

NAWAPA and Cosmic Radiation

By Benjamin Deniston, November 4, 2010

Part 2 of 2

PHYSICAL SPACE-TIME

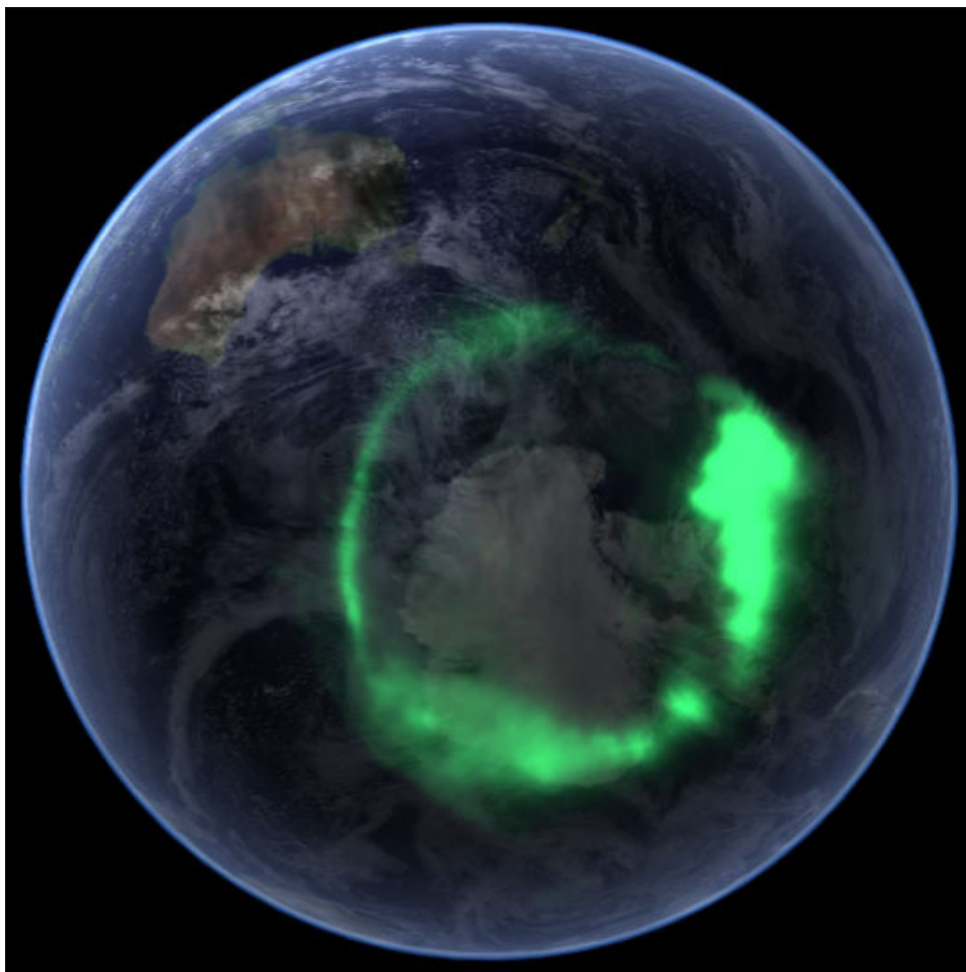
As is clear from the material presented thus far, space is not empty!

In the farthest reaches of our investigations we have yet to reach anything resembling “empty space,” and there are numerous scientific anomalies that will not see fruitful resolution until the investigations abandon such misconceptions, and start from a non-reductionist notion of a physical-space-time. Such mental constructions as “space” and “particles in space,” are products, not of science, but of a mental handicap, empiricism, where the function of the mind is shackled to think in terms of a false belief in sense perception as a direct reading of the universe.¹¹

For example, a related belief is that radioactive decay could be an internal property of a “particle,” the atom, which could ever exist as an independent object, having intrinsic internal properties no matter where it is placed within an indistinguishable void of “space.” However, such a view becomes problematic. A group working out of Purdue University in Indiana, has reported that the decay rates of certain radioactive isotopes actually vary in direct correlation with solar distance and solar activity.¹²

The decay rates of Silicon-32 (half-life 100 years) and Radium-226 (half-life 1600 years) were both found to have small, but noticeable yearly variations corresponding to the Earth’s distance from the sun. It is worth noting, these two radioactive isotopes have different types of decay (32Si, beta decay; 226Ra, alpha decay). The authors of these studies address legitimate concerns that the measurements of annual decay-rate variation could be due to seasonal/environmental effects on the instrumentation used to measure the decay rates, and not changes in the intrinsic decay rates themselves. Strong evidence is presented to set aside any of these concerns, opening up the strong likelihood that Rutherford was wrong in claiming that radioactive decay rates were completely independent of external conditions. Perhaps making this most clear is a third case presented by the group:¹³ the decay rate of Manganese 54 (half-life 312.2 days) was shown to decrease in correspondence with the solar flares of December 2006. Three peaks of solar activity, December 14, 17, and 22, corresponded to three drops in the decay rate. The time between each solar effect and the corresponding decay rate variation was 40 minutes, too short for any known global weather/environmental changes to occur and affect the instrumentation.¹⁴

Though certain causal mechanisms have been put



Aurora. Image credit: NASA

forward and investigated by this group, no conclusive cause has been found. The most useful approach will be to abandon the assumptions of independent “particles” bouncing around in an empty “space,” over the course of “time.” Instead, we should ask, what is the quality of developing physical-spacetime indicated by these paradoxical phenomena?

Similar evidence, in terms of its challenging the conception of a self-evident state of “matter,” has been presented in the case of living organisms. Although too much to address in detail here, evidence indicates that “matter” acts differently when it is operating within the physical-space-time of a living organism compared to its operation outside of that organism. The activity of certain organisms in selecting specific isotopes presents a little explored front in this investigation. Some of the author’s colleagues have presented the beginnings of such investigations.¹⁵

THE BIOSPHERE

The coming revolutions in the physical sciences will necessarily involve two major considerations. The first being to follow through on the universal implications of Vernadsky’s discovery that the Earth is shaped by the distinct character of three incommensurable (non-reducible) but interacting phase spaces (the abiotic or lithosphere; the

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Motion of Geomagnetic north pole from 1831 to 2001. Image credit: NASA.

domain of life, the biosphere; and the higher domain of human creative thought, the noosphere). The second is to develop an approach to understanding of the role of cosmic radiation in the development of the earth, the biosphere, and all processes therein: an approach which were to subsume attempts to limit such investigations solely to what we witness on the earth. Again, look at the implications of NAWAPA's northern locations.

Life in all its functions, from cellular activity to global systems, from daily functioning to long term evolution, is highly tuned to qualitative conditions of cosmic radiation. These can often appear to be quantitatively "weak" forces, processes of apparently low importance when viewed quantitatively, but which are of a required characteristic quality to resonate with certain processes, producing the greatest of effects.

For example, one aspect that will require more investigation is the role of the geomagnetic field for life.

Probably not coincidentally, the magnetic field of the Earth is known to respond to solar activity. The geomagnetic north pole presently lies in the arctic region, near Canada's Ellesmere Island, defining a singularity point in the Earth's magnetic field. The magnetic poles wander relatively quickly around the polar regions, even periodically flipping over longer periods of time.

The life cycles of many animals have been shown to be dependent upon this magnetic field. Many birds, for example, are said to be able to "see" the magnetic field, and use it for purposes of guidance and navigation.

The famous case of homing pigeons, having long been bred to enhance this capability, can cover over 1,000 miles of unfamiliar territory in as short a time as two days, making them useful for even military purposes up until their replacement with electronic devices in 1956. Today some still breed and race homing pigeons as a hobby, but smart participants pay careful attention to the activity of the Sun, knowing that solar storms can alter the Earth's magnetic field, which has been known to cause pigeons to become disoriented and even lost.

Other research indicates that a whole array of biospheric characteristics, beyond just navigation, are not only responsive to the existence of earth's geomagnetic field, but also to its very slight temporal and spatial variations (keep in mind the Sun's role in determining the magnetic and electrical relationship on the Earth). In the 1970's, Russian scientist Aleksandr P. Dubrov surveyed a very broad range of relevant material from the Soviet Union and the United States, compiling an extensive picture of the relation of various biological activities to the geomagnetic field.¹⁶ Though this work is much too extensive to go into detail here, it is quite significant. Daily activities of plants, such as root secretion, respiration, and photosynthesis rate, were found to change in correlation with changes in the geomagnetic field (GMF). Tests shielding animals from the GMF resulted in some cases in strange behavior (e.g. mice spending long periods of time on their backs), and negative physical effects (e.g. organ mutation or failure), sometimes taking a few generations for the problems to manifest. The activities and communication of insects are affected, as was seen with the diminished ability of bees to communicate the location and direction of food in a stronger GMF. Even the body size of animals showed evidence of correlation with the GMF. 4000 years of skeletal samples were shown to change in correspondence with variations in the earth's magnetic moment, while a survey of the sizes of fox skulls from across the Soviet Union showed that they were smallest in regions where the GMF was most intense. In addition, experiments with raising generations of *Drosophyllia* flies in various magnetic environments showed alterations in their genes and chromosomes.

With all this in mind, recall the structured, but still little understood relationship between the solar and galactic activities and the magnetic and electrical environment here on earth.

In addition to the geomagnetic significance of this northern region, the interaction of the geographic north pole with the electromagnetic radiation from the sun also has unique geometric characteristics here. Photosynthesis is the continuous transformation of this radiation into the structure and free energy of the near-surface biosphere, a process at the base of its entire food chain of life. As discussed in other material presented by this team, NAWAPA is designed to boost this power of the biosphere by managing the water cycle of North America, providing water where it is the sole missing component to green life in the desert and semi-arid regions of the continent, resulting in increased useful transformation of cosmic radiation, cooler climates, and generally more green.¹⁷

Again, in the northern regions of the continent, containing the northern sections of the NAWAPA system,



The midday sun in the Arctic in November. The very low angle of the sun's rays determines the very specific forms of microscopic life that can live there.

we find a unique region in our planetary interaction in this process. Within the Arctic Circle the Sun's electromagnetic radiation comes in at a very low angle, when it comes in at all. On certain days of the year the sun will either never set, retaining its low level, or will remain below the horizon, refusing to rise. This reaches the extreme at the pole, where half the year is the daylight of a low sun, while the other half is night. Interestingly, where this is the most extreme, in the deep arctic (a place long thought to have no life), we find life, but of specific types. Instead of photosynthesizing bacteria, chemoautotrophs predominate. In addition, the viral population in the arctic ocean is different than the viral population of the rest of the world's oceans.

Not only does the Arctic region's low and irregular solar angle pose a challenge for photosynthetic life, but animal life also requires specific qualities of the Sun's electromagnetic radiation. Animal life, including the human body, utilizes a portion of the Sun's ultraviolet light to generate vitamin D. In the 1920's, at a time when rickets was still a significant problem in child populations in the United States, it was discovered that exposure to a specific part of the UV spectrum of sunlight is necessary for our skin to produce vitamin D to prevent or cure rickets. UV lamp exposure became a treatment for children not able to get the natural sunlight exposure required, as in the arctic regions (although now enhanced food products are the preferred source for vitamin D).

There is much more that can be discussed here, but

what has been presented is enough to demonstrate that Vernadsky's view (as cited in the opening of this report) rings true. Life, in addition to responding directly to cosmic radiation, is always integrated with the unique environment created by the interaction of cosmic radiation with the lithosphere and biosphere. Taking the entirety of this process of the Earth's interaction with cosmic radiation, we find, in all respects, a unique condition of this interaction at the polar regions, making them key to understanding the fundamental character of this interaction. What becomes clear is the need to take up the specific study of the role of cosmic radiation in nearly all aspects life and the biosphere. Until all the branches of science are situated in this proper context, that of the stellar-galactic processes which bound the earth, our scientific knowledge will be

arbitrarily constrained. NAWAPA will stand as a basis upon which we will attain a better view.

THE MISSION

Standing in the Alaskan mountains, from the foreman's watchtower you lean with outstretched arms onto the cold metal railing. Viewing the activities below, two great, empty reservoirs lay before you, being prepared by teams scurrying over the landscape. Yellow dump-trucks the size of a house track through the freshly turned dirt beside the Copper River, cranes with massive outstretched arms are moving entire trees, geological experts, maps in hand, survey the land. Just then the awaited report comes in through your radio, the tunnel boring machine has completed the 30 mile Alaskan tunnel, connecting what will soon be two of the largest man-made bodies of water in the world, the Copper and Tanana reservoirs. The signal starts clear, complete with cheers in the background, but quickly begins to temporarily cut in and out. Looking overhead, you see the beautiful dance of the green aurora calling mankind's attention to our connection to the galaxy.

Here NAWAPA will stand, not only at the physical location of the intersection of galactic, solar, and terrestrial processes, but as the intersection of abiotic, biospheric, and human creative (nooetic) anti-entropic development. The intersection within one universe, of whose intention the creativity of man is the intended pinnacle. Let the completion of NAWAPA inform us of that role.

Footnotes:

¹¹ For the history of the imperial introduction of modern empiricism see "The True History of Today's Scientific and Economic Empiricism," by Michael Kirsch, <http://www.larouhepac.com/node/13834>

¹² "Evidence for Correlations Between Nuclear Decay Rates and Earth-Sun Distance," J. Jenkins, E. Fischbach, et al, 2008 (<http://arxiv.org/abs/0808.3283>); "Evidence for Solar Influences on Nuclear Decay Rates," J. Jenkins, E. Fischbach, et al, 2010 (<http://arxiv.org/abs/1007.3318>).

¹³ "Perturbation of Nuclear Decay Rates During the Solar Flare of 13 December

2006," J. Jenkins and E. Fischbach, 2008 (<http://arxiv.org/abs/0808.3156>).

¹⁴ For a video presentation see, "Decay Rates and Time," <http://larouhepac.com/node/16224>

¹⁵ "Isotopes and Life: Considerations for Space Colonization," by Meghan Rouillard, <http://www.larouhepac.com/node/15106>

¹⁶ "The Geomagnetic Field and Life," A. P. Dubrov, 1978

¹⁷ "NAWAPA from the Standpoint of Biospheric Development," <http://larouhepac.com/node/15403>

The True History of the Founding of Australia

As the battle for Australia and the world's future intensifies, we urge you to re-read the full October/November 2009 New Citizen feature, "The True History of the Founding of Australia". Here is the introduction to that feature.

Oct. 5, 2009

Under the sobriquet, the "Australian History Project", for much of the past two years the CEC has been involved in an intensive research effort to extend the discoveries reflected in our groundbreaking, December 1999 pamphlet, "The fight for an Australian Republic: From the First Fleet to the Year 2000"; to further uncover the actual history of our country, aside from the usual sort of pro-British nonsense drummed into all of us in school, whether blatantly or merely by implication. Just consider, for instance, the circumstances of Australia's founding in the first place: although the mighty British Empire had decided to establish a settlement in New South Wales almost immediately after they were defeated by the Americans in their revolution of 1776-1781, does even that mere fact ever appear—let alone with any emphasis—in any of the usual, lying accounts of Australian history to which you have been subjected? Yet the American Revolution was one of the greatest turning points in all recorded human history; it not only sent shock waves across the world at the time, but its ideals and effects constitute the fault line of world history to this very day, as elaborated by Lyndon LaRouche in his momentous September 8 webcast.

Moreover, consider the following: after their epochal defeat by the Americans, the American-aided and inspired Irish revolutionaries also drove the British out of Ireland in 1782, and this at a time when the British Empire was fighting for its life against an alliance of the Dutch, the French, and the Spanish—all of whom had provided decisive help to the Americans. Given those strategic realities, does it really seem credible that the British would invest so much time and effort, so many scarce maritime resources in order to dump a relative handful of convicts on a land over 13,000 miles away, just to "relieve prison overcrowding"?

But if you do not start with the strategic reality of the American Revolution, and the accompanying fact that by far the majority of the unfortunates shipped out here were fiercely pro-American in outlook, the greatest single number of them being Irish political prisoners rounded up as the British struggled to regain control of Ireland after 1782, then you understand nothing of our actual history: neither the efforts of our greatest republican leader, Dr. John Dunmore Lang, and his associates, to establish a "United States of Australia" in the 1830s and 1840s; nor why the Australian Labor Party, born of the greatest mass political strike in our history, took the American, as opposed to British, spelling of their name; nor why Prime Minister John Curtin decisively broke with Winston Churchill and the British Empire in December 1941 to ally with a Franklin Roosevelt-led America; nor why the British Crown would sack Gough Whitlam in 1975, following his Labor government's announcement of its intention to "buy back the farm" from British raw materials cartels led by the Rio Tinto of which Her Majesty herself was the single largest stockholder.

This pervasive blindness of Australians to our own actual history is no academic matter: its tragic consequences are typified by Whitlam himself, the "Hamlet" of our Australian "Denmark". As he reported in his autobiography, after he had been sacked, nominally by the Queen's Governor-General John Kerr; Whitlam called Buckingham Palace to pitifully enquire of the Queen's private secretary whether Her Majesty had herself ordered the sacking, or whether Kerr, a longtime agent of Britain's MI-6 intelligence service and a man whom Whitlam well knew to be a pompous, bootlicking toady of the Crown, had "acted independently". Informed that Kerr was indeed the Lone Ranger, Whitlam



Top, British surrender in the final battle of the American Revolution. Bottom, the First Fleet.

So far as we in the CEC are aware, only two nations in all of world history have such a deep-rooted, popular antithesis to oligarchical rule by control of money: "monetarism"—the essence of imperialism—and a tradition of conducting mass popular struggles on that conscious, elaborated basis. That is perhaps not so surprising as it might first seem, since both nations were founded on huge continents bereft of the deeply-entrenched oligarchy which had dominated European and Mediterranean civilisation for thousands of years, and still does. The difference between our two nations is the obvious: that America was settled by the best and bravest souls of European civilisation as a "temple of hope" and "beacon of liberty" to the world, while we, though settled largely by Irish, Scottish and other political prisoners who were fiercely pro-American, were a nation founded in chains, not in freedom. But we had the same mortal enemy, and we knew—at least we once knew—precisely who that was.

dutifully accepted that assurance, notwithstanding his recollection in that same autobiography, that the Queen had showered her Kerr with titles and rewards immediately afterwards.

We are now at another, far more profound turning point in Australian history, in the midst of an unprecedented, international breakdown crisis of the world economy. Although perilous almost beyond belief, its very sweeping nature also opens the door to effecting fundamental changes in this nation, to fulfill at long last the pro-republican, pro-American hopes and aspirations of many generations of Australians before us. We therefore present this "interim report" of our Australian History Project, excerpted from the voluminous files which we have accumulated over the past two years, which grow almost by the day. For it is only when we understand the deepest historical cultural and political realities which have from the outset shaped our history, and our very own souls, that we know who we really are as Australians, and are enabled to understand our struggles as they can only be understood—in the context of World History.