

We Need a Hamiltonian Solution!

EDITORIAL STAFF

Editor-in-Chief

Laurence Hecht

Managing Editor

Marjorie Mazel Hecht

Associate Editors

Elijah C. Boyd

David Cherry

Christine Craig

Marsha Freeman

Colin M. Lowry

Gregory B. Murphy

Richard Sanders

Charles B. Stevens

Books

David Cherry

Art Director

Alan Yue

Advertising Manager

Marsha Freeman

SCIENTIFIC ADVISORY BOARD

Francesco Celani, Ph.D.

Hugh W. Ellsaesser, Ph.D.

Lyndon H. LaRouche, Jr.

Wolfgang Lillge, M.D.

Ramtanu Maitra

Thomas E. Phipps, Jr., Ph.D.

21st Century Science & Technology

(ISSN 0895-6820) is published 4 times a year by 21st Century Science Associates, 60 Sycolin Road, Suite 203, Leesburg, Va. 20175. Tel. (703) 777-6943.

Address all correspondence to **21st Century**, P.O. Box 16285, Washington, D.C. 20041.

21st Century is dedicated to the promotion of unending scientific progress, all directed to serve the proper common aims of mankind.

Opinions expressed in articles are not necessarily those of 21st Century Science Associates or the scientific advisory board.

We are not responsible for unsolicited manuscripts.

Electronic subscriptions are \$25 for 6 issues or \$48 for 12 issues. Back issues (1988-2005) are \$5 each (\$8 foreign). Electronic issues from 2006 on are \$5 each. Payments must be in U.S. currency.

Copyright © 2012

21st Century Science Associates

ISSN 0895-682

www.21stcenturysciencetech.com

This issue of *21st Century* honors two men (p. 28) whose life's work was for the benefit of mankind, making use of the most advanced technologies to uplift the human race and provide for a growing world population. They shared a view of man as a creative being, who could solve problems. As Zbigniew Jaworowski, a multidisciplinary scientist based in Warsaw, eloquently stated: "We shall humanize the biosphere of the Earth, and then the worlds beyond. This our future role, as the discovery of radioactivity itself, is a result of natural evolution."

Mike Fox, a nuclear chemist who worked in nuclear for decades in the United States, and who shared much of Jaworowski's outlook, characterized electrical energy as "a substitute for human backs, or for slavery." Both saw the unique contribution of nuclear in increasing the energy-flux density necessary to power an industrial society, and both were adamant in attacking the "sunbeams and breezes" approach popularized by the Malthusian death cult as power sources.

But to realize these goals requires a more explicit definition of the solution to the present problem facing our nation and the world. The survival of civilization depends upon reviving the principle of the Hamiltonian credit system, which was the foundation of the early survival of our Republic and the basis of its continuing strength. Whenever that principle was overthrown, as in the nearly 50 years since the assassination of President John F. Kennedy, the nation has fallen under the control of a monetary system, and suffered the consequences.

The opponents of Hamilton's National Bank, including Jefferson and Madison, claimed, like today's populists, that government had no authority to charter such an institution. In answering them, at President Washington's request, Hamilton noted that the authority for his credit system derived from the General Welfare clause

of the Preamble to the Constitution. The government's authority to coin money and regulate its value and to borrow on the credit of the United States was specified in Article 1, Section 8 of the Constitution. Nothing blocked it, while the fulfillment of the crucial clause "to protect the General Welfare" required the government's role in the creation of credit to that end.

To leave the matter in the hands of private banking interests, which meant international, and especially British banking, was to abandon sovereignty and to lose in the marketplace the very thing that had been gained on the battlefield.

The same precise principle applies today. The very same argument against Hamilton's credit system, the "free market" fraud of British East India Company employee Adam Smith, is the one still invoked against it today, often by ignorant fools who suppose themselves patriots. The Hamiltonian principle of a credit system, first embodied on these shores in the conception of the Pinetree Shilling, recognizes that a nation's wealth resides in the creativity of its people, and in the ability of government to foster projects that permit its fullest realization.

The opposite principle, of a money system, is founded on a belief in the magical power of money to create wealth, and the inherent right of the possessor of money to a rate of profit. When that magic fails, as in today's devastating world economic depression, the only recourse of the believers in this system is to attempt to squeeze the money needed to pay the mass of unpayable obligations which they have created from the growing mass of impoverished citizens. The result of such measures, usually invoked in the name of budget balancing, is to foster growing impoverishment.

The Way Out

There is only one way out. It can be summarized in two measures requiring urgent implementation, as elaborated by

The earthquake on March 11, 2011, with its epicenter near the coast of Japan, was 9.0 on a Richter scale, the highest ever recorded in Japan territories. It gave rise to a 10-meter high tsunami that reached the east coast of Japan shortly after. This wave killed 20,000 people when it hit and flooded vast parts of Japan—a catastrophe of unseen proportions in a rich industrialized country. To my knowledge, however, not one of these casualties was caused by the accident at Fukushima Daichi Nuclear Power Plant.

As severe earthquakes are not unusual in the “land of the rising Sun,” all Japan’s nuclear reactors were prepared for earthquakes and shut down immediately on March 11, by lowering the reactor control rods. This stopped the fission process in the reactors, i.e. the chain reactions where the uranium-235 isotopes are bombarded with neutrons that cause them to split, emitting two or three new neutrons that hit other uranium isotopes, which split and continue the process.

This safety measure did certainly work as it should all across Japan, and so any kind of a new Chernobyl was ruled out from the beginning of the accident.

VIEWPOINT

Fukushima: Different Reactions In the West and East



by Thomas Grønlund Nielsen

Still, the nuclear reactors need to be cooled long after shutdown because of the radioactive decay that produces heat. Right after shutdown, this heat production corresponds to 6 percent of full-power capacity of the nuclear plant, that is, 60 megawatts for a 1 gigawatt plant—a massive amount of heat that needs to be channeled away from the core of the reactor to avoid damaging the core and making it useless.

Since most of these radioactive decays have half-life periods of seconds, minutes, or hours, the power of the heat production quickly decreases after shutdown; after one week it is only a fraction of 60 megawatts, but still not insignificant. Therefore, the reactors need to be cooled for weeks or even months after shutdown.

This is normally done with water circulation within the reactor core. If this circulation is stopped, the heat from the radioactive decay will evaporate the water, until, finally, the uranium fuel melts down.

In the 1970s, there was some hysteria among anti-nuclear protesters that this fuel could melt through the steel vessel that encapsulates the nuclear reactor core and farther through the concrete containment building, and in the end all the way through the Earth to China! This was popularized as “the China Syndrome.”

But after the accident at Three-Mile Island in 1979, this threat could be fully dismissed, as it was proven there that even though the reactor core fully melted, it was incapable even of melting anything of importance in the steel vessel.

Continued on next page

economist Lyndon H. LaRouche.¹ First, the immediate reinstatement of the Glass Steagall Act, which asserts the principle of separation of commercial banking from speculation. This will allow, and require, the government to legally separate itself from the mass of fraudulent unpayable paper which hangs over the heads of all citizens, so long as the obligation to bail out the firms supposedly “too big to fail” can be invoked.

Second, the reinstatement of a Hamiltonian credit system embodying the principle of the National Bank.² New issue of government credit is required to fund the great projects of today, equivalent to the canals, roads, and improvement of harbors and waterways of the previous Na-

tional Bank. Today that means space exploration, the North American Water and Power Alliance, a vastly expanded and open-ended nuclear and fusion energy development program, and an expansion and upgrading of the nation’s transportation, utility, and infrastructure grid.

The small-minded pater we hear from our friends who try to fight a piecemeal battle for the little crumbs, which they define as “practical,” must end.

The future of the nation today depends on securing a reliable and plentiful power supply. For an advanced industrial economy, this means the most energy-flux-dense form of power—fission now, fusion tomorrow, and new more advanced forms of power production yet to be discovered in the future. New nuclear plants and research into advanced energy are properly the sphere of Federal credit, long-term credit at low-interest for projects—over 25, 50, and 100 years—that will guarantee the electricity and process heat needed

for a growing industrial economy and a population with a high standard of living.

The Apollo program, a giant Federal program, *paid for itself*—as will an Apollo-style nuclear program. Every dollar put into the Apollo program, yielded \$10 to the economy, measured by conservative standards. Hundreds of thousands of young people became scientists, engineers, or technicians. A similar number of entrepreneurial businesses flourished, as did spinoff inventions. In the days of Apollo, there was a “can-do” spirit, the scientific optimism that any problem could be solved, because the nature of man and society was to progress.

How pitiful the contrast with today’s nuclear situation, where beleaguered nuclear supporters lobby for one reactor type against another, or make cost/benefit arguments within the controlled monetarist straitjacket. Of course nuclear is “cost-effective”! Without it, we will not survive as a nation.

1. Information on [Glass Steagall](#) can be found here.

2. For more on [Hamiltonian](#) economics, see “A Matter of Principle: Hamilton’s Economics Created Our Constitution,” by Nancy Spannaus.