

## A Search for Anomalies

WILLIAM R. CORLISS

*Sourcebook Project, P.O. Box 107, Glen Arm, MD 21057*

Since 1965 I have been culling systematically from the literature of science those observations that challenge reigning paradigms. The tangible result of the thousands of hours spent in libraries has been a series of Sourcebooks, Handbooks, and Catalogs that, at present, describe and evaluate roughly 2,000 anomalies—about one-half of my total collection. Some of these anomalies are truly profound and have important implications for science, such as the quantization of astronomical redshifts; others are less significant, as is the recent discovery of that curious little door in one of the Great Pyramid's "air-shafts." Overall, this immense accumulation of anomalies will hopefully encourage new research projects, some paradigm shifting, perhaps even the emergence of yet-undreamed-of hypotheses that will better describe nature.

This historical essay begins in 1951 with my astonishment at my unexpected discovery that important scientific anomalies not only exist but also are pervasive and abundant in the professional journals. The essay continues with the translation of these two epiphanies into the Sourcebook Project and the 36 books on anomalies that it has published so far.

This is largely a personal story and is therefore told in the first person. I believe this saga, conducted mostly in libraries, will be relevant to anyone who has also perceived some of the multitudinous cracks, big and small, so obvious in the foundation of the Temple of Science.

*Keywords:* anomalies — Sourcebook Project

### The Pivotal Role of Serendipity

The Sourcebook Project really germinated in 1951 in an unexpected manner. To begin my search for anomalies, I first had to learn that they existed—a reality not broached in the usual college science curriculum. I came across anomalies by accident.

In 1951 I was working on the 184-inch cyclotron at the Radiation Laboratory of the University of California. On a day off, I happened to pick up for \$2.00 in one of Berkeley's bookstores a used copy of George McCready Price's 1926 book, *Evolutionary Geology and the New Catastrophism*. That the word "catastrophism" would appear in the title of any geology book was shocking in those days, for uniformitarianism was dominant in the earth sciences. I do not recall my geology professor ever mentioning "catastrophism"! Even more surprising were Price's field observations that challenged what I thought were well-established truisms. To illustrate, Price pointed out many places on the planet where older rocks are superimposed upon younger rocks;

for example, at Chief Mountain in Montana. There, an entire mountain of older rock rests upon much younger sediments. Price's book contained many more geological anomalies, some of which are now explained but many more that are not. So it was George McCready Price, who would today be called a creationist, who first made me aware that anomalies exist, at least in the field of geology.

My second unanticipated discovery made me realize that anomalies were common in *all* branches of science. This happened in 1953 in the library at the University of Colorado when I was trying to find out what was known about the solar spectrum in the far ultraviolet. (The Physics Department had spectrograms of the sun taken at high altitudes during flights of captured V-2 German rockets.) Right next to a book I desired was Charles Fort's *The Book of the Damned*. Naturally, I had to take out that book, too. It turned out to be chock full of anomalies of all sorts, all of which Fort had extracted from major science journals prior to 1930. Fort designated these anomalies as "damned" because they were generally ignored by mainstream science. Fort's book concentrated on astronomy and geophysics. I was particularly intrigued by the examples of those strange explosive sounds heard in coastal regions around the world. The Barisal Guns in the Ganges Delta are perhaps the most famous. Around the coast of the North Sea, they are called "mistpouffers" or "fog guns." It was all certainly very fascinating, but I had to finish my education and start making some money for my family. Nevertheless, I now knew that scientific anomalies not only existed but were also spread throughout all of science.

Serendipity struck again a decade later. By 1963 I had become disenchanted with industry and had started a career in freelance writing. (My wife said she would give me five years to make a go out of it.) Fortunately, I had a head start. I had already written a book on space propulsion, based on a course I taught at General Electric in Cincinnati, which had been published by McGraw-Hill (Corliss, 1960). This helped me get writing contracts with the National Aeronautics and Space Administration (NASA), the Atomic Energy Commission (AEC), and the National Science Foundation (NSF). These efforts took me frequently to Baltimore's Enoch Pratt Free Library. These visits gave me the opportunity to verify some of the anomalies I had read about in Fort's *The Book of the Damned*, especially those curious mistpouffers! As I leafed through the pages of *Nature* circa 1898–1900, I found that Fort's research had been accurate but rather narrow. He had missed a lot of anomalies. Fort, it seems, was not particularly interested in archeology, geology, or biology. He had not even picked up on all those intriguing British stone circles, which were a favorite subject of Norman Lockyer, the editor of *Nature* around the turn of the century.

Thus, it was once more made obvious to me that anomalies were ubiquitous and present in greater numbers than I had dreamed. Fort had been selective and had explored only part of the science literature and then only up to about 1930. There was a whole universe of anomalies waiting for me in the dusty

stacks of Baltimore's main library and the easily accessible Library of Congress.

At this point in the history of the Sourcebook Project (which hadn't even been christened yet), there was no thought of making a business out of anomalies. I first had to satisfy NASA, AEC, and NSF. Between 1963 and 1981, I wrote thirteen books for NASA on space flight (for three examples, see Corliss, 1965, 1967, 1972), a dozen educational booklets for AEC, and the same number of articles for *Mosaic*, a now-discontinued, bimonthly magazine published by NSF. There were also several books written for New York publishers, including one I coauthored with Glenn Seaborg (Seaborg, 1971).

A point to be made here is that a freelancer usually has extra time now and then to turn to other projects of interest; in my case, anomalies. And in the back of my mind, as you would expect in a writer, was the possibility of a book on anomalies. Something like *The Book of the Damned*, but updated and wider in scope. Because this book or, possibly a series of books, would be ferreting out and organizing anomalies from a wide spectrum of sources, I decided to name the venture The Sourcebook Project.

### **Curiosity-Indulgence and Profitability**

In 1965, the major goal of the nascent Sourcebook Project was to satisfy personal curiosity. Such indulgence costs little, but to probe the unknown deeply and widely and then publish the anomalies uncovered requires more than casual interest. Organization, infrastructure, and funding are required. The present Sourcebook Project—still only a one-person endeavor—took 20 years (until 1985) to coalesce into a self-supporting enterprise. The profitability motive that was and still is absolutely essential to Project viability has necessarily produced an operating philosophy that differs somewhat from most other inquiries into the nature of the cosmos. I had and still have no institutional funding or infrastructure. This disconnect from most mainstream science efforts can be seen in the following three objectives that guide Sourcebook Project activities.

1. The primary objective of the Project has always been that of satisfying the curiosity of the author. This proclivity stimulated the search for anomalies and has sustained it for almost four decades. This innate curiosity has been vital because the financial rewards would have been much greater in my first career in engineering management.
2. Secondly, the Sourcebook Project must be self-supporting financially and develop its own infrastructure. As in any business, viability is one of the primary goals. This commercial focus had to exist because government, foundation, and private support have never been deemed likely. This premise has proven correct over the last four decades.
3. The third objective is the only overtly altruistic one. That is the potential value to science of the information acquired through the thousands

of hours in libraries and its consolidation into accessible form both in books and CD-ROMs.

### The Search and Collection

Beginning in the mid-1960s, every time I visited a library, I spent an hour or two combing through old volumes of science journals. The obvious place to begin was with the major, general-science journals *Nature* and *Science*. Every one of the hundreds of volumes of each of these two journals was scrutinized for anomalies. I moved next to *American Scientist* and science magazines such as *New Scientist* and *Scientific American*. There were also the major specialized journals to attend to: *Geology*, *Monthly Weather Review*, *Icarus*, *American Journal of Psychiatry*, *Antiquity*, etc. Over the years, some 15,000 volumes of major science publications have been examined.

The identification and collection of anomalies was (and still is) a rather tedious task. The reward is that every trip to a library adds new anomalies to the burgeoning collection. It is a bit like fishing; boring most of the time until the big one bites! Obviously, I did not read every word of every article. Title pages were helpful. My eyes were peeled for key words like “enigma,” “mysterious,” “puzzling,” “unsolved,” “singular,” and so on. The word “anomaly” was rarely used in the 1960–1990 time period in its present sense. Without question, I have missed many anomalies in my surveys. Some of these were discovered later when reference lists and relevant books were analyzed. Reviewers have pointed out others.

*Nature* has been far and away the most useful general source. Its productivity, though, has changed with its editors. The *American Journal of Science*, founded in 1820, was a gold mine of anomalies of all sorts in the beginning. Now, 400 volumes later, it publishes mostly long, highly technical articles on geology and rarely provides me with new material. *Science*, too, has been variably useful. To illustrate: In its infancy, *Science* did not avoid parapsychology because its editor at the time, Simon Newcomb, like many prominent scientists in the late 1800s, did not discount psychic phenomenon.

Bit by bit my anomaly collection grew. Unlike Fort, who had to jot down telegraphic (often unreadable) notes about phenomena, I had access to photocopiers. Today, my files bulge with perhaps 50,000 articles, letters, and brevias dealing with anomalies. I now estimate my collection holds about 4,000 distinct anomalies. This number could easily be increased simply by spending more time in libraries and tackling the thousands of unscanned journals.

To appreciate what I have been extracting from the science literature, see the Appendix for a selection of about 100 anomalies from my files. Then multiply by 40!

By 1972 I had enough material on hand to think about publishing some of it. I knew that no commercial publisher would sign on to a series of perhaps two dozen books. Just as certainly, no government agency or foundation would want

to commit to such a long-term, controversial project. (While I was doing contract writing for NSF, discreet inquiries had validated this conclusion.) My decision was to self-publish my collection of anomalies and try to make it a profitable enterprise to boot.

The Sourcebook Project has evolved in three phases, although the last two phases were not in the original plan.

### Phase I. The Sourcebooks

In 1974, as an experiment, I began self-publishing a series of 10 loose-leaf notebooks called "Sourcebooks." The name was apt because they contained direct quotations from the older science journals with minimum interpretation and commentary. The first two volumes, entitled *Strange Phenomena I* and *II*, typify the set. They collected and categorized many of the geophysical anomalies I had gleaned from the literature. I engaged John C. Holden, a well-known science illustrator, to provide drawings for some of the phenomena. I continued the series with two volumes on archeology (*Strange Artifacts I* and *Strange Artifacts II*). Between 1975 and 1978, Sourcebooks in the fields of geology, astronomy, biology and psychology came off the press. Even though the Sourcebooks are now some 20 years old, a few orders for them still trickle in. About 30,000 copies have been sold down the years.

Of course, orders for the Sourcebooks did not sell without some advertising effort. I used commercially available mailing lists and a few half-page display ads in *Science*, *Nature*, *Science News*, and a small handful of other science journals and magazines. Interestingly, the most productive ad appeared in *Sky & Telescope*. Individual books in the series were reviewed in *Nature*, *American Scientist*, and several other publications, including (to my astonishment) the *Village Voice*. These reviews obviously helped sales.

The Sourcebooks differ markedly from the books of Charles Fort (*The Book of the Damned* was the first of a series of four). The material in the Sourcebooks is organized by subject and dispenses with the many brickbats tossed at science-in-general by Fort. The Sourcebooks are not confrontational but rather matter-of-fact quotations from the journals with minimum commentary.

Phase I of the Sourcebook Project was financially successful, but not enough so as to sustain my family and put four children through college. In the 1970s, I continued to write, mainly for NASA, under contract. The resulting books were published by the U.S. Government Printing Office and, in a few cases, by commercial publishers under contract to NASA. One, entitled *Teleoperators and Human Augmentation*, was republished commercially. The last book I wrote for NASA was published in 1981, bearing the title: *Wind Tunnels of NASA*.

The Sourcebooks, it turned out, had a unacceptable deficiency from the viewpoint of many libraries. They were ring-bound, and the pages could be and were removed by library clients. I could have gone on generating dozens

of additional Sourcebooks, but to satisfy the library market, a new strategy was required.

### **Phase II. The Handbooks**

Basically, the Sourcebooks were converted into hardcover books, but with more commentary, newer material, and many additional illustrations. The first Handbook, *Handbook of Unusual Natural Phenomena*, was self-published in 1977. The response was very encouraging with more good reviews in key science and library journals. In fact, the book caught on so well that Doubleday asked me to write a popularized version for them. This version appeared first as a quality paperback in 1983. It was later republished in hardcover form by two other publishers. Approximately 100,000 copies were sold altogether.

In the meantime, the other five books in the Handbook series were being self-published. The second in the series, *Ancient Man*, has been reprinted several times and is still one of the Project's best-sellers. The final Handbook, *Unfathomed Mind*, came out in 1982. It is now out of print.

Like the Sourcebooks, the Handbooks were marginally rewarding financially, and they were still fundamentally only reproductions of anomaly descriptions derived from the science literature. Background and significance were usually lacking. Furthermore, new anomalies were being added to the files at such a rapid rate that a new format was needed to accommodate this influx. More importantly, something had to be added to the books that indicated the potential impact of each anomaly and the quantity and quality of the observations that supported it.

### **Phase III. The Catalog Series**

The "Catalog" concept goes far beyond the simple republication of the anomalous observations that characterize the Sourcebooks and the Handbooks. In the Catalogs, anomalies are singled out, closely defined, and then evaluated in terms of the quality of supporting data and how challenging they are to mainstream paradigms. Quotations from the original sources are still employed but they are shorter. More space is devoted to the background of the phenomena. I include examples of the anomalies and many references to aid future researchers.

The catalog volumes are more focussed than the Handbooks. For example, the four geophysics Catalogs are specialized as follows:

- Luminous phenomena
- Weather phenomena
- Atmospheric-optics phenomena
- "Oscillatory" phenomena (i.e., waves, tides, sound, earthquakes, etc.)

The four Catalog volumes in geophysics were published by the Sourcebook

Project between 1982 and 1984. (All Sourcebook Project publications in print are listed on my web site: [www.science-frontiers.com](http://www.science-frontiers.com))

The Catalog concept advanced with three volumes on astronomy between 1985 and 1987. Geology came next, then biology and archeology. Roughly one Catalog volume has been published each year. As of 2002, there are 20 catalog volumes on the shelf. The task, however, is far from over. I contemplate six more volumes in archeology and three in psychology. Some time, I hope to return to biology, where the six extant volumes deal only with humans, the other mammals, and birds. I have immense, unused files on reptiles, fish, the arthropoda, plants, invertebrates, microorganisms, genetics, etc. Once I had hoped to complete the Catalog series in 25 volumes. Now, a total of 35 seems probable. The universe of anomalies has turned out to be expanding like the cosmos itself.

On the economic front, the Catalogs have kept the Sourcebook Project solvent. Reviews have generally been very favorable. To maintain sales volume, I have relied mostly upon word-of-mouth and a mailing list developed over 35 years. My bimonthly mailings feature my newsletter, *Science Frontiers*, plus advertisements for related books by other publishers. Display ads and commercial mailing lists are now too expensive to employ. Happily, the Internet has come along and my web site has made up for the abandoned display ads and mailing lists.

So much for the business aspects of the Sourcebook Project. Book marketing has made the Project viable and kept it free from the vicissitudes of commercial publishers and the dictates of institutions.

### **Sourcebook Project Interfaces**

The Sourcebook Project has never solicited members, just customers. It is strictly a business without narrow philosophical or political goals. Over the years, though, some interesting interfaces with other organizations have developed.

#### *Fortean groups*

Relations have always been amicable with the International Fortean Organization (INFO), the Society for the Investigation of the Unexplained (SITU, publisher of *Pursuit*), and the UK's *Fortean Times*. Although Fort's methodology has been valuable in developing the Sourcebook Project, I have tried to avoid the Fortean tendency to ridicule established science. Such bizarre and improbable Fortean phenomena as pyramidology and psychic archeology have generally been avoided. Indeed, the Project has been criticized as not being sufficiently Fortean; that is, not bizarre enough. This is quite true and can be explained by my almost total dependence upon mainstream science literature for source material. Newspapers are rarely used, the Internet is avoided to-

tally. I very rarely use fringe magazines and the personal accounts that frequently turn up in the mail.

As a result, perhaps, there are only a few dedicated Forteans on my customer list. Velikovskians, too, tend to ignore my self-published books, as do the cryptozoologists, ufologists, and those into psychic phenomena. However, the Sourcebook Project also carries roughly 100 books from other publishers. These cover topics usually excluded from my Catalogs, such as Atlantis, intelligent design, the yeti, and even magic squares and humor.

### *Creationists*

An interesting, informal, reciprocal interface prevails between the Sourcebook Project and the various creationist groups. The Catalogs and Handbooks, for example, contain much of interest to creationists in the fields of biology and geology. This occurs because I have amassed reports of phenomena that apparently challenge neo-Darwinism. Flowing in the other direction are observations that creationists have discovered in journals that I do not have the time to monitor. In addition, some individual creationists are particularly adept at finding flaws in widely accepted science paradigms, such as the continuity and integrity of the geological column and the utility of so-called vestigial organs.

In this context, I emphasize that the Sourcebook Project intends to be value-free. Let the facts fall where they may! This Fortean skepticism about the value of theories-in-general doubtless annoys both creationists and their opponents. Theories are ephemeral, but facts live forever.

### *The Skeptics*

One would expect a lively interface between the Sourcebook Project and the several groups of skeptics, as typified by the Committee for the Investigation of Claims of the Paranormal (CSICOP). After all, my Catalogs do challenge those paradigms the skeptics defend so ferociously. Actually, there has been no traffic whatsoever in either direction. While mainstream *Nature* has reviewed five of my books, the skeptics have shown no interest in evaluating any of the Sourcebook publications. The skeptics, it seems, are never skeptical of *established* paradigms, *only* those observations that threaten to disestablish them.

### *The Media*

The results of contacts with talk radio, TV programs, and newspapers have been disappointing. Since 1990 I have rejected all invitations for interviews and media events. The major factors in keeping the media at arm's length are their tendency to distort facts and not allow my review before publication or airing. Invitations from major publishers to write books on anomalies are now



routinely turned down but usually for a different reason: It is more profitable and satisfying to self-publish and be able to control the format, content, and market-longevity of my books.

### *Mainstream Science*

Early on, I hoped that experts in various disciplines would be interested in providing information or at least comments on drafts of material before publication. This interface was never established. Of course, a scientist's time is valuable and I cannot be considered a "colleague"! The Sourcebook Project is hardly part of the scientific community. There have been a few individual exceptions, but the reaction of mainstream science has been mainly via book reviews (generally favorable) and occasional references to my books in the journals. Some scientists do purchase books from the Project, including even some Nobelists. Generally speaking, though, mainstream scientists are not good customers, despite the good reviews and several selections by book clubs.

### **Some General Observations**

Who, then, does buy enough books to keep the Sourcebook Project in the black? Tests with ads and mailing lists indicate that it is not the Fortean, the creationists, the UFO crowd, the cryptozoologists, the parapsychologists, the Velikovskians, subscribers to *Fate*, or mainstream scientists. In fact, as Henry Bauer indicated in a recent *JSE* editorial (Bauer, 2001), it is not members of the SSE either. My theory is that each of the groups mentioned contains only a few "general-anomalists"; that is, individuals whose interests are much broader than those of the group they are associated with. The Sourcebook Project has tapped this dispersed population and is thus able to survive.

It may be of interest to SSE members that only about 2% of them are on my mailing list, which length-wise is somewhat larger than the SSE membership list. This surprisingly small figure is also typical of members of Fortean groups, in fact, of *all* the speciality groups mentioned in the previous paragraph.

Despite its charter, I believe the SSE is composed mainly of several small groups of specialists, with only a few generalists. That this may be so can be seen by comparing the subject matter in the Tables of Contents of several issues of the *JSE* with the topics listed in the Appendix. I see a wide disconnect between the two lists of topics. But it may be that those submitting articles to the *JSE* are not typical of the membership-as-a-whole. I don't know.

Many of my customers also come from the general population of people with scientific training and interest, but who are not in academia or members of the speciality groups mentioned above. Medical doctors and engineers are perhaps the most prominent in this regard.

Over the years, the archeology books offered by the Sourcebook Project have sold the best; those on parapsychology, the worst. In contrast, articles

with a slant toward parapsychology are frequent in the *JSE* while archeology articles are nearly nonexistent.

I have also noticed that scientists who specialize (and most do) will readily admit that anomalies exist in their fields of endeavor. In fact, they sometimes take pains to point out anomalies that I somehow missed in my literature research. However, these same scientists are often reluctant to admit that *all* other branches of science also exhibit anomalies. A scientist who admits the possibility that Nessie lives will not doubt the reality of the expanding universe. A scientist favorable to UFOs will not question neo-Darwinism.

Scientists, like everyone else, prefer a broad, stable frame of reference, one without too many unknowns and uncertainties. But the Sourcebook Project claims that thousands of anomalies pervade all fields of knowledge. This assertion may be a little too unsettling to many.

### Conclusions

The long hours spent in the dusty library stacks have proven intellectually rewarding to me. I intentionally avoid theorizing about what I have found over the past 40 years, for that would taint the objectivity of my continuing search. I claim only that there are a lot of anomalies out there, and that there are many more that I have not yet added to my collection. Every week the science journals bring new mysteries into my ken. I collect them like a philatelist does stamps. For every anomaly I have to remove from my album as having been explained, two new ones arrive to take its place with the next delivery of mail.

Anomaly-collecting is obviously not science, for it assiduously eschews theories and the testing of theories. As I see it, the value of the Sourcebook Project to science is in its long lists of potential research areas. These lists demonstrate that science is far from complete. The Handbooks and Catalogs have the potential to stimulate the progress of science—and that is good. The more anomalies that are recognized, researched, and explained, the more accurate is our picture of the universe.

### Appendix: A Few Selected Anomalies

#### ARCHEOLOGY

1. The “pit bands” of the Andes. The pits are about a meter deep and arranged regularly in bands about 24 meters wide. The bands run along the ridges for miles.
2. The stone meanders and labyrinths of the western U.S.
3. Boulders with triangular holes. Called “Viking mooring stones,” there are hundreds in northeastern U.S.
4. Hundreds of large precision-crafted stone spheres in Costa Rica. These are near-perfect spheres made of hard granite!

5. The East Bay and Point Reyes walls, California. Builders and purpose unknown.
6. Incan stone masonry. Interlocking, precision-fitted, multi-ton stones, some with many corners.
7. Ancient Baalbek's massive, dressed Monolith, in Lebanon. (Weight: 1,100 tons)
8. The enigmatic stone blocks at Tiahuanaco (Bolivia) and at least one Inca site. These are huge, geometrically complex, fashioned out of hard rock, and seem to have no discernable purpose.
9. Scotland's ancient vitrified stone forts. (How did they melt granite?)
10. Enigmatic structures within the Great Pyramid. Examples: so-called air passage with secret door, sand-filled cavities, layered granite beams in King's Chamber, the mysterious sliding plugs, and several more really perplexing structures.
11. Ancient skeletons in North America with Caucasoid features, such as Kennewick Man, and others less-famous.
12. Trans-oceanic, pre-Columbian diffusion of plants and their products. Examples: maize to India, cocaine to Egyptian pharaohs, cotton, pineapples, and many more.
13. The Nazca lines, Santa Valley geoglyphs, and the huge Candelabra of the Andes—the latter visible from far out at sea!
14. Near-global existence of the cup-and-ring motif in old petroglyphs.
15. The ability of the ancient Egyptians to fashion narrow-necked, hollow vases out of obdurate granite with only copper tools. Also relevant, the precisely made, polished, multi-ton granite slabs in the Great Pyramid.
16. Mysterious Olmec origin. Their articles display apparent Chinese symbols and cultural characteristics.
17. Miniature buildings at some Maya sites and miniature subterranean tunnels (i.e., much too small for normal humans)!
18. The famed Baghdad battery
19. The ancient Greek analog "computer."

### ASTRONOMY

1. Anomalous split of angular momentum between the sun and the planets. Most of it is in the planets.
2. Comet flare-ups far from sun. (Only supposed to happen close to sun.)
3. Historical record of bright objects appearing close to the sun. (Vulcan, the intramercurial planet.)
4. Mercury's puzzling high eccentricity, inclination, and its unexpected and offset magnetic field.
5. Anomalous transits of Jupiter by the Galilean satellites. Double shadows thrown on Jupiter; "hot" shadows, dark transits.

6. Lunar concentrations of mass (mascons), magnetism (magcons), radioactivity (radcons).
7. Transient Lunar Phenomena (TLPs). (Flares, color changes, obscurations, etc.)
8. Martian surface asymmetry. Half the planet is highly elevated; half, low.
9. Magnetic stripes on Mars.
10. Globular-cluster enigmas. (Great age, non-participation in galaxy motion, etc.)
11. Anomalous accelerating expansion of universe.
12. Anomalous precession of DI Herculis. (Challenges Einstein)
13. Quantized redshifts. Puts expanding-universe paradigm at risk.
14. Source of ultra-high-energy cosmic rays.
15. Absence of antimatter in universe. Should be as common as normal matter.
16. Anomalous rotation of galaxies implies existence of so-called "dark matter."
17. Discordant redshifts. Some objects, seeming physically connected, have radically different redshifts. (Halton Arp's heresy!)
18. Meteorite distribution anomalies. Concentrations in Antarctica and on Australia's Nullarbor plain. The "Iron Alley" in U.S., etc.
19. Antarctic meteorites differ markedly from those picked up elsewhere.
20. Meteors seen at altitudes so high that there should not be enough air-friction to make them visible.

## BIOLOGY

1. Avian feather-pattern-generation mechanisms not understood. Also applies to colorful seashells, butterflies, and other patterned organisms.
2. Inherited callosities in birds, such as the Ostrich.
3. Physiological convergence of Arctic and Antarctic birds, especially the alcid. They look alike but are not closely related.
4. Brood-parasitism anomalies, as in mimicry of appearance and voice by nestlings.
5. Unknown mechanism of inheritance of instincts. How is migratory information passed on genetically to young birds travelling without parents? (Example: the bronzed cuckoos of Australasia)
6. Avian "courts" and executions.
7. Unique, complex respiratory system of birds completely unlike any suggested ancestors.
8. Avian homing and navigation feats. Examples: homing pigeons and Arctic Terns.
9. Disturbed human behavior correlated with sun and moon.
10. Human intelligence correlated with birth-order and season of birth.
11. Anomalously large number of breaths and heartbeats per human lifetime as compared with other mammals.

12. Rapid, quantized growth spurts in human children.
13. Lack of biochemical value in human sleep.
14. Human mitochondria vastly different from those in other mammals.
15. Immortality of cancer cells.
16. Higher cancer incidence correlated with greater organism complexity. Why?
17. Fetal-graft enigma. Why does immune system not reject fetus?
18. Presence of much subcutaneous fat in humans as in many marine mammals. (The aquatic-ape theory.)
19. Experimental lack of memory traces. How is information stored in brain?
20. Human navigation sense. Human homing experiments.
21. Human diving reflex and, contradictorily, drowning proneness.
22. Parasite manipulation of human behavior. (Same for other mammals, birds, etc.)
23. Limits on the variability of domestic animals. No new species in breeding experiments. A big Darwin worry.
24. The puzzle of flavor aversion, especially in rats.
25. Deliberate use of medicinal plants by non-human mammals and birds.
26. Survival of the thylacine (marsupial wolf). (Some pretty good data here.)
27. Inheritance of the behavioral effects of rotation in rats.
28. Plants mimicking other plants even though they lack eyes. (Example: some mistletoes.)
29. Fishlike lures evolved and used by mussels, snapping turtles, and other species.
30. Worldwide synchronous flowering of bamboos.
31. Selfish DNA (or genes or viruses or proteins): the ultimate parasites.
32. Interplant communication (“tree-talk,” for example), especially via airborne chemical signals.
33. Directed-mutation experiments
34. Unknown cause of the Cambrian explosion of new life bauplans; (i.e.; new phyla).

## GEOLOGY

1. Controverted source of deep-focus earthquakes.
2. How are concretions formed? They exist in bizarre shapes in untold numbers.
3. The surprising existence of life at great depths in the earth’s crust; that is, in the crevicular domain.
4. Unexplained origin of dolomite, some limestones, methane-hydrate deposits, and several other types of sedimentary rocks. The dolomite problem has bothered geologists for 100 years!

5. Coal anomalies. (Examples: anomalous fossils, frequent absence of plant fossils and vegetable structure, coal beds 50 feet thick and more present over wide geographical areas, and many more)
6. Cyclothems and rhythmites. Repetitious strata, sometimes hundreds of thousands of layers.
7. Polystrate fossils, especially vertical tree fossils penetrating millions of years (supposedly) of deposits, as at the Joggins formation in Canada.
8. Oriented lakes (Alaska) and the famed Carolina bays, the latter present in hundreds of thousands—all oriented. A meteor storm?
9. Cookie-cutter holes and resulting giant divots. Surprising number of these.
10. Several examples of devastated areas, especially in Brazilian jungle, suggesting *recent* Tunguska-like impacts.
11. The missing crater associated with the immense deposit of Australites (tektites). Given the extent and quantity of these tektites, there should be an immense, 700,000-year-old crater somewhere.
12. The famous mima mounds. Present in incredible numbers. How created? Some say “pocket gophers”!
13. Giant expansion-and-contraction polygons in soils. Hard-to-explain long-range order.
14. “Missing” strata at Grand Canyon and associated anomalies of formation.
15. Ancient, *uneroded*, elevated plains. Why no erosion over the eons?

### GEOFYSICS

1. Ball lightning in its many guises.
2. Luminous bubbles in the atmosphere. Too many observations to dismiss offhand.
3. Earthquake lights. Abundant observations, especially from Japan. Mechanism uncertain.
4. Cold, ground-level flames and lights. (Will-o'-wisps) Not really explained completely.
5. Marine light wheels. One of the great unexplained phenomena. (Hundreds of sound observations)
6. White water or milky seas. Here, too, we have hundreds of good observations.
7. Shadow bands during solar eclipses. Many anomalous appearances; for example, giant bands, colored bands, bands moving in the wrong direction.
8. Conical hail, bizarrely shaped hail. These objects are reproduced and fall by the millions. The creative mechanism is unknown.
9. Hydrometeors. Some are from aircraft but others seem to be extraterrestrial.
10. Brontides and mistpouffers. Examples: Barisal guns, Lake Seneca guns, etc. Some are due to small methane-hydrate blowouts, particularly those in North Sea.

11. Sound of the aurora. Sounds from high-altitude meteors. Both species are thought to be electrophonic sounds. Also, some people “hear” radar pulses!
12. Rainbows with offset white arcs. They defy optical theory.
13. Offset solar halos and anomalous arcs. Also unexplained.
14. Sea seiches and “death waves.” These are *not* tsunamis.
15. Transient all-sky brightenings. Good observations. Some are probably meteoric, others are unexplained.
16. Mountain-top glows, such as the famed Andes Lights. Often associated with seismic activity.
17. Luminous cores of some tornados. Probably related to the electrical effects of some strong tornadoes, as in burning and dehydration along paths.

### PSYCHOLOGY

1. The break-off phenomenon experienced by pilots.
2. Why do we need to sleep and dream?
3. Mathematical, calendar, and musical savants.
4. Genius correlated with mental illness!
5. Eidetic imagery. Usually lost in adulthood, but can sometimes be restored by hypnosis.
6. Exceptional and photographic memories
7. Synaesthesia. Comes in many forms. Usually numbers or words and rendered in different colors.
8. Results of reincarnation research. Many examples from India of accurate memories of past lives, birthmark phenomena, etc. Can’t really dismiss completely.
9. Hypnosis and its effect on color blindness.
10. Death and the “birthday phenomenon.”
11. Phantom-limb phenomena. Many anomalies here.
12. Stigmata.
13. Blister-raising and skin-writing via hypnosis.
14. The Princeton experiments in psychokinesis.

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