the Antichrist, and nobody's predicted Doomsday came to pass.

Is Economics a Form of Fortunetelling, or a Field of Crank Theories?

The longer you study crank theories, the more tempted you will be to start your own. I'm working on a theory that the discipline of economics is, frankly, a form of fortunetelling; that economic theories are crank theories. That you might just as well guide your investment decisions by astrology; plenty of major businesses do.

Do you think my theory explains some 20th-century history? Or should I lie down and be quiet for a while?

Crank Theories in Popular Fiction

There is a saying that the golden age of science fiction is about 13. At that age, we're pretty naïve and uncritical, and almost any influence might imprint on us – science fiction, God, chess, martial arts, even Frank Sinatra (God help us). Granting the role that science fiction can play in exercising our imaginations … isn't an author obliged to mark clearly, somehow, where science ends and speculation (or outright crank theories) begin?

Heinlein's and Piper's ideas about language

There are some ill-informed ideas about language structure that I had to unlearn, after reading short novels by Robert Heinlein and H. Beam Piper. Examples:

> "I saw a man shot once on Mimir, for calling another man a son of a Khooghra," Jack said. "The man who shot him had been on Yggdrasil and knew what he was being called."
>
> "I spent a couple of years among them," Gerd said. "They do build fires; I'll give them that. … I learned their language, all eighty-two words of it. …"
>
> "Can they generalize?" Ruth asked.
>
> "Honey, they can't do nothin' else but! Every word in their language is a high-order generalization. *Hroosha*, live-thing.

> *Noosha*, bad-thing. *Dhishta*, thing-to-eat. Want me to go on? There are only seventy-nine more of them."
>
> (Piper, *Little Fuzzy*, New York: Ace, © 1962)

This seems to echo a persistent idea going around, that there are "primitive" languages spoken *today*, on modern Earth. In point of fact every extant human language seems to be capable of expressing as much as any other human language, even if you have to work up a phrase rather than a single word to translate it. If anything, the languages of hunting-gathering societies, with little traditional technology, have more specific terms for everything in their environment; the main difference from the languages of agrarian or industrial societies is a lack of generic terms, for classes like fish, fowl, tree, and so on.

> "Do you speak the Kragan language, general?" she asked. "I understand it's entirely different from the other Equatorial Ulleran languages."
>
> "Yes. That's what gives the Kragans an entirely different semantic orientation. For instance, they have nothing like a subject-predicate sentence structure. That's why … they are entirely non-religious. Their language hasn't instilled in them a predisposition to think of everything as the result of an action performed by an agent. And they have no definite parts of speech; any word can be used as any part of speech, depending on context. Tense is applied to words used as nouns, not words used as verbs; there are four tenses – spatial-temporal present, things here-and-now; spatial present and temporal remote, things which were here at some other time; spatial remote and temporal present, things existing now somewhere else, and spatial-temporal remote, things somewhere else some other time."
>
> (Piper, *Uller Uprising*, New York: Ace, 1983)

About the time that Piper was writing, SF writers were thinking about the Sapir-Whorf hypothesis: the linguistic hypothesis that the language we speak somehow shapes and channels our thought. Constructed-language enthusiasts are still playing with this notion, to this day. Whether it holds any water or not, I leave for you to decide.

James Hogan's *Giants* trilogy

Some more odd notions, about language and technology for instance, that show up in some of James P. Hogan's novels.

Hogan may be best-known for his "Giants" trilogy, in which a succession of scientific puzzles are solved, leading to the discovery of a whole hidden history

of the human race, an unknown and destroyed world in our solar system, and a previous intelligent race, native to that world.

There are some logical problems with the story, though, and I don't mean problems with Hogan's projection of 21st-century technology. The first puzzle that Hogan's characters face is a dead and dessicated spaceman found in a cave on the Moon … who seems to be 50,000 years old. This fully-human corpse bears an ancient, miniaturized handbook and a sort of digital watch … and the investigators proceed to decipher everything they can, from the body and from these two artifacts.

Hogan makes reference to computerized frequency analyses of the language texts leading to decipherment of the language. Now, let me just pose you some questions. Just suppose that remains, including texts, from a previously unknown ancient civilization landed in the hands of the specialists best prepared to evaluate them; wouldn't you expect some time lag, extending to a few generations, before the specialists could get over their disbelief? Leaving that aside, how can you get from *frequency analyses* of the signs in previously unknown script to decipherment of a language? (You may object that the Russian frequency analysis of Mayan steles was followed, relatively quickly, by their recent decipherment. I await corroboration.) As to ancient artifacts: I would be surprised if any contemporary solid-state technology remained functional more than *twenty or thirty years*; in fact, a pressing concern today is that digitized records have far less lifespan than magnetic tapes, tapes have rather less lifespan than contemporary paper records, and contemporary paper has so high an acid content, even *200-year-old* documents – with far lower acid content – are more likely to outlive contemporary records. How likely is it that we could happen on devices as much as 50,000 years old, and make them yield information?

The same problem comes up later in the *Giants* trilogy, when the same investigators turn up remains of a spacefaring species on Ganymede, approximately *25 million* years old, and *again* recovers a lost language and the records in that language.

Robert Wilson & Robert Shea: *Illuminatus*!
Umberto Eco: *Foucault's Pendulum*
Michael Flynn: *The Country of the Blind*

One of the less amusing fixations in popular culture has been paranoia, and the perception of vast, powerful conspiracies manipulating public affairs. The gist of *Illuminatus*! and *Foucault's Pendulum* seems to be how absurd, foolish and ineffectual are cranks, and conspiracy theorists, *and conspirators themselves*; and how *divided* they can be, among themselves.

Michael Flynn, in *The Country of the Blind*, makes a further point: setting up a secret society with a conspiratorial goal is essentially like the children's game of "Egyptian telephone", where you whisper a message to a person sitting next to you, and they to the person sitting next to them, and so on around a circle; by the time the whisper gets back to you it will be unrecognizable. Similarly, the "message" or conspiracy's agenda will be progressively distorted as it goes from the initial group to new members … either because they reinterpret it according to their understanding, or modify it according to their own agendas.

The end result is that any conspiracy will divide, or simply break up, beyond a limited number of members.

The bottom line seems to be, we *can* expect a number of conspiracies in any society at any time … *but* it is pretty unlikely that even one of them will be vast, or powerful, or long-lasting, or very effective.

Perhaps the best way to expose crank theories is to send them up. Satirize them. Make them look silly. This is essentially what Robert Wilson and Robert Shea did with American conspiracy theories of the 1960s and 1970s, and what Umberto Eco did with similar European ideas of the 1980s and 1990s.

CONCLUSIONS: Signs of a Crank Theory

By this point you probably have your own take on the stories I have presented. On my own I concluded that crank theories share the following signs:

* Going beyond the facts / extrapolating too much from too little data
* Poor standards of evidence
* exceeding credibility, not just conventions
* Unsupported leaps of logic
* Poor standards of reasoning
* inconsistency of reasoning
* jumping erratically between topics
* Poor standards of rhetoric (e.g. 5/5/2000)
* dragging in irrelevancies, not just tangentials; not only not strengthening, but actually weakening the case

Other writers have drawn other conclusions. Massimo Piattelli-Palmarini writes in *Inevitable Illusions* that human minds seem inevitably to create "mental tunnels" that encourage fallacies in thought, and blindness to alternatives. He summarizes them as:

* Overconfidence
* Illusory correlations (magical thinking)
* Predictability in hindsight

* Anchoring
* Ease of representation
* Probability blindness, and
* Reconsideration under suitable scripts.

Other writers have drawn other conclusions, in *Popular Delusions and the Madness of Crowds*, and in Robert Parks' *Voodoo Science*. As Robert Parks points out, sometimes the bizarre things reported in science news let laymen imagine that just anything is possible. The bottom line seems to be, though, that *we want to believe* there are mysteries; that miracles can happen; that the impossible, sometimes, is possible.