EIR
Executive Intelligence Review
May 29, 2009 Vol. 36 No. 21 www.larouchepub.com $10.00

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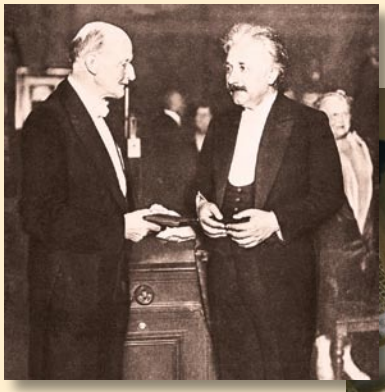

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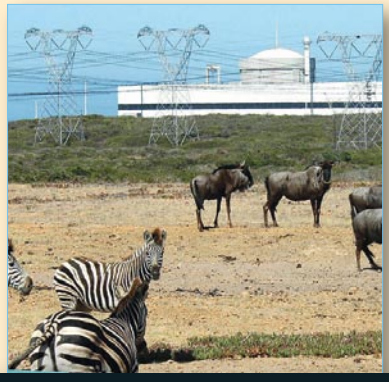

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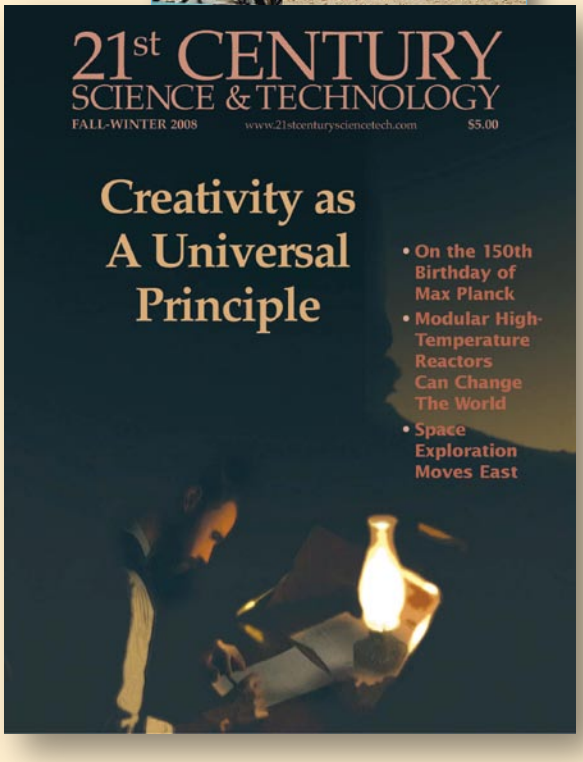

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EIR (ISSN 0273-6314) *is published weekly (50 issues), by EIR News Service, Inc., 729 15th St. N.W., Washington, D.C. 20005.*
(703) 777-9451

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Canada Post Publication Sales Agreement #40683579

Postmaster: Send all address changes to *EIR*, P.O. Box 17390, Washington, D.C. 20041-0390.

EIR

From the Managing Editor

At the post-World War II Nuremberg Tribunals, one of the principles established, was that, if an individual "knew, or *should have known*" that crimes against humanity were being committed, he was culpable.

This issue of *EIR* adds to the record that we have been compiling for the past several weeks: that the "health-care" policies of the Obama Administration are no different than those committed by the Nazis. How else describe the intention, apparently supported by the President, to drastically reduce medical care to those too poor, too old, or too sick to protest? What is the outcome of the denial of medical care? *People die.* How is this different from Hitler's injunction that entire classes of human beings be designated "lives not worthy to be lived"?

Does President Obama intend to kill people? Probably not. But, as Lyndon LaRouche notes in our cover story: "What is actually important about President Barack Obama's appearance at Notre Dame University that day, was his certain, curious kind of innocence of what he had done. He showed no comprehension of the political issues of life-versus-death which he promised to compromise."

Look at the documentation following LaRouche's "Don't Ask Obama," where you will find additional proof that our charges are anything but hyperbole: The antecedents include the creepy Prince Philip (His Royal Virus); Bertrand Russell, who wished to see a Black Death once in every generation; and Alexander King, ghoulish founder of the malthusian Club of Rome. You will also find the beginnings of a resistance, as in the resolution introduced in the Alabama legislature by Rep. Thomas Jackson, calling for an end to the murderous HMO system, and a return to the Hill-Burton principle.

As LaRouche observes, in "Overhead!" (*Economics*), what is needed is to solve the *"useless feeders crisis"*, in which our economy has been tilted massively in favor of the administrative parasites, against the shrinking number of producers, e.g., the HMOs, in which overhead, not "end-of-life" care, represents the greatest cost.

Behind the sophistry is the reality that we are in a global breakdown crisis. To build our way out, we need nuclear power. Afraid of radiation? Our *Science* feature explains why this fear violates the Declaration of Independence's guarantee of the right to "life, liberty, and the pursuit of happiness."

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A NOTRE DAME EVENT:

Don't Ask Obama

by Lyndon H. LaRouche, Jr.

May 18, 2009

In these times, including the ***New York Times,*** *the common failure of many highly publicized debates, is that none of the opposing parties, and few among the members of the audience, knew virtually anything worthwhile knowing about the purported subject of that May 17th occasion at Notre Dame University. It was clearly, a lack of knowledge of elementary morality which encouraged them to speak more freely, since they were unencumbered by that burden known as truth. What is actually important about President Barack Obama's appearance at Notre Dame University that day, was his certain, curious kind of innocence of what he had done. He showed no comprehension of the political issues of life-versus-death which he promised to compromise.*

Compromise was what he had set upon the table for that occasion, and, indeed, the compromise, his innocence, called, by wiser men, his ignorance, was incarnate in himself. His appearance at that occasion may be therefore compared, figuratively, to the failure of the man in the crowd who got the pin of the hand grenade which he was carrying stuck in the belt of his trousers, and, quite accidentally. . .

But, then, he had walked on quickly, hearing the noise some seconds later; but, he never told his children, and never knew, himself, how many he had left to die when he had walked away, pausing to admire himself in his reflection in the pool he passed, on that weekend's day.

Compare President Obama's statements of May 17, with Adolf Hitler's decree of September 1, 1939, seventy years earlier, on "lives not worthy to be lived."

Clearly, a novice U.S. President might be excused, if not forgiven, for a certain number of sins of ignorance, or, perhaps, you might be of the opinion that, in this case, it goes the other way around. However that might be, from one case to another, I am neither attacking, nor praising President Barack Obama in this present instance; I am merely pointing to an object, a less than worthless opinion, which he had happened to have dropped, and left behind in passing, on his way to, and from, that place.

The fact is, clearly, President Obama's conduct suggests, that he, like the world's worst drug-pusher, George Soros, is apparently free of the burden of any knowledge of the *moral* implications of the abortion of a living human foetus. From his reported remarks at Notre Dame that day, he seems not to understand that the human foetus, is not "a thing;" it is not an animal; it is a human being, who, at virtually any stage of life, in, or out of the womb, has a specific, creative *potential,*

White House/Pete Souza

"What is actually important about President Barack Obama's appearance at Notre Dame University that day, was his certain, curious kind of innocence of what he had done. He showed no comprehension of the political issues of life-versus-death which he promised to compromise."

that of a quality which does not exist in any other living species. Those who are not accustomed to actually thinking creatively, might have difficulty with that concept. Obviously, Obama did.

The problem with that Notre Dame debate is, that the argument of neither of those contending parties, as told, reported, by the ***New York Times*** or ***The Washington Post,*** has any affinity at all for that quality of inborn creativity, which actually distinguishes the human individual from the beasts. Morever, neither of them, or anyone like them, has shown the slightest intellectual grasp of what actual human creativity is. The evidence supplied by the habitually hollow sophistry prescribed by the example of ***The New York Times'*** style book, will serve, on this occasion, as illustration of my point (not to speak of my personal experience with the product of the ***Washington***—ugh!***Post***).

No elaborate inference is required to demonstrate that President Obama lacks an efficient quality of actual knowledge of the potentialities inherent in the human foetus (and also unadulterated voters). He talked, but, as we have often seen with him of late, in respect to matters of principle, there is no credible evidence that he had an actual conception of the implications of what he was talking about. Often, we find, that some Harvard lawyers these days are trained to think like that, especially Harvard lawyers who have been close to Larry Summers; in his speaking as a lawyer on that occasion, he enjoyed what some might consider the exculpatory advantage of innocence of any actual knowledge of that subject, theology, on which was speaking. He might seek to claim innocence on the grounds of stupidity. For the President, in this matter, the mere form of the implied debate was everything, and the content, for him, was nothing.

Of such compositions by that President, as the ***Times*** and ***Post*** described that occasion's event at Notre Dame University, we must cry out, as Lord Byron might: what shall we say of such a poet and his press reviewers now?[1]

What Went Wrong With Religion?

In matters bearing on the policies of governments, let us not speak of religious denominations. Rather, let us look at the nature and history of the legacy of European governments since the time of the contemporaries of the Jesus of Nazareth who was born in the time of the reign of that Roman Emperor Augustus Caesar who had allied himself with the priests of Mithra cult. Jesus was murdered by crucifixion, under the specific authority conferred upon Pontius Pilate by the latter's virtual father-in-law, that monstrous habitué of the Isle of Capri, Tiberius. Such were the times of the similarly murdered Apostles Peter and Paul, and also the time of

1. Should such debaters bring to our mind what Shakespeare's Doll Tearsheet, who was honest in her certain way, said of Ancient Pistol?

"You a captain! you slave for what? For tearing a poor whore's ruff in a bawdy house? 'He's a captain!' hang him, rogue. He lives on mouldy stewed prunes and dried cakes. 'A captain!' God's light, these rogues will make the word as odious as the word 'occupy,' which was a wondrous good word before it fell into bad company; therefore, captains had need look to it."

the most beloved Apostle John.

The bearers of that Christian heritage, shared a certain wisdom with the wise person, considered a great scholar of the Hebrew faith from that same time, Philo of Alexandria, Philo's attack on Aristotle, in defense of the Creator's power of creativity, went to the core of what became the heritage of European civilization, still today. It was men and women of that legacy who gave birth to what has become the constitutional order of the United States traced to the Winthrops and Mathers of Seventeenth-Century Massachusetts today.

EIRNS/Stuart Lewis

Lost in the debate over abortion, is the fundamental principle at issue: "that quality of inborn creativity, which actually distinguishes the human individual from the beasts." Here, a youngster works on a geometric construction.

Put to one side those sundry contemporary interpretations of Christian doctrine which appeal more to the ignorance of the faithful than the wisdom of the Creator. Seek more solid ground for a judgment on a luminary figure such as our President. Look instead, at the verifiable legacy of the Christian faith and what it shares from its origins with the commitment of Philo of Alexandria. Our republic defined itself as Christian; therefore, look at the follies of the recent event at Notre Dame University in terms of what we know of the legacy which one might presume should be shared by those assembled, thus, at that university, or perhaps, a much better one, more like the Harvard of Increase Mather, today.

Then, ask and answer the question: What is the meaning of the immortality of the soul of the mortal human individual? What, therefore, are we killing when a child in the womb is killed by whim? Or, similarly, later? What is the difference of the death of the child, in the womb or later, and the death of the animal? You will not find the answer to that in Silicon Valley!

Therefore, instead of the tiresome labor of disputing scripture with sententious theological idiots, simply ask and answer the question, what is the creativity of the human individual which separates the death of the child from the death of a beast, or, on the contrary, of a soldier in war, or of the person who is murdered, in point of fact, by that withholding of the medical care which might have preserved that human life which President Obama's proposed policies now propose? Instead of splitting hairs over the words of scripture, answer that clear fact.

Do you know what human creativity means? I have seen no evidence that President Obama has even a glimmer of such precious knowledge; thus, what could he possibly know of the human soul, or, therefore, the killing of a living child in the womb? "What is Hecuba?" Certainly, his currently proposed health-care policies, which are explicitly echoes of the exact-same policy of genocide which Adolf Hitler dictated as the German law dated from September 1, 1939, have no agreement with what civilized societies call law.

The issue is not the death of the innocent itself; you errant creatures shall not be let off so easily! The Satanic quality of what President Obama's Behavioral psychologists present as their Hitler-echoing "health-

care policy," lies not in the killing itself, but in the nature of the intention which the uttered doctrine of Peter Orszag and that faithless "Big Wheel," Ezekiel Emanuel typifies. There is an essential difference in moral principle, in death inflicted in combat, or by negligence, or if ordinary murder, and the willful extinguishing of the soul of the innocent person, either for reason of malice, or so-called economic convenience. There is a wide and deep moral gulf between the argument for the cause of death imposed by intent or by willful negligence, which President Obama defended at Notre Dame, and the death, even the murder of persons, for other causes.

Nor, is there an ordinary sort of punishment for such an act.

The essential nature of the crimes which Orszag and others have presented to President Obama as their wicked intention, must, of course, be confessed to be the fruit of their intention; but, the nature of the offense does not lie in the death itself, but in the evil of the Hitler-like intention which Orszag and his dupes and other accomplices represent as their intended design of the relevant form of proposed law. The evil lies in the legislator who permits such laws to be enacted. The essential evil lies in its true origin, in the intention of the perpetrator, not the act by the individual person, but the fault of the consensual law of that society.

The fault lies, essentially with those churches and the policies of the society which generates the general opinion which the individual act merely expresses. The root of the problem, and also the remedy, lies not in the individual member of society, but, rather the fault, to the extent it exists, lies on the shoulders of the leading molders of public opinions and law. It lies, for example, on those who promote that impoverishment of the people, as the current economic policies uttered by President Barack Obama prevent certain of the typical classes of remedies which might be available. Therein, similarly, in the economic and related dynamics of the general policy, including the general morality of the state, is wherein the remedy lies, a remedy beyond the means of control by the mere individual person as such.

It is the society, not the mere individual, who must be considered accountable.

For the sake of his own soul, that poor fellow, that poor heathen, President Obama must, especially, think about that.

'How Green Was His Valley?'

There are, chiefly, two aspects of the current policy of the Obama government which tend to demand that the President promote the increased misery of the generality of our nation and its citizens. First, he allows the great theft by what is called "Wall Street" and also its likeness around the world. To pay for this immorality of current policies of the most powerful governments generally, including Obama's own, the poor are intended to pay by Obama's adoption of policies which will increase their pain and misery and shorten their lives. Second, he supports a lying and bestial cult-belief, expressed as "cap and trade," which drives the economies which tolerate such a swindle into greatly increased economic ruin; this ruinous policy will kill our citizens, and those of other nations, in vast numbers. To support that fraudulent policy, the President is, so far, disposed to drive the greatest portion of our own and other populations into vastly increased suffering and death-rates.

Neither the U.S. Government, nor its officials, can consider themselves the faithful moral servants of the general welfare of our people, a general welfare which is mandatory under our fundamental law, if they promote, or even tolerate either those policies or their effects. The promotion, or even the toleration of such policies, is inherently immoral, and, under our Constitution, impeachable. Speaker Nancy Pelosi's complicity in the effort to bury the relevant idea of a "Pecora Commission" in the same political graveyard as the ill-fated hoax of "The Warren Commission," or "9-11," is typical of the principle involved.

The underlying systemic problem in the making of law which thus confronts us here, is that, whereas, the Constitutional law of the United States, as in both the Declaration of Independence and Federal Constitution, was derived from the specific principles of dynamics introduced to modern society by Gottfried Leibniz, yet much of the flawed law practiced by our government and its lawmakers and courts since is based on the entirely contrary, scientifically incompetent doctrine and method typified by the teaching of the science-incompetent Rene Descartes, and such depraved followers of that Descartes as Adam Smith (***The Theory of Moral Sentiments***—1759) and the British Foreign Office's Jeremy Bentham (***An Introduction to the Principles of Morals and Legislation***—1781/1789).

Like Descartes' pseudo-scientific method, the British empiricist dogma, to the present day, as also that of the typical Wall Street ideologue, is premised on the

depraved notion of the human individual as being merely an object engaged in statistical forms of kinematic interaction with other bumpable objects in otherwise empty space. It is a cardinal principle of the empiricist method derived from such precedents as the Ockhamite dogma of Paolo Sarpi and Rene Descartes, that there is no actual, knowable morality in society, other than bumps and grinds of the kinematic encounters among the mere particles of empty space (and also virtually empty heads) of Paolo Sarpi's system of government and Venetian finance. That Sarpian heritage is the doctrine of the empire of the British East India Company, and of British empiricism doctrine and notions of law against which our republic fought, since the February 1763 Peace of Paris, for independence from the evil which that British imperial system represented as depravity then, and its imperial murder and thievery of today.

The morality of any decent republic, and, therefore, its law, recognizes that the connection between the individual and the society is dynamic, not kinematic. It is the function of the state dedicated to those principles on which our republic was founded, in bloody opposition to British empiricist degradation, that the state is responsible for creating those preconditions of law through aid of which the moral objectives of the true republic are reached in effect. It is the way in which we compose the actualized constitution of our republic, which must create those conditions which are necessary, but beyond the control of the individual citizen, or even a large portion of that population.

It is, therefore, within the bounds of the necessary, constitutional commitment to the fostering of the scientific and related progress of the condition of present and future generations, and their individuals, that the practical realization of the necessary moral conditions of life of the individual and the larger body of society is attained and defended.

The distinction of man from beast, on which the sacredness of the life of the individual human foetus, or born person depends for its protection from the actions of its adversaries, lies in the society's devotion to the distinction of man from beast, which lies, uniquely, in not only the existence, but the promotion of what are those creative powers of the human individual mind which are the essential, and only distinction of man from beast among living human individuals.

Of such matters, President Barack Obama either knows nothing of his most essential moral responsibilities, or has chosen to ignore those responsibilities, for one reason or another.

Therefore, in numerous ways in his recent behavior in office, especially since his pilgrimage to worship objects in Buckingham Palace, he has acted with indifference to the violations of morality, and therefore constitutional principles of our law, which are, in particular, specific to the creation and progress of the existence of our republic. There lies the essential practical issue; there lies the issue of proper law and its practice,

In Defense of Creativity

When we speak of the human mind, we are referring to the "fire" which the Olympian Zeus of Aeschylus' ***Prometheus Bound*** had banned. "Fire," such as the presently indispensable reliance on the use of the power of high energy-flux-density. That means power on the level of the standard set by the nuclear-fission power, on which the continued existence of the present level of population of our planet now depends. No "alternative," low energy-flux-density alternatives exist, or ever will exist. The right of every society to its own use of the benefits of nuclear-fission, and also higher qualities when they become available, is as essential as the availability of a quality of health-care which President Obama's administration is presently, and passionately, determined to destroy.

The alternative to a pro-nuclear-power policy, would become genocide on the scale of billions of human deaths. The use of nuclear power, in and of itself, is not a moral issue, but the denial of its use is comparable to the genocide, and related effects, caused by the policies of Adolf Hitler, the willful cause of the needless death of billions of the people of this planet, soon. So, if President Obama's health-care policies could cause even billions of avoidable early deaths, what of it? His policies of "sun and wind" would tend to have the same effect.

Wind or killer pills, the fact remains, that the policies presently pushed foremost by the Obama administration up to this point, are policies respecting health care which are just as mass-murderous in the near term today as Adolf Hitler's were between September 1939 and May 1945.

Which brings us back to the event at Notre Dame.

Did OECD Write Obama's Nazi Health Plan?

by Nancy Spannaus

May 20—A paper issued in February of 2009 by the Economics Department of the Organisation for Economic Cooperation and Development (OECD) provides a virtual printout of the Nazi budget-cutting measures for health care, which the Obama Administration is now trying to ram through. The paper, entitled "Health Care Reform in the United States," was authored by two OECD bureaucrats, David Carey and Patrick Lenain, and Bradley Herring of Johns Hopkins University.

Given that the OECD's approach to economics was shaped from 1956 to 1974, by none other than genocidal Club of Rome co-founder Alexander King, its prescriptions are not surprising. The Club of Rome, founded in 1968, has been dedicated since its beginning to the idea that human population is a burden to the Earth, that the world is overpopulated, and that, thus, population has to be reduced, by the order of several billion people. Thus, the fact that the OECD advises not only the major European nations, but over 100 nations worldwide, makes it, in "technical" terms, a clear and present danger to nations everywhere, not only to the United States.

'Reforms' Equal Genocide

The leading "reforms" recommended by the OECD paper, which purports to deal with the fact that U.S. health care is more expensive per capita than that of other OECD countries, are, in many cases, presented more bluntly than those of the Obama Administration. They include the following:

1) Eliminate the tax-free status for employer-provided health insurance.

2) Create a comparative effectiveness institute outside the Federal government to "conduct and/or coordinate cost-effectiveness studies and *use these results to decide how services would be covered or reimbursed by Medicare"* (emphasis added). The report explicitly says that the aim is to save money, and is a "radical departure from Medicare policy of providing coverage for services that are medically effective and appropriate, irrespective of cost"!

Discouraging Treatment

Specifically, the authors propose to adjust the co-payment schedule for medical procedures covered by Medicare, in order to discourage what they consider "less cost-effective and less appropriate treatments." They add: "Pedagogy would be required for the American public to accept that cost is a relevant factor in determining what an appropriate treatment is for any given patient." And, they accurately anticipate that there will be considerable resistance to these procedures.

3) Decrease the "generosity of supplemental Medicare insurance-benefit designs *to reduce moral hazard risks"* (emphasis added). Those risks, of course, are that Medicare recipients will avail themselves of medical care when they need it, instead of when they can afford it. The method, the study shows, for reducing "moral hazard," is to increase copays for treatment. The authors report a study which shows that "elderly patients are quite price sensitive in their health care consumption: a 10% increase in price is associated with a 14% decline in utilisation of physician visits. . . ."

"Moral hazard," which is customarily applied to risky financial behavior, is now, without the blink of an eye, applied to utilizing insurance benefits which are supposed to be available for your health! All in the name of reducing what the authors call "overutilization" of health-care services.

As any review of the statements of Office of Management and Budget (OMB) chief Peter Orszag, or Sen. Max Baucus (D-Mont.), the prime mover of Congress's health-care reform bill, will show, all of these measures are being either incorporated, or discussed, as part of the Obama "health-care reform." Most importantly, all are based on the very same concept of man which underlies the Club of Rome mentality—man is a consuming animal, whose appetite must be adjusted to limited resources, and whose population must be controlled. In other words, the very same view of man wielded by the Nazis, when they condemned millions whom they considered to be "useless eaters," to death.

Orszag's British Nazi Model: Who Dies First?

by Anton Chaitkin

May 22—The multi-trillion-dollar health-care cuts demanded by President Barack Obama and Office of Managment and Budget director Peter Orszag will kill masses of people—but not all people equally. A recent book by a Nazi economist close to Orszag reveals that in the British system on which the Orszag program is based, the aged, the poor, and the non-whites are killed; the rich are protected, outside the system.

Behavioral economist Henry J. Aaron wrote *Can We Say No? The Challenge of Rationing Health Care*, in 2005. Aaron and Orszag were colleagues at the time, at the Brookings Institution, working on ways to take down U.S. health care and Social Security. The book's production was financed by the Robert Wood Johnson Foundation, the death-lobby agency that hijacked the Johnson and Johnson band-aid company and its billions of dollars. *Can We Say No?* explains the medical rationing system in Britain, as the model for the U.S.A.—a system of euthanasia, whose purpose is to pay for Obama's bank bailouts, now at $13 trillion and growing. The reality of British rationing is put coldly before the reader in chapter 3, "Matters of Life and Death": The rate of treatment for life-threatening renal (kidney) failure "in the United States is roughly three times higher than in the United Kingdom among patients 25 to 44, but roughly five times higher among patients aged 45 to 84, and nine times higher among patients aged 85 or older. One expert put the matter unequivocally: 'I think there is clearly bedside rationing of new patients presenting with end-stage renal failure.... And some of the sickest people never get treated.'"

White House/Pete Souza

President Obama's Budget czar Peter Orszag (center) is following a script designed for the British National Health Service, in which those deemed "useless eaters" are to be denied medical treatment.

Who Dies: The Poor

The British National Health System (NHS) is lethal. But government doctors can privately treat patients wealthy enough to pay. "Nephrologists [kidney specialists] have found that they must depend ... 'on the grace and favor of willing general surgeons and willing vascular surgeons who were prepared to spend a little bit of time helping out the renal unit.... And you can't get vascular surgeons in the NHS to ... spend a lot of time with renal patients.... Our surgeons work for the National Health Service. But the main part of their salary is in private practice. And ... surgeons are tied up and busy people.... You don't see many poor surgeons in England.... They all drive extremely nice cars, but it's not earned from the National Health Service. It's earned from private practice.... We've got a rotten vascular surgery service, and half our patients are on [outmoded] dialysis catheters, where we know that three quarters at least should be having [effective, costly treatment referred to as] fistulas.'"

The Elderly

Aaron's book promotes a change of American culture to brainwash Americans into quietly accept a killing program, so as to avoid the embarrassing scenes common in England. "...Asked how he would explain to her family the prospects of a 65-year-old woman with kidney failure, one general practitioner first said that he did not think it was up to him to decide whether she should be dialyzed and that he would leave the decision to the consultant [specialist]. But then he added, 'Obviously

the patient is 65 and therefore does not come within the regional dialysis program.' When pressed on whether he might save everyone time and anguish by discouraging referral, he described how he would talk to the family. 'I would say that mother's or aunt's kidneys have failed or are failing and there is very little that anybody can do about it because of her age and general physical state, and that it would be my suggestion or my advice that we spare her any further investigation, any further painful procedure, and we would just make her as comfortable as we can for what remains of her life.'

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Under the British National Health Service (NHS), government doctors can privately treat patients wealthy enough to pay. The others? They don't fare so well. This NHS hospital is in Norfolk,

Behavioral economist Henry J. Aaron promotes euthanasia and denial of health care to "save money."

Non-Whites

"In the past some British physicians persuaded themselves that decisions forced upon them by lack of resources were actually medically optimal. When asked to explain why 60-year-old patients with renal failure but no other complicating conditions, in full possession of their faculties, and productive at work or home should be denied care, one nephrologist reported that he heard that a basis for rejection was that 'the patient spoke no English.' "A contemporary nephrologist [tried to explain this racially-based euthanasia, by saying that foreign colored people do not value life as much as our white people do]. Whether [he] was accurately commenting on cultural differences or repeating the earlier bias was not clear when he told us, " 'I think there is no doubt that … in different … cultural groups … there are very major differences in attitudes toward death and illness.… Roughly 40% of patients [in London] on our end-stage renal failure programs … came from the Indian subcontinent. And many people from that culture … feel that it was inappropriate to, if you like, move against the forces of—greater forces, shall we say. Now that obviously doesn't happen to the fully westernized people. But it illustrates that many people, [if you] tell them that they have end-stage renal failure, fine. If you can do something, [they are] not interested.'"

The 'Crumbly'

Under the British-Orszag system, even middle age is a capital crime. "One English consultant [specialist] in 1980 justified failure to treat the elderly because everyone over 55 is 'a bit crumbly' and therefore not really a suitable candidate for therapy. In 2004 another nephrologist, who had just said that age would never by itself justify denial of therapy and who had just been told of the remark that people over age 50 were a bit crumbly, said, 'Well, actually that is factually correct.'" "Do they mean they're going to kill the Baby Boomers?" Lyndon LaRouche asked. "I think the Baby Boomers should be told, so they can save themselves." Comparing his priorities with those of American physicians, a British nephrologist said, "I'd put much more resources into end-of-life management, into palliative care, skilled palliative care facilities, proper facilities for care of the dying, and proper relationships with the holistic care that hospices can buy. In other words, I'd recognize end-stage renal failure as a legitimate cause of death and it's got to be managed as such, not complicated by an uncritical application of dialysis." LaRouche commented: "We should ration medical health care to everyone who has that opinion. Have a voluntary program: if you want this kind of care, you'll get it, but don't impose your opinion on other people. If you want this, we'll give it to you. We'll really give it to you!"

Rep. Jackson Condemns Obama Health Policy

May 20—On May 15, Alabama State Rep. Thomas Jackson (D-Thomasville) drafted a resolution condemning the entire scheme of health-care "reform" being pushed by the Obama Administration. Jackson, chairman of the Agriculture Committee, and member of the Health Care Committee of the state House of Representatives, plans to introduce the resolution into either a special session of the legislature, or the scheduled 2010 regular session. It is being circulated for discussion among legislators around the nation.

The resolution (see below) is a blunt attack on the proposed policy coming out of Peter Orszag, chairman of the Office of Management and Budget, Larry Summers, the chief economic advisor to the President, and President Obama himself, and likens the direction of the policy of cost-cutting and health-care rationing to the policies that were implemented in Nazi Germany against what were termed "useless eaters" and "lives not worthy of life." Jackson condemns this entire approach and calls for repeal of the murderous HMO bill enacted by President Richard Nixon in 1973, and for replacing it with a return to the Hill-Burton legislation (which is still on the books), as propounded by Alabama Sen. Lister Hill and Ohio Sen. Harold Burton in 1946.

Jackson also cites economist Lyndon LaRouche as the leading spokesman against the Obama Administration plan.

HR ___ CONDEMNING THE POLICY OF PRESIDENT OBAMA TO ENACT CUTS IN SERVICES THROUGH HIS HEALTH CARE REFORM PROGRAM.

WHEREAS, the current health care system dominated by managed care HMOs is systematically cutting care and services to the entire nation; and

WHEREAS, the overhead costs under the HMO system now constitute 30-35% of all costs, as against 2% of costs of the government-run Medicare Program; and

WHEREAS, health care infrastructure has been taken down at a shocking rate, including a 25% drop in community hospitals over the past thirty years, and a 40% drop in hospital beds nationally in the same period; and

EIRNS/Stuart Lewis

Alabama State Rep. Thomas Jackson

WHEREAS, the same banks and insurance companies which run managed care HMOs are also recipients of federal bailout money and are profiting from the misery of the pouplation; and

WHEREAS, Peter Orszag, Chairman of the Office of Management and Budget, is on record May 3 stating that $700 billion can be carved out of the health care system by down-sizing care, especially in the last two years of life, by implementing "comparative effectiveness" research methods and other brutal cost cutting; and

WHEREAS, President Obama and the administration convened a conference of the HMOs, the pharmacetutical companies, the AMA, and other for-profit health care groups on May 11, which announced they would cut health care costs by $2 trillion over ten years, which will include curtailing treatments and procedures; and

WHEREAS, precisely these methods were used under the Hitler regime to initiate the process of killing "Useless Eaters," for which the Nazis were sentenced to death at the Nuremberg Tribunals conducted at the end of World War II; and

WHEREAS, economist Lyndon LaRouche and many opponents of managed care, including the Physicians for a National Health Policy, have condemned these policies; now therefore,

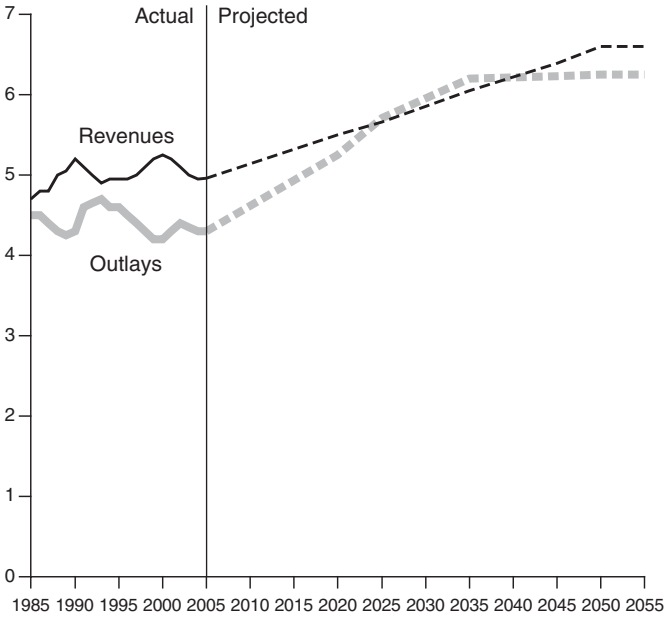
BE IT RESOLVED BY THE HOUSE OF REPRESENTATIVES OF THE LEGISLATURE OF ALABAMA, That the Alabama House of Representataives hereby condemns the stated policy of President Obama, Peter Orszag, Economic Advisor Larry Summers, and others to enact murderous cuts in services through their health care reform program; and

BE IT FURTHER RESOLVED, That we call upon the Congress of the United States to repeal the Health Maintenance and Resource Development Act (HMO Bill) of 1973, and return instead to the successful Hill-Burton Act of 1946, as passed in the U.S. Congress by Senator Lister Hill of Alabama. Hill-Burton in combination with extended and upgraded medicare coverage for the population will guarantee health care for all our citizens.

FIGURE 1

Forecast of Revenues and Outlays, If New Job Creation Is Always 1.5%/Year or Higher, 2005-2050.

(Percent of GDP)



Sources: Congressional Budget Office, "Outlook for Social Security, June 2004"; *EIR*.

Social Security: Trash the Reports!

by Paul Gallagher

U.S. Treasury Secretary Tim Geithner's menacing statement May 13 on the release of new Social Security/Medicare reports—"The President explicitly rejects the notion that Social Security is untouchable"—is a pure threat to cut benefits. It is *not* an honest comment on the Social Security and Medicare Trustees' report released May 12, because that report showed absolutely nothing except the collapse of the economy that is underway. Reverse that collapse, with actually competent recovery policies—bankruptcy reorganization of the financial sector and sustained massive investment in modern infrastructure building and jobs projects—and the report is rendered essentially meaningless. Social Security's solvency, especially, is a matter of sustained creation of jobs.

The Trustees' report makes a purely mathematical projection, and claims that Social Security will be exhausted in 2037, four years earlier than previously mathematically projected; and that Medicare will be exhausted in 2017, two years earlier.

But as *EIR* demonstrated four years ago ("Bush's 'Math' Lies," *EIR*, March 4, 2005), these annual reports do not forecast the future condition of these trust funds or these entitlements. That future is determined by jobs, and income: How many jobs are created, how well-paying those jobs are, and whether the U.S. "income gap" is getting bigger or being reduced.

The U.S. economy is losing 4 million jobs a year. Turn that around and *create* a net 2 million jobs a year. Keep that rate of job creation (about 1.5% annually) going through modern infrastructure public works investments of $1 trillion a year, as proposed by Lyndon LaRouche. The result? Social Security would continue generating surpluses effectively indefinitely (see **Figure 1**). The figure simply continues the same relationship of jobs growth to Social Security revenue growth, which obtained from 1985-2000.

The same principle applies to the Medicare trust fund. Create decent jobs, and the problem goes away.

The Hill-Burton Act

The Hill-Burton Act, excerpted here, became law on Aug. 13, 1946, as Public Law 725. The official title is, "Hospital Survey and Construction Act," and the document is nine pages in length.

The chief sponsor was Sen. Lister Hill (D-Ala.). The act was an amendment to the Public Health Service Act. It authorized grants to the states for surveying their hospitals and public health centers and for planning construction of additional facilities, and it authorized grants to assist in such construction. The law was extended in several subsequent acts of Congress.

The full text can be found in the public laws volume for the 79th Congress, 2nd session, Chapter 958.

Declaration of Purpose

Sec. 601. The purpose of this title is to assist the several States—

(a) to inventory their existing hospitals (as defined in section 631 (e)), to survey the need for construction of hospitals, and to develop programs for construction of such public and other nonprofit hospitals as will, in conjunction with existing facilities, afford the necessary physical facilities for furnishing adequate hospital, clinic, and similar services to all their people; and

(b) to construct public and other nonprofit hospitals in accordance with such programs. . . .

General Regulations

Sec. 622. Within six months after the enactment of this title, the Surgeon General, with the approval of the Federal Hospital Council and the Administrator, shall by general regulation prescribe—

(a) The number of general hospital beds required to provide adequate hospital services to the people residing in a State, and the general method or methods by which such beds shall be distributed among base areas, intermediate areas, and rural areas: *provided,* That for the purposes of this title, the total of such beds for any State shall not exceed four and one-half per thousand population, except that in States having less than twelve and more than six persons per square mile the limit shall be five beds per thousand population, and in States having six persons or less per square mile the limit shall be five and one-half beds per thousand population; but if, in any area (as defined in the regulations) within the State, there are more beds than required by the standards prescribed by the Surgeon General, the excess over such standards may be eliminated in calculating this maximum allowance.

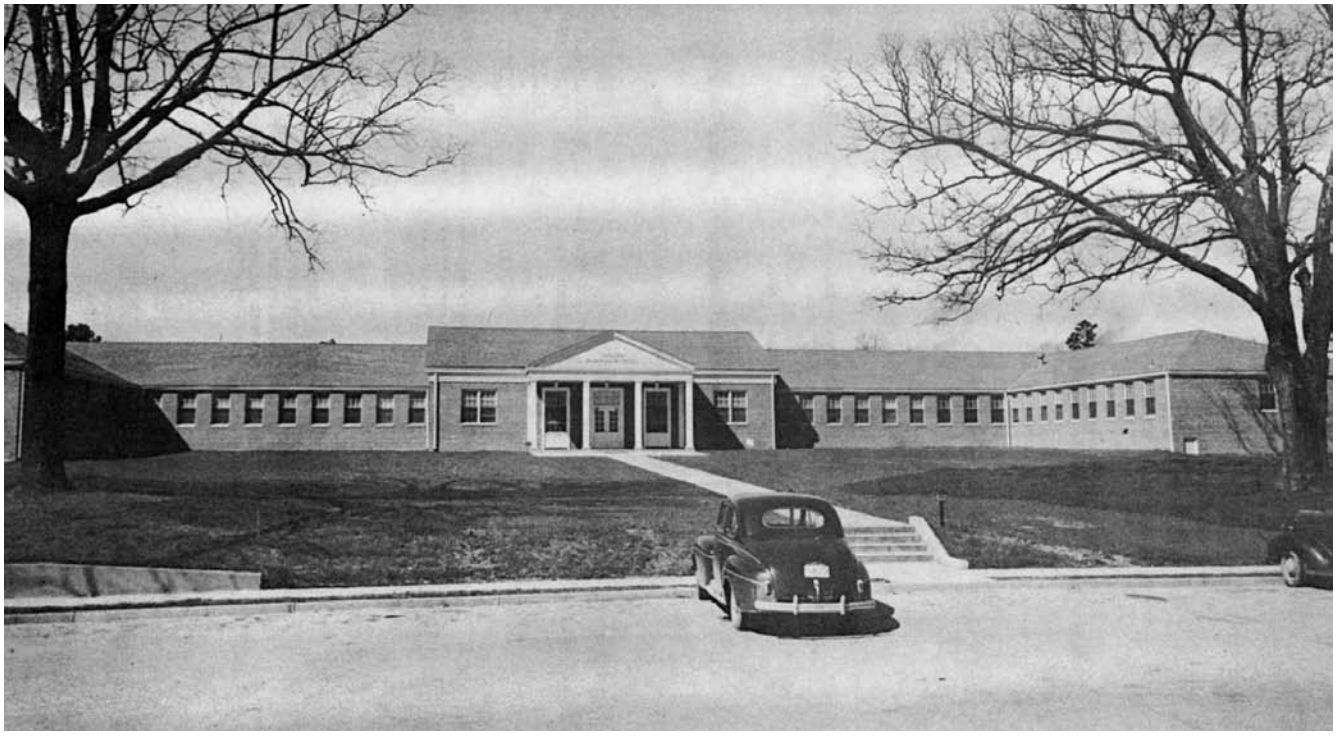
(b) The number of beds required to provide adequate hospital services for tuberculous patients, mental patients, and chronic-disease patients in a State, and the general method or methods by which such beds shall be distributed throughout the State: *provided,* That for the purposes of this title the total number of beds for tuberculous patients shall not exceed two and one-half times the average annual deaths from tuberculosis in the State over the five-year period from 1940-1944, inclusive, the total number of beds for mental patients shall not exceed five per thousand population, and the total number of beds for chronic-disease patients shall not exceed two per thousand population.

(c) The number of public health centers and the general method of distribution of such centers throughout the State, which for the purposes of this title, shall not exceed one per thirty thousand population, except that in States having less than 12 persons per square mile, it shall not exceed one per twenty thousand population.

(d) The general manner in which the State agency shall determine the priority of projects based on the relative need of different sections of the population and of different areas lacking adequate hospital facilities, giving special consideration to hospitals serving rural communities and areas with relatively small financial resources.

(e) General standards of construction and equipment for hospitals of different classes and in different types of location.

(f) That the State plan shall provide for adequate hospital facilities for the people residing in a State, without discrimination on account of race, creed, or color, and shall provide for adequate hospital facilities for persons unable to pay therefor. Such regulation may require that before approval of any application for a hospital or addition to a hospital is recommended by a State agency, assurance shall be received by the



This hospital, in Mitchell County, Georgia, built in the 1950s, was one of hundreds constructed under the auspices of the Hill-Burton "Hospital Survey and Construction Act."

State from the applicant that (1) such hospital or addition to a hospital will be made available to all persons residing in the territorial area of the applicant, without discrimination on account of race, creed, or color, but an exception shall be made in cases where separate hospital facilities are provided for separate population groups, if the plan makes equitable provision on the basis of need for facilities and services of like quality for each such group; and (2) there will be made available in each such hospital or addition to a hospital a reasonable volume of hospital services to persons unable to pay therefor, but an exception shall be made if such a requirement is not feasible from a financial standpoint."

Definitions

Sec. 631. For the purposes of this title—

. . . (e) the term "hospital" (except as used in section 622 (a) and (b)) includes public health centers and general, tuberculosis, mental, chronic disease, and other types of hospitals, and related facilities, such as laboratories, out-patient departments, nurses' home and training facilities, and central service facilities operated in connection with hospitals, but does not include any hospital furnishing primarily domiciliary care;

(f) the term "public health center" means a publicly owned facility for the provision of public health services, including related facilities such as laboratories, clinics, and administrative offices operated in connection with public health centers;

(g) the term "nonprofit hospital" means any hospital owned and operated by a corporation or association, no part of the net earnings of which inures, or may lawfully inure, to the benefit of any private shareholder or individual;

(h) the term "construction" includes construction of new buildings, expansion, remodeling, and alteration of existing buildings, and initial equipment of any such buildings; including architects' fees, but excluding the cost of off-site improvements and, except with respect to public health centers, the cost of the acquisition of land; and

(i) the term "cost of construction" means the amount found by the Surgeon General to be necessary for the construction of a project.

Break the U.S.A. Out of The Imperial Genocide Trap

by John Hoefle

May 22—Genocide is *the* policy of the financier oligarchs of the Anglo-Dutch Liberal empire—deliberate, knowing, intentional genocide. This genocide has a racial bent, as one would expect from these specimens of master-race delusions, but it is also aimed at destroying the structures which keep people alive, including the modern nation-state.

The goal of these parasites is to prevent the world from developing to the point that their medieval imperial power structure is cast aside into the feudal moat of history, as it so richly deserves, rendering these relics of the past into little more than horrible curiosities. The oligarchy knows that the more the creative power of humanity is unleashed, the weaker the empire's hold on the planet will be.

Look at a map of the world, and compare the size of the nations of Africa, Ibero-America, and Asia, with the size of the British Isles and Europe as a whole, and you get an idea of what they fear. Imagine how the balance of power in the world would shift, were truly sovereign nations to develop on these continents, in the tradition of the United States—the United States of the Declaration of Independence and the Constitution, as opposed to that pale reflection we've seen under Bush-Cheney and Obama.

It's obvious that the power of the London-centered European oligarchic system would quickly be broken, its ability to rule and loot the world ended, were the world to develop along such lines. That system was broken for a while with the emergence of the United States, but never fully beaten, and has used its control over culture, finance, trade, and raw materials to keep progress at bay, while it plots to regain undisputed control.

Slime Mold

The empire functions as a form of slime mold, enveloping new victims and discarding refuse as it adjusts to changing conditions. We can trace the modern manifestation of the empire back to Venice, and from thence trace its heritage to Rome, Byzantium, and beyond. The British Empire is really Venetian in character; its geographic base is Britain, but it lives in the financial institutions and corporate cartels it has spawned worldwide.

This amorphous, slime-like structure is key to understanding how the empire functions, and how it takes over nations. It works largely by using its financial power to corrupt the elites of targetted nations, giving them a taste of the riches and power they can have if they cooperate.

That has certainly been the case in the U.S., where our elites have been thoroughly corrupted. Over the last four decades, we have seen the dismantling of the world's greatest industrial power, in favor of the emergence of a giant financial casino. We have replaced productivity with speculation, buying that which we no longer produce from overseas, and making ourselves dependent upon the imperial cartels in the process.

This casino, and the bubble it spawned, was in real-

ity a giant trap, a way to induce the U.S. to commit suicide by destroying itself from within. Then the bubble popped in mid-2007, and the final phase of the trap was sprung.

The Suicide Trap

While the fools on Wall Street think the bailout is designed to save them, what the bailout really is, is a scheme to bankrupt the United States and remove it as a obstacle to imperial domination. The empire used the growth of the bubble to turn a large section of the U.S. elite into babbling idiots who then blew up the nation. Now the empire is using the desire of these idiots to save themselves, to finish the job. Thus we get the spectacle of the Wall Street crowd and the political fools it owns, running an ever-increasing bailout which will not only fail to save the financial system, but destroy the dollar in a hyperinflationary collapse. We are accomplishing from within, what the oligarchy could not accomplish from without, the destruction of our nation.

Our belief in environmentalism, in particular the belief that human progress is destroying our climate, is a similar trap. The purpose of this environmental hoax is to stop the scientific and technological progress upon which mankind depends. The claims made by the "climate change" lobby have been repeatedly disproven, yet they still claim to have consensus in the scientific community. It is a fraud.

Take, as an example, the push for carbon cap and trade. Were the goal to reduce pollution, as is claimed, the proper approach would be to simply put a limits on the relevant pollutants, and let it go at that. It is the "trade" portion, that gives the game away, because it effectively turns a pollution *limit* into a *right to pollute* that amount, in effect creating an asset out of thin air—an asset which can then be traded on financial markets. The result of the "trade" is more pollution, not less.

The real purpose of cap and trade, it would appear, is to use the promise of riches to induce the speculators—who desperately need cash to cover their losses—to support the oligarchy's de-population through de-industrialization scam. It is a trap, yet another inducement to commit suicide.

The push to legalize drugs is the same. The oligarchy would like to see us all on drugs so that we will be ineffective in resisting its designs to cull the herd. Many among us are already zonked to the gills on prescription drugs; and drug legalization would only make it worse.

The restriction of health care is another long-standing oligarchic policy, designed to increase the death rate. The push to slash health care is nothing new, as we demonstrated in our feature last week (*EIR*, May 22, 2009), but the Obama Administration's endorsement of a Hitlerian "useless eaters" program represents an ominous collapse of public morality.

Genocide

The effects of all of these policies converge in one place: genocide. Each in its own way will increase the death rate, and taken together will rapidly destroy the nation, and the world. We believe that some of the people involved are probably too stupid to understand how they are being played, but that has no bearing on the effects of the policies they support.

Britain's Prince Philip stated publicly in 1988 that, "In the event that I am reincarnated, I would like to return as a deadly virus, in order to contribute something to solve overpopulation." Lord Bertrand Russell called in 1953 for a "Black Death" to be "spread throughout the world once in every generation" as a population control measure. British policy, as stated by Prince Philip, is to cut the world's population to 2 billion people, from its current 6.7 billion. That is imperial policy, and it is genocide.

Those who would support the bailout, global warming, the legalization of drugs, and the "useless eaters" policies would do well to reflect upon what it is that keeps them alive, and how they are being duped into destroying it. You cannot eat marketing slogans! Food must be produced and distributed, as must energy. We need transportation, education, health care, and science—all of which are being destroyed in the name of "saving the system" and "saving the planet."

We are being played for suckers, killing ourselves for the purpose of saving a pack of medieval parasites whose power should have been curtailed centuries, even millennia, ago. Our so-called leadership is clearly too stupid to survive. It is past time to throw the bums out and replace them with people with the brains and the guts to force a change.

This is how civilizations end, how once great powers fade into oblivion. We who were once the promise of mankind, are on the verge of failure. We can stop it, we know how, we must simply do so. The future of mankind rests upon our shoulders.

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The Monster Sitting on Your Skull!:

Overhead!

by Lyndon H. LaRouche, Jr.

May 18, 2009

There! proximate to the decaying rows of bungalows and diseased-ridden tenements, with their shutters hanging, listlessly, at the sides of dirtied, broken windows, sit the despairing unemployed men and women and the wan, grey dirty faces of the children. What invading horde of predators might have brought about this state of affairs? The enemy which did this is called, not "Legion," but, a more monstrous predator, called "Post-Industrial Overhead." There is that ugly monster, which has been glutting himself by snatching the loot of what it calls "investment," the bread taken from the mouths of the unemployed and their hopeless children. The sound you hear from the background, is the chatter and creaking of useless windmills mocking the looted poor with the few sparks which they produce, from time to time. Welcome to your "Green" paradise, which the present Administration has promised you! We must cover the overhead!

Our United States is suffering from a problem which is fairly described as the urgent need for solving "A useless feeders crisis." Near the top of the list of waste to be debrided is the waste represented by paying the so-called administrative costs of feeding the parasites on the administrative payroll of the HMO program whose effects have has been killing more and more patients as the years have passed. Simply kill the HMO legislation, reactivate Hill-Burton, and develop a "single-payer" program to expand the scope of what are now the remnants of what had been the low-overhead burden of what had been Hill-Burton.

Cutting HMOs out of the costs of health-care is the single biggest category of harmless cuts in cost of health-care overhead. There are some other big cuts in government-subsidized items that could be made in a program of "waste elimination." Take, for example, a big cut in what we used to recognize as the "Dick Cheney" swindle in privatized military spending. Cheney was a prominent figure in that giant rip-off of the U.S. military establishment, but the real authors of the program could be found, foregathered, from time to time, at Vermont's Middlebury College, where George Shultz and Felix Rohatyn have been heading up plans for replacing our military establishment with what amounts to a "back-to-feudalism," all-mercenary U.S. military.

However, the really gigantic economic waste in the U.S.A. economy is the result of the build-up of a gigantic ratio of overhead-to-production since 1968-1973, wrecking the U.S. economy through slashing of the ration of the total labor-force employed in actually useful forms of productive occupations. Productively useful occupations are typified by farmers, by what used to be unionized industrial operatives and the scientists and engineers associated with that production, or essential scientific occupations such as medicine, development of high-energy-flux-density generation of power and mass transport for support for such as agricultural and industrial output and related high-technology productive operations, instead of low-paid, near-to-useless, make-work activities funded chiefly for the purpose of maintaining an otherwise unproductive and burgeoning mass of the labor-force as being actually counted as those kept off the streets during the nominally productive hours of the working week.

One wonders if it were not the case, that somewhere in the mass of commuters who are traveling several hours each working day, to and from what is officially classified as "work," there are some people, somewhere, who must surely be employed in such niches as the work of those hired to replace defective pits in individual cherries with up-to-standard, plastic simulations, in the pit-substitution-industry.

You think I exaggerate in saying this? From the standpoint of any competent farmer or industrial operative, that is a fair description of the kind of employer mentality which has replaced the habits of times seemingly long past, when our U.S. was a leading productive nation of the world, per capita and per square kilometer.

What I am emphasizing in that way, is not merely that much employment is a substitute for the lack of places of employment for work that is actually a net contribution to national real wealth. The most costly feature of this current mass-insanity in U.S. economic policy, is not the money spent on employing people in useless categories of "keep-them-busy" positions. The

GM/Steve Fecht

Has the day finally arrived on which, "General Motors becomes a giant skyscraper, filled, in all stories, from the ground up, with executives and administrative staff, while a lone operative bangs out the total physical output of that firm at his bench in the basement"? Shown, GM World Headquarters, Renaissance Center, Detroit.

most costly feature is the overhead cost of these recent and current trends. The ratio of overhead expenses to what might be considered as actual or merely fictitious produced economic output. The percentile of the total nominal "value" of throughput of the U.S.A. and western European economies which lies in even the nominal category of produced output, is approaching the state of affairs which I used to describe, decades past, as the day on which General Motors becomes a giant skyscraper, filled, in all stories, from the ground up, with executives and administrative staff, while a lone operative bangs out the total physical output of that firm at his bench in the basement.

Would it be that that were the worst of what is being done to our U.S. economy—among others?

In physical-economic terms, the present trend toward "green," ultra-low energy-flux-density technologies, such as solar and wind "power," already represents a product of negative physical-economic growth-rates; the actually incurred, net physical cost of production exceeds the net physical value of the net output of that production.

Amid all this, the ratio of "overhead" to production is growing. This growth is essentially composed of two readily identifiable components. One is the falling ratio of net physical ouput to overhead costs incurred by that output; the second, is the ratio of total overhead costs to the portion of overhead which is associated with the lowered level of productive output, as measured both per capita and square kilometer of land-area.

Meanwhile, through the gigantic financial swindles launched, in succession by the George W. Bush and Barack Obama governments, since August 31, 2007, especially since the launching of the financial "bail-outs" with the consent of a stupefied U.S. Congress, the world as a whole, the U.S.A. and U.K. most significantly, presents us with a picture of falling net physical output, per capita and per square kilometer, while the mass of purely fictitious nominal financial wealth is skyrocketting all the way to the doom of global civilization as a whole.

The present driver of that exhibition of mass-insanity from financier circles and government combined, throughout the major parts of the world, assumes the form of mass-murder of nations strangled to death by suffocation with overgrowth of useless overhead. Meanwhile, throughout the world generally, the lunatics in power, from the highest levels of government, to the entrepreneur making a living by picking up garbarge from the street, are being told that "recovery is just around the corner," once more.

The worst, and most criminally dangerous among those lunatics, are those who envisage prosperity as the fruit of covering the rising relative costs of "overhead."

World Health Meeting: British Push Free Trade for Viruses

by Gretchen Small

May 22—"War has hitherto been disappointing" in its capacity to reduce the world's population, "but perhaps bacteriological war may prove more effective," Lord Bertrand Russell proposed in 1953, savoring the benefits of spreading "a Black Death … throughout the world once in every generation." Russell died, but the apparently still-living British Royal Consort, Prince Philip, keeps repeating that his deepest desire is to be reborn as a deadly virus, "so as to contribute something to solve overpopulation."

So, British Health Secretary Alan Johnson, a high-school dropout (age 15), turned postman, turned politician for Tony Blair, marched into the opening of the annual meeting of the World Health Organization in Geneva on May 18, and demanded that the WHO *not* declare the new, highly infectious Type A(H1N1) virus a fullscale, Level 6 pandemic. That action would trigger emergency measures globally, including mandating ramping up production of a vaccine against this new influenza strain, which has already spread to 43 countries in the five weeks since it was first identified. Johnson suggested the world wait to see how the virus develops.

That the British elites had already moved to lock up scarce vaccine-manufacturing capacity to produce quantities of future anti-H1N1 vaccines with the (vain) intention of preserving their own "master race," might spark cynicism in even those fools with short memories who claim that the Anglo-Dutch imperialism is a thing of the past. Three days before Johnson insisted it was too early to really mobilize against the virus, the City of London's *Financial Times* trumpeted that Britain has signed advance supply agreements reserving sufficient amounts of the world's scarce, cartel-controlled vaccine-manufacturing capacity, to produce up to 90 million doses of vaccine by the end of the year—for Britain.

Johnson may be an incompetent boob when it comes to science or medicine, but as a postman, he knows how to deliver a message. His message to the assembled health ministers of the world, channeled from would-be virus incarnate Philip himself, is: Drop dead!

Johnson proposed that the WHO change its criteria for declaring a pandemic, from "mechanistic" geographic criteria (i.e., based on spread), to take into account a virus's current "severity." But the one thing certain about influenza viruses, is that they mutate, quickly, and without warning.

Since the first human cases of H5N1 avian influenza were identified in Hong Kong in 1997, competent world authorities have been warning that the world must prepare to battle a potential outbreak of an "Armaggedon virus," such as one which combines the high rates of transmissibility of today's new H1N1 swine flu virus with the extreme morbidity of that H5N1 virus, which kills 50-60% of those infected.

Armaggedon hasn't happened yet, but virologists are cringing at the possibility that virus recombinations may emerge as the new swine flu virus hits the Southern Hemisphere, and, especially, densely populated Asia.

And even if the virus mutations do not lead to greater lethality, the new virus, which is, so far, apparently relatively mild in more healthy populations, may become tomorrow's mass killer in poor and weaker populations. WHO deputy director Dr. Keiji Fukuda warned on May 7 that this flu could infect one-third of the world's 6.7 billion people; that means that very large numbers of people could develop pneumonia and die, he pointed out. French virologist Bruno Lina, a founding member of the European Influenza Surveillance Scheme (IASS), told Lyon's *Le Progrès* on May 16 that 2 billion infections is "a certitude," since this is a virus to which no one has developed antibodies.

Nazi Choices Equal Genocide

Johnson is spreading the "customary British lies," as part of the revival of Adolf Hitler's policy of geno-

cide as health care, American statesman Lyndon LaRouche responded. Their policy is to reduce the world's population to 2 billion people or fewer, and they are working on it!

Compare what the British are doing and saying, to what's coming out of France, LaRouche noted. There, researchers following in the tradition of the great Louis Pasteur are warning that the world must prepare for the worst, if a new pandemic, like the 1918-19 Spanish flu which killed at least 40 million people, is not to be repeated.

Both France and India have gone on an emergency mobilization to begin production of a vaccine against this new flu.

LaRouche emphasized that what makes today's situation so dangerous, are the conditions of economic breakdown. What occurred with the 1918 pandemic, was that the economic conditions, brought on by the mass destruction of World War I, created the potential for disease, which was then activated when the biological element was added.

British Foreign and Commonwealth Office

British Health Secretary and Blairite Alan Johnson delivered a message to the annual meeting of the World Health Organization, not *to declare the A(H1N1) virus a Level 6 pandemic. In other words: "Drop dead!"*

Sane people, knowing this danger, should be grabbing their pitchforks, and demanding that their governments cooperate with other nations to marshall the economic and political resources required to protect not just their own public health, but that of their neighbors, too. If love of humanity isn't sufficient, perhaps the recognition that, while starvation may not be contagious, influenza is, may prove motivating.

Instead, discussion of vaccine production in the face of a flu pandemic, is beginning to sound like those malthusian economics quizzes given to brainwash students in Hitler's Germany, or like the arguments of the behaviorist advocates of Nazi health-care reform in the Obama Administration today.

The argument runs like this:

"Dominated by a handful of pharmaceutical multinationals gripping their patents on feedstocks and manufacturing processes, existing production facilities worldwide can only produce, at best, 5 billion flu vaccine doses within one year—if and when they ever decide to start producing them. Assuming that two doses per person may be required to achieve immunity, we can only produce sufficient vaccine to protect one-third of the human race, from only one type of flu virus, either from the seasonal flu, or from the new A(H1N1) virus spreading from country to country. Not both.

"*You* must now choose: Which four and half billion people should be left to die? Shall we start with the poor? Their lives are miserable; maybe not worth living."

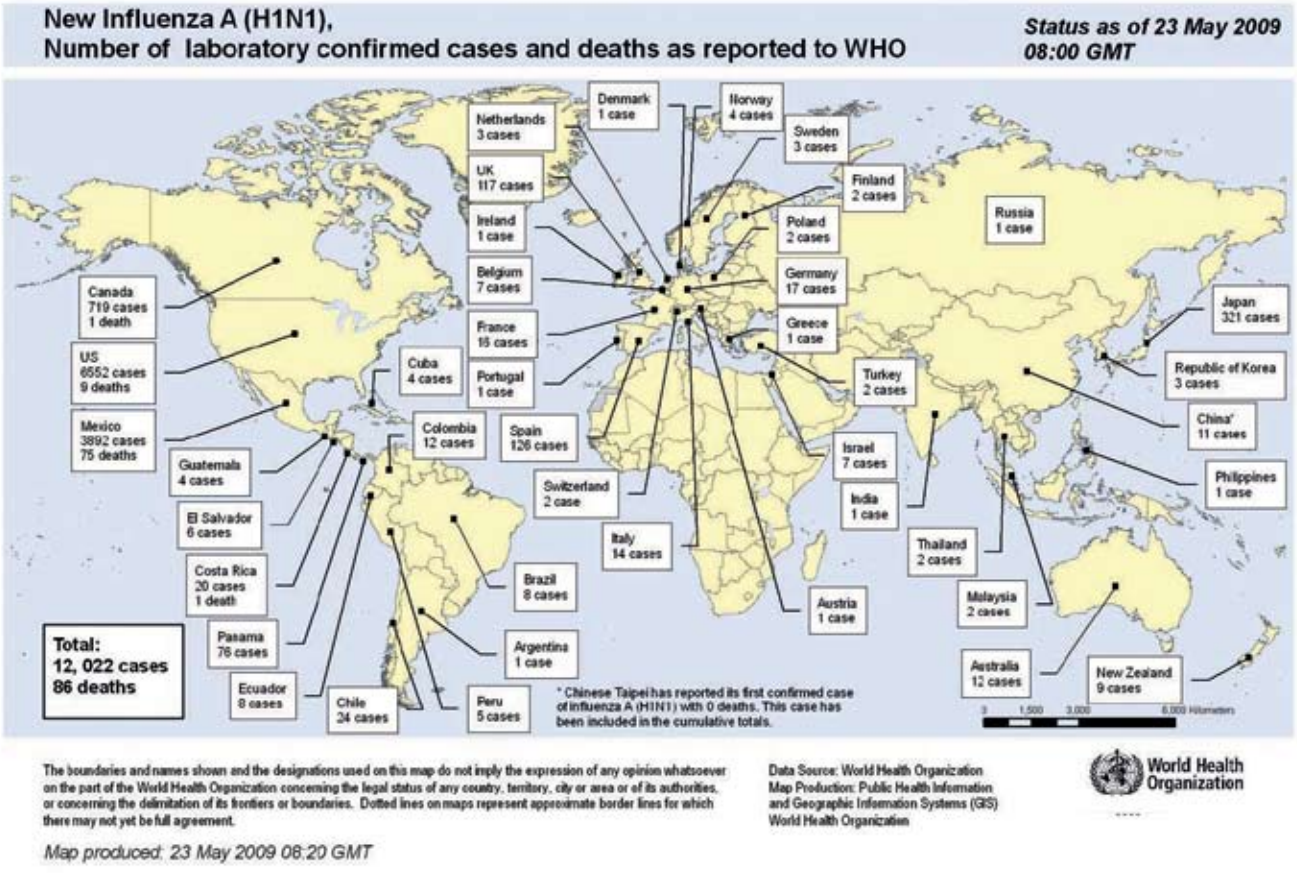
Should pandemic policy be made on the basis of that scarce resources/fixed universe trap, premised on upholding the free-trade system which has looted the world economy into a breakdown crisis, the stated British policy of reducing the world's population to 2 billion people, will result. Perhaps sooner, perhaps later, but under current policies, such genocide is rapidly becoming *inevitable*.

Bust Up Pharma Piracy!

The only sane questions for discussion, are: How shall we mobilize to save the human race? What are currently existing capabilities, globally, for developing and mass producing the various influenza vaccines required, including for avian flu? What capabilities exist for ramping up production of anti-viral medications? What are the global capabilities for diagnosing these viruses as they emerge and mutate?

There is no question that existing capabilities are insufficient. Don't waste precious time asking who and what to triage; ask: How can the bottlenecks to producing what is required to save billions of human lives be most rapidly solved?

Confronting the pandemic now upon us, requires mobilizing emergency training programs and laboratory construction projects in countries where general infrastructure is limited or non-existent. Scientists and skilled lab technicians are not grown in six months, but historical precedents do exist for revolutionary mobilizations of scientific capabilities which overturn apparent fixed limitations, as the work of Lazare



Carnot, Gaspard Monge, and Pasteur, demonstrate.

One thing is clear: The constraints imposed by globalization, with its free trade for cartels, usury, and viruses, must be eliminated, if genocide is to be prevented.

The degree of cartelization of the world pharmaceutical industry today, and the political, financial, and military power deployed to defend it, is one of the greatest injustices existing. Ninety percent of world influenza vaccine capability is in the grip of a highly integrated cartel made up of a handful of companies, busily gobbling each other up: GlaxoSmithKline (U.K.), Sanofi-Pasteur/Aventis (France), AstraZeneca/MedImmune (U.K.), Novartis (Switzerland), CSL Ltd (Australia), and a very few others. This "Big Pharma" cartel also holds patent rights over anti-viral treatments.

Outside the cartel, the small, and not so small (in the case of India and Brazil, in particular) independent capabilities which exist in the developing sector, provide a basis for building capabilities in entire regions of the world which today have no local influenza vaccine production capability at all. The Developing Countries Vaccine Manufacturing Network (DCVMN), led by representatives of India's and Brazil's state-run and non-cartel private companies, can play a critical role in mobilizing the necessary global, space program-type gear-up for spreading scientific and technological capabilities. The Serum Institute of India (SII) has already begun work on an H1N1 vaccine, promising that its vaccine, when ready, "will be the cheapest in the market." (SII supplies its hepatis B vaccine to UNICEF at 19 cents a dose, versus the $5 a dose UNICEF previously had to pay.)

That is the last thing the finance-driven pharmaceutical cartel wants to see happen. The cartel's International Federation of Pharmaceutical Manufacturers and Associations (IFPMA) acknowledged in a May 2009 release, that "technology transfer would have to expand production capacity many times over to provide rapid global access to vaccines." A study on pandemic influenza vaccine capacity commissioned by its Influenza Vaccine Supply International Taskforce, concluded that, based on experience with H5N1 (bird flu) viruses, that it would take between 1½ and 4 years to supply the

estimated global requirement of 13.4 billion doses (at two per person) in the event of a pandemic, a task which would require expanding current global capacity by 20 times to provide sufficient doses for the world's population within six months of an outbreak.

IFPMA then baldly declared that "it is inconceivable that this level of transfer could be achieved, or that this scale of production capacity could be sustained," because market supply-and-demand conditions are not capable in many developing countries of sustaining the required "maintenance of high quality manufacturing plants and skilled workforces." Therefore, they argue, resources should be concentrated on capitalizing existing surplus capability—which they control!

The cartel is resorting now to outright piracy against the independents, targetting the Indian pharmaceutical companies in particular, as one of the world's largest producers of active pharmaceutical ingredients (API), they have repeatedly sought to break the cartel's ability to hold the entire world hostage, by providing affordable medicines, and by aiding the development of independent capabilities in other developing sector countries. At least six shipments of Indian medications have been seized in the recent period, when they were briefly in transit in the ports of the Netherlands or Dubai, on their way to other developing countries, based on the lie that these generics were violations of European Union and World Trade Organization intellectual property rights laws against counterfeiting.

Public Health Over Private Interest

The influenza pandemic has renewed the battle against globalization's principle that private interests, such as the pharmaceutical multinationals, have an untouchable "right" to profiteer off drugs and technologies required to save human lives.

At the WHO annual meeting, developing nations asserted instead that the world must operate on the principle that, as Brazilian Health Minister José Gomes Temporão stated in his address to the May 18 opening of that meeting, "public health must take precedence over commercial interests." Thus, Temperão argued, acts such as the Dutch seizure of Indian shipments, are not only "ethically and legally unacceptable"; they threaten the supply of needed drugs to poor countries.

Temporão called for developing nations to be guaranteed access to the technologies required to fight the A(H1N1) virus: diagnostics to identify it, vaccines to prevent it, and medications to treat it. The benefits of technological progress must be shared by the entire world community, especially in public health emergencies, he emphasized. He offered Brazil's assistance in sharing pharmaceutical technologies with other countries, as is underway in Mozambique, where an antiviral production plant is being set up with Brazilian technology.

Joined by the government of Mexico, and supported by Argentina and other countries, Brazil pressed that all technological advances in diagnostics, treatment, and prevention of A(H1N1) be declared "public goods." Likewise, China and Thailand requested that flu-related patents be broken, so that everyone has access to the inputs required.

President Obama's Special Representative for Avian and Pandemic Influenza, Robert Loftis, took up cudgels for the British free-trade faction, however. He led a fight to limit, if not eliminate altogether, the Standard Material Transfer Agreement (SMTA), a legally binding document which regulates exchange of materials related to viruses and vaccines. Using the same logic used by the Larry Summers-Peter Orszag clique seeking to put through a Nazi health-care program back home, Loftis argued that it is "not appropriate for the WHO to be telling private entities" what to do.

The developing nations hit the roof, because, under globalization, the SMTA is one of their few protections against the pharmaceutical cartel taking the virus samples they send them, and then developing patented vaccines which are sold back to poor countries at exorbitant prices.

When no agreement could be reached, the U.S.A, EU, Japan, and others suggested that everyone simply agree to implement the points already agreed on, leaving the remaining, key issues to be worked out in "smaller, potentially informal meetings."

That maneuver to secure cartel rights through "agreements reached behind closed doors by small groups" was defeated, by a united front of all the African and South American countries, and some Asian countries, organized by Brazil in coordination with Indonesia and India.

The WHO meeting ended, however, without addressing the inescapable necessity of initiating the health mobililization required, replacing the deadly status quo of pharmaceutical cartel domination and free trade with a new nation-centered international credit system in which human life comes first.

Bibi Fails To Deliver for London In Meeting with Obama

by Dean Andromidas and Jeffrey Steinberg

May 22—Israeli Prime Minister Benjamin "Bibi" Netanyahu came to Washington this week, with one overriding mission: to win concessions from the Obama Administration for London's planned military strikes against Iran's purported nuclear weapons program. After nearly four hours of talks at the White House on May 18, Netanyahu failed to extract any agreement from President Barack Obama, on either the Iran war plan, or on his efforts to sabotage any movement towards a two-state solution to the Israel-Palestine conflict.

As a result of the standoff, London is furious at their Israeli puppet. Already, under British leadership, the key European nations have thrown their unconditional backing to the Netanyahu government, in pushing confrontation with Tehran. This casts Europe in the war camp, and places even greater importance on the Obama Administration's planned efforts to begin talks with the Iranian leadership.

Sources close to the Obama Administration confirmed to *EIR* that Middle East special envoy George Mitchell, along with Secretary of State Hillary Rodham Clinton, were "all over" the Obama-Netanyahu talks, to make sure that the President would not flinch. In late April, White House economic advisor Lawrence Summers had tried, unsuccessfully, to hijack and sabotage the Administration's Middle East peace efforts, in remarks at the Israeli Embassy on the occasion of the 61st anniversary of the State of Israel. Mitchell, according to the sources, insisted that Summers be kept away from the Obama-Netanyahu talks, and the President reportedly agreed to the demand.

Netanyahu's efforts to steamroll the President into adopting Israel's fabricated claims that Iran is but weeks or months away from a deployable nuclear weapon, were dealt a real blow just hours before the Oval Office session between the President and the Prime Minister, when a 12-person U.S.-Russian scientific team, sponsored by the EastWest Institute, delivered a report to President Obama's National Security Advisor, Gen. James Jones (ret.), concluding that Iran is, at minimum, five years away from any credible nuclear weapon. The report buttressed standing U.S. intelligence assessments, downplaying any imminent Iranian nuclear threat.

President Obama, it must be added, is no novice on the issue of Israel and Palestine. Among his acquaintances during the formative years of his political career in Chicago were some leading Arab scholars and activists, including Dr. Rashid Khalidi, now a professor at Columbia University, but a longtime Chicago area figure, and frequent dinner partner of Barack Obama, when he was an Illinois state senator.

LaRouche Warns

Now, look for things to get really nasty, commented Lyndon LaRouche. London is furious that the United States is insisting on diplomacy with Tehran, and will

White House Photo/Pete Souza

Israeli Prime Minister Benjamin Netanyahu with President Obama at the White House, May 18, 2009. No deal: Obama emphasized his commitment to a two-state solution to the Israeli-Palestinian conflict, which Netanyahu rejects; instead, the latter unsuccessfully lobbied for a military attack against Iran.

now move to blow things up in the Persian Gulf. LaRouche said that the only solution is to get really rough with Netanyahu, and to explicitly call him out on his British agentry, to force him to change horses, and start taking his orders from Washington.

Netanyahu's British agentry dates back to his father's service as chief of staff and successor to British agent and Likud Party mentor Vladimir Jabotinsky. He takes his orders from London, not from anyone inside Israel. A strike against Iran has nothing to do with Iran's alleged nuclear program, but is aimed at keeping all of Southwest Asia in a state of perpetual crisis, chaos, and war. Such an attack by Israel against Iran would, indeed, be suicidal.

LaRouche said to look out for a flight forward on Netanyahu's part, once he gets back to Israel.

Totally Opposite Approaches

Netanyahu and Obama were speaking different languages. While Obama clearly articulated his commitment to a two-state solution to the Palestinian-Israeli conflict, including an end to all Israeli settlement construction on Palestinian territory, and implementation of all previous agreements, Netanyahu refused to say the two magic words, "Palestinian State." And while Obama laid out his intention to stop Iran's purported nuclear program through diplomatic and non-military means, Netanyahu spoke of a end-of-the-year "deadline," after which Israel will have to take up "other options."

Netanyahu tried to link Iran and the peace process by asserting that, as long as Iran is posing a danger, no peace is possible with the Palestinians. Obama replied, "If there is a linkage between Iran and the Israeli-Palestinian peace process, I personally believe it actually runs the other way. To the extent that we can make peace with the Palestinians—between Palestinians and Israelis—then I actually think it strengthens our hand in the international community in dealing with the potential Iranian threat."

To make the point clear to Netanyahu, the Obama Administration's "hard cops," the Clintonians, reaffirmed the Administration's policies. On the day after the meeting, Director of Central Intelligence Leon Panetta was quoted by the political quarterly *Global Viewpoint*, warning that if Israel were to attack Iran, Netanyahu knows that it would lead to "big trouble." "The threat posed by Iran has our full attention," Panetta said. "The judgment of the U.S. intelligence community is that Iran, at a minimum, is keeping open the option to develop deliverable nuclear weapons. It is our judgment that Iran halted weaponization in 2003, but it continues to develop uranium enrichment technology and nuclear-capable ballistic missiles."

At a press conference after her meeting with Netanyahu at the State Department, Secretary of State Clinton reiterated U.S. support for the two-state solution. "I think the President was very clear yesterday in his statement that he wants to see a stop to the settlements. I hosted a dinner for Prime Minister Netanyahu later in the day at the State Department, and we reiterated that that is the position and policy of the United States government."

On May 19, however, the day after Netanyahu's White House meeting, an unnamed Israeli official reiterated Netanyahu's threat, and was quoted by Israel's Channel 10 TV saying that Obama's insistence on engagement with Iran would force Israel to make a "difficult decision" by the end of 2009.

Iranian 'Nuclear Threat' a Fake

On the same day that Netanyahu met Obama, a report was released by a blue ribbon panel of 12 Russian and American scientists, who concluded that the idea of an imminent nuclear threat from Iran, as posed by the Bush neocons, the British, and Netanyahu, was nothing but a fake. Published by the New York-based East-West Institute, the report was endorsed by former Clinton Defense Secretary William Perry, and was presented to National Security Advisor Jones, Russian Foreign Minister Sergei Lavrov, and Russian Security Council Secretary Nikolai Patrushev.

U.S. State Department

Secretary of State Hillary Clinton (shown here with Palestinian Authority President Mahmoud Abbas in Ramallah, March 4, 2009) is trying to revive a peace process between Israel and Palestine, with the goal of creating a Palestinian state. That has traditionally been U.S. policy, and was enshrined in the 1993 Oslo Accords, but the current Israeli government rejects it.

The report should give a cold shower to the hot-headed "let's bomb Iran lobby." While unequivocally asserting that a nuclear-armed Iran would be unacceptable and destabilizing, the report explained that, since Iran has only 1,010 kilograms of low-enriched uranium, under the most favorable circumstances, it would take one to three years to enrich it to a high grade and create a nuclear device—not a warhead, but a device. It would then take another five years to develop a warhead with the power of a perhaps 10 kilotons and a weight of 1,000 kg. On top of that, the Iranians would only have enough enriched uranium to make one bomb, which, far from being a deterrent, would more likely provoke a preemptive attack from a potential enemy.

As for Iran's missile technology, despite the Ahmadinejad government's public statements, it is North Korean liquid fuel rocket technology, based on old Soviet Scud missiles. The technology can produce missiles with low thrust and poor accuracy. Iran's most powerful rockets, the Shahab 3 and 3m, are copies of the North Korean Nodong missile, whose engine is a scaled-up Scud model with only twice its thrust. Tehran has no other technology. The Nodong and the Iranian Shahab 3 have a maximum range of 1,100 km with a 1,000 kg warhead. The only way Iran could produce an intermediate-range ballistic missile (IRBM), let alone an intercontinental ballistic missile (ICBM), is to strap together two or more Nodong-type missiles, to produce a weapon of dubious effectiveness. The report underlines that neither Iran, nor its would-be missile technology suppliers, North Korea or Pakistan, have the scientific, technical, or industrial depth to develop an IRBM or an ICBM that is worth the trouble of putting a warhead on it.

The report also determined that the proposed U.S. missile shield in Central Europe would not work for some very fundamental technical reasons, including the fact that the trajectory of a missile fired from Iran simply could not be adequately detected by the system's radars, if Iran took some rudimentary countermeasures. On the other hand, the deployment of the forward radars would be able to detect missiles fired from European Russia with an effectiveness that would give the United States a strategic edge over Russia, and therefore violate the ABM Treaty.

While the report said Iran most likely had the capability to produce a nuclear device eventually, the threat was far from imminent. It recommended the use of non-military means, such as diplomacy, sanctions, and other international measures, to convince Iran to give up any designs it has in acquiring nuclear weapons.

Since Iran does not have the capability to produce IRBM or ICBMs, nor is there any evidence that it has decided to do so, the report concludes that the deployment of a U.S. ABM system in Europe should be cancelled, after which "the United States and Russia could explore in a serious fashion the possibility of coopera-

tion in ballistic missile defense. . . . A wide range of options could be explored, including the possibility of boost-phase missile defense."

Sykes-Picot Powers Move Against U.S.

Just as in 1916, when Great Britain and its stooges in France divided up the Ottoman Empire with the secret Sykes-Picot agreement, the British are moving with their European stooges to sabotage this latest U.S. effort to come to an agreement with Iran. On May 20, the French daily *Le Canard Enchaîné*, an intelligence leak sheet, ran an article entitled "Washington and the Europeans Are Not Talking the Same Language to the Israelis." Written by editor-in-chief Claude Angely, the article reported that when he was received in the White House, Netanyahu knew that if "he resisted Obama's pressure, nobody in Paris, London, Berlin or Rome would make life more difficult for him." Quite the contrary.

In a meeting organized tens days earlier in Berlin, in which five representatives of the foreign ministers of France, Britain, Germany, Italy, and Spain participated, the question was raised of "reinforcement of agreements between the European Union and Israel," the important stipulation being: "there will be no attempt to condition that reinforcement of relations with Israel with any demand," e.g., the creation of a Palestinian State or the freezing of settlements, thus freeing Israel from a very important potential pressure point.

This move represents a reversal in policy, since certain European leaders had hoped to make Israel's hope for more favorable economic links with the European Union contingent on the peace process—especially since the EU countries are the biggest contributors of aid to the Palestinians.

This reversal of EU policy was no doubt the work of former British Prime Minister Tony Blair, who was the chief architect, along with the Bush Administration, of the wars in Iraq and Afghanistan. Blair is now the special representative of the Quartet of Middle East mediators, which includes the United States, Russia, the United Nations, and the European Union. While his mandate is to coordinate economic aid to the Palestinians, he is much more welcome in Prime Minister Netanyahu's office in Jerusalem than in Palestinian President Mahmoud Abbas's office in Ramallah. After meeting Netanyahu, Blair proclaimed that the Israeli Prime Minister can become the peace maker, an assertion that Netanyahu would be the last to believe.

BüSo Party Congress

Hot Phase of European Election Battle Begins

by Our Wiesbaden Bureau

May 17—The Civil Rights Solidarity Movement (BüSo) in Germany opened the hot phase of its campaign for the June 7 European parliamentary elections, at a party congress in Frankfurt today. Keynoted by chairwoman Helga Zepp-LaRouche, the congress discussed the most urgent problems that have to be solved in Europe and internationally.

Zepp-LaRouche began her address with a reminder that Lyndon LaRouche not only forecast long ago what even the *Financial Times Deutschland* recently discovered to be the "worst crisis of mankind," but that he also assessed it as a financial-economic breakdown crisis far worse than a depression. And indeed, despite all the establishment propaganda, there is no sign of any recovery of this collapsing system. The $25 trillion which has already been pumped into bailing out the bankrupt banks—with the G-20 Summit of April 1-2 alone pumping in $5 trillion—gives an idea of the scope of the hyperinflation that is looming, with no "recovery" in sight. Jacques Attali, former advisor to the late French President François Mitterrand, last Autumn spoke of a $1.4 quadrillion bubble—which certainly has expanded in the six months since. If not turned around by a reconstruction of the global financial and economic system, this collapse process will end in a new Dark Age, in which two-thirds of the human population will be eliminated.

Lyndon LaRouche warned of this process of destruction back in August 1971, when the Bretton Woods system was abandoned by U.S. President Richard Nixon; he also warned at that time that fascism would return, if the imperial monetarists had their way. The surge of the anti-industry Green ideology, the various oil price hoaxes, the "Project 1980s" policy documents published by the New York Council on Foreign Relations during the 1970s, the economics of Margaret Thatcher and Ronald Reagan, the stock market crash of

EIRNS/Christopher Lewis

Helga Zepp-LaRouche addresses the BüSo congress on May 17. The posters read: "Europe's Future Lies in Africa . . . Vote BüSo."

October 1987, the Asia and Russia financial crises, followed by the Long Term Capital Management (LTCM) near-default in the 1990s, all vindicated LaRouche's warnings.

Against the Cost-Benefit Cult

In the United States, following the inauguration of President Barack Obama, the worst possible economic advisors have come to the fore, Zepp-LaRouche declared, notably chairman of the National Economic Council Larry Summers and Office of Management and Budget director Peter Orszag. They are the ones behind Obama's most recent announcements of deep cuts in health care. This is the road that was taken by the Nazi doctors, she said, whose crimes—namely, the murder of 6 million Jews and others, including 275,000 non-Jewish Germans through euthanasia—were documented by the U.S. doctor Leo Alexander at the 1946-47 Nuremberg Tribunal. Further, Obama's planned health-care "reforms," as LaRouche has said, are an attack on the U.S. Declaration of Independence, which vows to protect the right of every citizen to life, liberty, and the pursuit of happiness.

In Germany, she said, the health system, which has already been downsized after more than 16 years of cost-cutting "reforms," is faced with new cuts, and the LaRouche movement is at the center of a fight to defend the health system. Europe's policies have to be restructured according to the model of Franklin Roosevelt's New Deal, which once saved the United States from the Depression, and thus made possible the victory over Fascism in Europe. The U.S. Presidency has to be liberated from its destructive advisors, she said, so that the "invisible American" is again represented by politicians, and the Presidency can revive the FDR agenda. Europe has to revive the highest levels of cultural development in its history, from Nicholas of Cusa's *Concordantia Catholica* through Christopher Columbus and the development of the United States of America; from Hamiltonian productive banking, through Friedrich List and Otto von Bismarck and their role in bringing the Hamiltonian method of credit-creation into Europe.

Mobilize the Non-Voters

Zepp-LaRouche's keynote was followed by a discussion period, during which she emphasized the need for a new, just world economic order. She called for mobilizing a resistance movement that can overcome the Green ideology, replace the Bernie Madoffs and the narcissistic Neros among the present elites, and rally the non-voters, who are potentially the biggest bloc of voters. A global revolution is needed, of the kind that Gottfried Leibniz once predicted would be required to confront the global spread of utilitarianism (globalization, as we call it today)—not a replay of the French Revolution, but rather an American one.

She spoke out against the open or latent anti-Americanism that British imperial interests are promoting in Europe. It is crucial that the United States play a leading role in the needed restructuring, and that the dollar be at the center of the New Bretton Woods, because of

EIRNS/Christopher Lewis

Katarzyna ("Kasia") Kruczkowski, chairwoman of the BüSo in the state of North Rhine-Westphalia, briefed the party congress on the campaign in her state. The campaign apparatus there is mainly composed of youth.

the genuine credit-issuing powers that only the U.S. Congress has. And global political relations must be based again on the conception of the Treaty of Westphalia, in which each sovereign nation-state sees its aim as promoting the welfare of the others.

On the energy issue, she stressed that nuclear power is indispensable—a highly controversial program in Germany. The role of Germany's *Mittelstand*—the small and medium-sized, family-owned industries—is crucial in this respect, because of its commitment, much more than big corporations, to technological progress; and that is why the *Mittelstand* must be defended against the acute threat of foreclosure in this current economic breakdown crisis.

The Crisis in Health Care

The principal guest speaker, Jacques Cheminade, leader of the Solidarity and Progress party in France, reported on the work of the LaRouche movement in his country. Unfortunately, it cannot take part in the European elections due to bureaucratic obstacles, yet it has been successful in expanding its political presence throughout France. Cheminade read from French President Charles de Gaulle's speech to German youth on Sept. 9, 1962, where he called upon them to be aware of the mission of their great nation: to work with the youth of France, not only for their own nations' welfare, but for the progress of all mankind. If we want to solve problems, Cheminade said, there can be no "civil right to be pessimistic"!

The next speaker, Ulf Sandmark, chairman of the European Labor Party in Sweden, pointed to the importance of the European election campaign in his country, one of two European nations where the LaRouche movement is running a slate of candidates in the June 7 elections. Tom Gillesberg, the chairman of the Schiller Institute in Denmark, conveyed greetings to the election campaign effort in Germany, which, he said, aims at making Germany the "land of poets and thinkers" again, for the benefit of the rest of Europe. Great ideas uplift people, as can be seen in the case of Denmark, he said, where the Oeresund Bridge project (promoted by the Danish LaRouche movement years ago) has helped Danes to overcome their pessimism.

Kasia Kruczkowski, the state chairwoman of the BüSo in North Rhine-Westphalia, concluded the panel with a report on how the BüSo in her state is using humor and Classical culture in its work, including the music of Beethoven and the poetry of Friedrich Schiller. They will be holding celebrations in honor of Schiller's 250th birthday in several cities.

The discussion that followed this panel dealt in large part with the threats to the health-care system. Helga Zepp-LaRouche stressed, in response to questions from the floor, that it is simply irresponsible to dismantle health-care capacities, especially in view of the threat of pandemics evidenced by the swine flu.

Wolfgang Lillge, BüSo candidate in Berlin and a medical doctor, elaborated on the crisis in health care and what must be done to solve it. Decisions about such matters of life and death, he said, must be guided by the principle of *agapē*, as strictly opposed to any cost-effectiveness considerations.

It was resolved in this discussion, that the Club of Life, which was founded by Helga Zepp-LaRouche, and was active in the 1980s and 1990s as a voice of fierce resistance against any attempt to introduce euthanasia, shall be revitalized to protect the health-care system against the new fascists.

At the end of the congress, the participants passed the "Frankfurt Manifesto," which calls for the European Union's destructive policies to be replaced by those outlined during the congress proceedings today. The manifesto will be mass distributed during the remaining three weeks of the campaign for the European Parliament elections.

Indian Elections: Voters Opt For More Than Stability

by Ramtanu Maitra

May 19—In the 15th Parliamentary elections, the Indian electorate re-elected United Progressive Alliance (UPA), led by the largest party within the Alliance, the Indian National Congress (widely known as the Congress Party), leaving it just ten seats short of an absolute majority. A number of regional parties are now vying to join the Alliance to provide the necessary majority, which would put them at the seat of power.

The ruling Alliance knows that the electorate's verdict is neither a "massive mandate," as some UPA leaders, in a state of euphoria, are trying to convey to the media, nor it is an endorsement of its overall economic performance during the last five years, but rather, a very judicious decision by the voters to stabilize India at a time when the global financial system has collapsed, and ethnic and religious wars are raging all around the country. UPA leaders know that their economic performance benefitted a minuscule urban group, educated and computer-savvy, rather than the impoverished majority; hence, UPA leaders were running hard to win support from all and sundry regional parties, so that the Alliance would be able to form a government.

During the last two years though, the UPA had focussed more of its attention on the agricultural sector, where almost 60% of India's workforce toils. In fact, the previous government, the National Democratic Alliance (NDA), led by Prime Minister Atal Behari Vajpayee (1998-2004), had invested in rural infrastructure, and some of the positive developments showing up today in the countryside are the result of those investments. The UPA-instituted National Rural Employment Guarantee (NREGA) program was designed to give people temporary employment and create some local infrastructure. But, the program was flawed to begin with. It is a secondary form of welfare system without ensuring permanent income of the rural population. The UPA went along with the program in order to appease rural voters, but not to actually develop rural India.

Nonetheless, the Congress Party made significant inroads with rural voters, especially in Uttar Pradesh.

Election's Noticeable Features

The outcome of the four-phase month-long election, which ended on May 13, in which more than 700 million Indians voted, has many remarkable features. The most prominent of these is the electorate's rejection of sterile, caste- and ethnic-based regional parties, which became powerful during the 1990s, when the Congress Party had begun to wither, and the other national party, the Bharatiya Janata Party (BJP), began to polarize the population on the basis of an ideology of ill-defined Hindu identity, which they themselves could not explain with any clarity. Seizing the opportunity, some of the caste- and ethnic-based political parties in large states, such as Uttar Pradesh (the most populous of Indian states with a population close to 150 million), Bihar, Andhra Pradesh, and Maharashtra, gathered the disillusioned and fragmented electorate, and became the kingmakers in coalition governments, holding 30-40 of India's 540-plus parliamentary seats.

On the other hand, India's Left, a mish-mash of socialists and communists, having used the ideologies of "secularism" and "anti-imperialism" to keep its voter base for years, while allowing the states they controlled to be weakened economically, due to lack of development, have been delivered a knock-out punch by the same electorate in this year's parliamentary elections.

The election sent the regional parties a clear message: that their days of manipulating caste and ethnic divides to serve the party leaders' interest have come to an end. Two of the regional parties, Janata Dal (United) in Bihar, led by the state chief minister Nitish Kumar, and Biju Janata Dal in Orissa, led by the state chief minister Navin Patnaik, were given the seal of approval by

PIB/Mahesh Shankar

Nearly half of India's voters, 300 million, were under 25 years of age, and the Congress Party, especially, worked hard to win their support. These voters are waiting to cast their ballots in Bhalukpong, Arunachal Pradesh.

the electorate because of their success in implementing economic development and non-corrupt administrations during their terms in office.

Another remarkable feature, is that a large section of India's Muslim community of about 160 million has come back to support the Congress Party. In the 1990s, at the time the Party was floundering politically, and the BJP, in which certain groups were using anti-Muslim polemics to seek "Hindu" voters' support, the Muslims became disillusioned, enraged, and began supporting the regional parties, effectively, wherever they had strength. The return of the Muslims to the Congress Party also indicates that the Muslim voters are much more at peace now in India than they were in the late 1990s, and in the early part of this decade.

Moreover, about 45% of India's registered voters in 2009 were youth below 25 years of age. This constituted almost 300 million votes. These younger voters were much less attracted by ideologies of any kind, religious or ethnic, and a large segment of this huge group of voters was interested in stability and improvement of their financial status. It must be pointed out that the younger leaders of the Congress Party did make a mark among these voters.

The overall impact of these developments was translated into the outcome at the polls. The UPA, which had 179 seats coming in to the elections, ended up with 262, and was helped mostly by the success of the Congress Party, which increased its earlier tally from 145 seats in 2004, to 206 seats in 2009. The success of the Congress Party can be attributed mainly to the failures and criminalization of some major regional parties; the inability of the BJP to break out of its mold and provide the electorate with a vision of the future that would inspire them; and the limited, but decided, success of the Congress Party's younger leaders, led by Rahul Gandhi, son of the late Prime Minister Rajiv Gandhi and Congress Party president Sonia Gandhi, to connect with many rural voters. This showed up in Uttar Pradesh, where Rahul Gandhi toiled hard; there, the Congress Party improved its tally from 9 to 21 seats.

Positive for Security

Surrounding India, South Asian nations, victims of their sordid colonial past, have been under attack from various anti-nation-state warriors, who are using religious and ideological warfare to change governments and polarize the population. Recent events in Pakistan, in particular, indicate that if this threat is not fully understood, and acted upon adequately, this entire region, comprised of more than 1.6 billion people, will embark on the dangerous path of perpetual war.

Recent developments in Pakistan, particularly since September 2001, suggest that the ultra-conservative Wahhabi version of Islam, funded by the Saudis and by opium money, has weakened Pakistan. Religious wars are also raging in Sri Lanka and Bangladesh. At the time of this writing, Colombo has taken over the Tamil Tiger (LTTE)-occupied territories in the North and Northeast, eliminating the Tiger leaders. However, the religious nature of the conflict, between the Hindu Tamils and the Sinhala Buddhists, must be eliminated, and a democratic political process must take over, to restore peace in Sri Lanka. In all this, New Delhi, and a

PIB/M. Ashokan

Younger leaders of the Congress Party, like Rajul Gandhi, shown here (standing center), in a meeting with Prime Minister Manmohan Singh, made a special effort to win over youth and rural voters. Their votes put the UPA coalition over the top.

stable India, will have to play an important role. If the post-Tiger reconciliation process does not take place quickly enough, it is likely that India will be facing a wave of Tamil refugees moving into the southern Indian states of Tamil Nadu and Kerala.

In Bangladesh, the February massacre of the Army by the paramilitary Bangladesh Rifles (BDR) indicated that forces which would like to eliminate the friendly-to-India Prime Minister Sheikh Hasina Wazed, are very much active and have a well-developed network within and outside the country. Hasina's government has committed itself to reversing the trend of rising radical Islamic extremism and terrorism, and its export to India. A greater opportunity for overall cooperation between India and Bangladesh exists today, and it would be of extreme importance that the incoming UPA government give its close attention to relations with Sri Lanka.

New Delhi needs to observe socio-political developments in Nepal with keen eyes as well. Despite ugly confrontations with various political parties, Nepal's powerful Maoists have remained within the "peace process," and that violence—beyond levels that have become "acceptable" within this troubled country—is not an immediate risk, one Indian security analyst pointed out recently.

India itself has long been a victim of terrorism. It has been ravaged since Independence in 1947 by a number of secessionist movements, ranging from the disputed state of Jammu and Kashmir in the North, to the Myanmar borders in the Northeast. In the Northeast, the secessionist forces are mostly tribal, people who had been kept in quarantine from the rest of India, by the British Raj during its 200 years of rule. These groups had close contact with London, mostly through Christian proselytizing groups, and it is likely that they still do.

Also, the Maoist problem has spread far and wide, and is linked to the Maoist movement in Nepal as well. A product of absence of development in the areas they operate within, the Indian Maoists have taken control of a huge swath of land, running from the state of Bihar in the North to the state of Tamil Nadu in the South, encompassing the highly underdeveloped areas of the states of Jharkhand, Madhya Pradesh, Chhattisgarh, Orissa, and Andhra Pradesh. The common thread that runs through this massive stretch of land is: underdevelopment and poverty.

In this context, a stable Indian government will have the capability to set down policies which would ensure security to the country, steal the thunder from the militants, and bring about a long-term solution. It seems the UPA leadership is aware of this. On May 19, Prime Minister Manmohan Singh's stated: "The new UPA Government has to be vigilant and effective in dealing with the threat of terrorism and extremism, as it is looming large in India's neighborhood … [through] the as-

surance of internal security and maintaining the communal harmony and peace. . . ."

The Indian Economy and the Global Financial Collapse

During the UPA's first term (2004-09), which has just come to an end, the Singh-led government squandered the opportunity to begin in earnest strengthening India's basic physical economy. India's power sector has remained in shambles; almost 400 million people lack electricity. Much of rural India does not have clean drinking water or access to health care within a reasonable distance. India's vast railroad network has not been modernized. Modernization of the railroad would have helped the rural population in a big way. Instead, to encourage the automakers in a country where more than 70% of gasoline gets imported, the mindless New Delhi leadership found its nirvana in solving transportation problems by building roads.

In other words, the watchword of the Singh-led UPA during that period was to invest as little as possible in nationwide infrastructure to help all of India's citizens. Instead, selective, little investments were made to attract foreign investment. UPA's focus in the first term was to earn through exports, and attract foreign investment through reform. Although it found out that to compete in this dog-eat-dog export market, it needs adequate infrastructure, New Delhi ignored the danger signals and went with Information Technology (IT) as its breadwinner, ignoring the largest employment-generation sector: small and medium-scale manufacturing. This vast sector is now in big trouble due to the lack of modernization, and the dumping of competing manufactured products by foreign producers into the Indian market.

But during all of this, instead of focussing attention on rural India and equitable development, the UPA pursued higher "growth," which benefitted a few at the expense of many. However, now that the electorate has given it another chance, it is time to sober up. New Delhi must realize that the days when the United States would buy all and sundry from anywhere and everywhere will not come back for a while, if ever. Hence, to pursue growth on the basis of exports is not only against the common good, but also foolish.

New Delhi must also face the fact that attempting to attract foreign investors with minimum infrastructure will not work, since those same Wall Street and City of London investors have now been bankrupted by their own monetarist free-trade system, and are now waiting in line for handouts from their respective governments.

In other words, the Singh government must get out of the fantasy world and avail itself of this opportunity to build up the nation, and, at the same time, ensure a political success for the UPA.

In order to do that, the UPA will have to resist the pressure that is being exerted by the "reform" crowd and the monetarists entrenched within the political groupings. On May 19, India's financial daily, *The Economic Times*, quoted former Commerce Minister Kamal Nath, who will be a senior member in the Cabinet under construction: "Disinvestment of government equity while maintaining management control will only improve the efficiency of some of these public sector undertakings." These are the reformers who believe it is a greater priority to hand over to the private businessmen a functioning facility, than to modernize the public sector facilities, and make them more productive.

India's business leaders have applauded the election results, and have already made known their demand that the UPA use its new-found muscle to accelerate the pace of pro-investor "reforms." These include gutting restrictions on the closing of factories and contracting out; the whole or partial sell-off of Public Sector Units (government-owned companies); greater latitude for foreign investment in the retail sector; opening up of India's booming arms industry to private investment; and the deregulation of banking and financial services (pensions and insurance), one analyst reported.

Prime Minister Singh has instead pointed out that daunting challenges lie ahead for India as the global economy passes through difficult times. In a speech to the members of parliament, the Prime Minister said on May 19: "Equally important is the challenge of reviving economic growth and creating new employment opportunities. . . . There is some slowing down of investment and employment generation; we have to reverse this. We have to revive growth and make it even more inclusive."

He pointed out that, this time around, "business as usual" will not do. "The youth of India have voted in large numbers for our party. But it is in the nature of youth to be impatient. They will not tolerate 'business as usual.' They expect the government to cater to their aspirations. They expect a more responsive government."

These are words of hope to all Indians, who sincerely expect that the new government they have ushered in will keep its promises. and keep alive their hopes.

U.S. Sanctions Threatening Sudan's U.S.-Ratified Internal Peace Agreement

by Douglas DeGroot

May 22—The Obama Administration is continuing to establish a new tone on foreign policy issues, seeking diplomatic solutions while not being confrontational. But will there be real changes of policy that will challenge the framework established by the London imperial financial cartel toward the former colonial sector?

This imperial policy framework is premised on limiting or reducing population growth, and keeping nations in the trap of only being able to provide raw materials for the foreign market. It has been the basis for manipulated conflicts and destabilizations, allowing no possibility of internal economic development.

The latest demonstration of a change of tone was indicated May 20 in testimony to a Senate hearing on the continuing crisis in Somalia, by Assistant Secretary of State for African Affairs Johnnie Carson. He acknowledged that Somalia was going through a new phase of its prolonged internal conflict, in which opposition forces were trying to overthrow the latest Transitional Federal Government (TFG). He called for resolving these problems by developing a comprehensive solution that would promote stability, reconciliation, and economic opportunity in Somalia, without being specific about how this could be carried out (see p. 37).

Other indications of this change in approach are: 1) bilateral negotiations with Sudan initiated by Obama's Special Envoy to Sudan, Maj. Gen. Scott Gration (U.S. Air Force, ret.), who is holding out the possibility of improved ties with Sudan, including discussion of lifting economic sanctions; 2) UN Ambassador Susan Rice has somewhat moderated her attacks on the government of Sudan; and 3) with respect to Zimbabwe, Secretary of State Hillary Clinton, while remaining critical of President Robert Mugabe's government, has recognized the significance of the role Mugabe played in Zimbabwe's fight for independence.

If the United States were concerned about stopping the suffering and conflict in Sudan, the rational approach would be to organize large-scale infrastructure projects. This is what was envisioned for Africa by President Franklin Roosevelt, and has long been called for by Lyndon LaRouche.

The ongoing U.S. diplomatic activity with Sudan will provide the test case as to whether the changes in policy will go beyond superficiality, and become a substantial, serious, and positive effort focussed on facilitating the development of the entire nation. Such a change would include normalizing relations, and lifting economic sanctions, which are serving to divide the country, and making it very difficult to implement the 2005 Comprehensive Peace Agreement (CPA), which settled the 50-year-long conflict between North and South.

The Obama Administration has followed the Bush Administration in not taking Sudan off the list of state sponsors of terrorism, despite the removal from the government of the British-intelligence-controlled Muslim Brotherhood asset Hassan al-Turabi in 1999, when he tried to reduce the position of President to a ceremonial post. Turabi had invited Osama bin Laden to Sudan, and opposed a negotiated peace with the South. After Turabi's departure from government, Sudan cooperated with the United States against terrorism, and made a peace deal with the South.

The normalizing of U.S.-Sudanese relations, which had been promised if Sudan signed the CPA, is long overdue. The United States has not kept its word in this matter, opening itself to charges of negotiating in bad faith.

The Darfur Flank Against Sudan

The other flank being used against the Sudanese government, is the insurgency in Darfur. In response to Sudan's commitment to reach a negotiated end to the war with the South, the London-based financial cartel launched what it termed a "rebellion" against the Khartoum government, in Darfur, in April 2003, which was

FIGURE 1
Greater Horn of Africa

run from outside the country. Darfur was already flooded with weapons, because of Libya's efforts to take control of neighboring Chad, beginning in 1978. Darfur had been used as a staging base for Libyan-backed opponents of the Chad government. Many refugees from the Chad conflict moved into Sudan, and the influx of population, plus the 1984 drought, fueled conflict in Darfur. In 1987, two years before the government of President Omar al-Bashir came to power, the internal conflict in Darfur had already led to entire villages being burned.

The 2003 rebellion, carried out in part by close allies of Turabi, targeted law enforcement and government institutions, greatly reducing government influence in Darfur. Khalil Ibrahim, leader of one of the two main insurgent groups, the Justice and Equality Movement (JEM), is based in the capital of Chad, N'Djamena. Several other JEM leaders live in London. The JEM is based on one clan of the Zaghawa tribe, which also makes up the present government of Chad, though that group only accounts for 5% of Chad's population.

The Zaghawa grouping straddles the border between eastern Chad and western Sudan. The other main insurgent group, the Sudan Liberation Movement (SLM), was the largest of the two insurgent movements, although the British press now claim that the JEM (a British pawn) is larger, or better armed. The SLM is headed by Abdelwahid al-Nur, who lives in Paris. Britain and France are at the forefront in supporting the insurgency. On May 7, the London *Economist*, a mouthpiece for the City of London financial cartel, revealed the cartel's real desire: "Sudan has long seemed inclined to fragmentation and conflict."

Intent on saving the CPA agreement it was negotiating, the Sudan government subdued the insurgency, with no intention of wiping out any of the 89 tribes occupying Darfur. Not long after the government signed the CPA with the South in January 2005, by which time the Darfur insurgency had been contained, a well-funded foreign public relations campaign was launched, spearheaded by the U.S.-based Save Darfur Coalition (SDC); it charged the government with intending to carry out genocide against the insurgents. The coalition called for international intervention against the government.

Peace Accord in Danger

The foreign-run insurgency in Darfur and the economic sanctions against Sudan are posing a serious threat to implementation of the CPA. For the peace accord to succeed, economic development is crucial.

Indicative of the thinking of some institutional circles around Obama, Witney Schneidman, who was Obama's advisor on Africa during the Presidential campaign, addressed a forum in Washington on May 20. Although not an official spokesman for the Obama Administration, he said that its attitude toward Sudan is to review all policies and reexamine the difficult situations. He insisted that there must be full implementation of the CPA, and no return to a North-South war. He said that the Obama Administration is working with the Sudanese government to get it to the negotiating table, and that the issue of sanctions was being discussed.

Schneidman also claimed that aid for infrastructure development was *not* on the table. During the Clinton Administration, Schneidman was Deputy Assistant Secretary of State for African Affairs, dealing with economic and commercial issues. He designed an Africa policy which advocated accelerating Africa's integration into the (bankrupt) globalized economy, and deepening "democracy," for the Obama campaign.

Sanctions Are Wrecking the CPA

The U.S.-backed CPA was signed on Jan. 9, 2005. This was followed by the Save Dafur Coalition (SDC)

EIRNS/Douglas DeGroot

A sane U.S. policy toward Sudan would lift sanctions, to help Sudan build the infrastructure to enable the country to develop. This is the only way to stop conflicts and suffering. Here is the new Merowe dam, which Sudan built with Chinese cooperation since it could not get the desired American help.

public relations campaign attacking the government of Sudan. All the money the SDC raised was used to pour out more propaganda—none of it went to help the people of Darfur.

Sanctions had been imposed against Sudan in 1997 for debt arrearages and alleged support of international terrorists—this was the period before Turabi was thrown out of the government.

After the SDC campaign had continued for more than a year, the Bush Administration, in 2006, hit Sudan with more economic sanctions, switching the justification from terrorism to the counterinsurgency effort in Darfur. The sanctions were further expanded in 2007.

In October 2006, the U.S. Congress passed the Darfur Peace and Accountability Act, which targeted the Khartoum government, but excluded Southern Sudan, Darfur, some internally displaced persons camps near Khartoum, and border areas between North and South. Despite claiming to support the CPA, which calls for developing a unified Sudan, the United States has two policies toward Sudan: one for the government, and another for these designated areas of the country. This apartheid-style approach is sabotaging the CPA, since under the CPA, the government is supposed to make unity attractive to the South.[1]

According to the CPA: "The people of Sudan agree to work together to: establish a democratic system; find a comprehensive solution to the economic and social deterioration of the Sudan; and make the unity of Sudan an attractive option especially to the people of southern Sudan."

The U.S. Treasury Department's Office of Foreign Assets Control (OFAC) is in charge of investigating any financial dealings related to U.S. sanctions. If a U.S. company wants to develop a project in the South, OFAC has to approve all aspects of the deal and license the project. No participation by any U.S. economic entity in the sanctioned part of the country can be involved. Logistics for such a project is a nightmare, since goods brought in for the project must come through the part of Sudan which is subject to sanctions. The companies involved in the logistics will be registered in the sanctioned part of the country, making OFAC approval beyond problematic.

To avoid this nightmare, one option is to ship supplies in from neighboring Kenya. This is much more expensive, and undermines national unity between North and South, thereby setting up conditions for secession when this question comes up for election in 2011.

OFAC prohibits, except in the exempted areas of Sudan, any American from concluding any contract, including financing, anywhere in the routing process. Since, according to the CPA, Sudan's Central Bank is the location for budget management for all of Sudan, and since it is located in Khartoum, any transaction that passes

1. See "U.S. Sanctions on Sudan: Intended and Unintended Consequences," compiled and researched by Executive Research Associates. The full report can be obtained at http://www.erassociates.co.za/reports_more.asp?ID=10.

through it is subject to compliance with U.S. sanctions.

Sanctions have also greatly reduced South Sudan's income, including limiting the market for Sudan's oil, because OFAC monitors dollar-based oil transactions. Sanctions have also prevented American oil companies, with more sophisticated technologies for oil production, from operating in Sudan. Even though a large percentage of the oil is in the South, the oil industry was not exempted there. This has prevented increased oil output, which would be beneficial to the South as well as to the people of Sudan as a whole.

Sudanese sources report that there is now a monthly $250 million budgetary shortfall in the South. As a result, sanctions are giving ammunition to those in the South who want to secede, since this is the only way to avoid the constraints on economic development, which have resulted from the sanctions imposed on the government.

New Somali Government Struggling To Hold On

by Douglas DeGroot

May 23—Somalia's beleaguered Transitional Federal Government (TFG) struck back militarily yesterday against opposition radical Islamic insurgents who have vowed to destroy it. The TFG, headed by President Sheikh Sharif Ahmed, a moderate Islamist, had lost territory to the insurgents in recent weeks, and, according to news reports, controls only a few roads and key installations in Mogadishu, the capital, with the help of approximately 4,000 African Union peacekeepers.

Preventing the establishment of a stable government in Somalia, which has been without one since 1991, has been part of a long-term strategy of the London-based imperial financial cartel to destabilize the entire Horn of Africa, and surrounding nations. Keeping the region embroiled in dealing with the chaos in Somalia, serves that purpose. There have been numerous reports of a large input of funds into Somalia from Dubai, one of the financial clearing houses for laundering drug money of the British Dope, Inc. operation. Some of these funds and supplies come to Somalia directly, via flights from the Gulf. Some are funneled through the desperately poor neighboring country of Eritrea.

In a hearing on Somalia held May 20, by the African Affairs Subcommittee of the Senate Foreign Relations Committee, U.S. Assistant Secretary of State Johnnie Carson acknowledged that the situation was critical, and said the Obama Administration is considering ways to bolster the TFG, without being specific beyond pledging aid to AMISOM, the African Union peacekeeping mission in Somalia, and humanitarian aid. At the hearing, subcommittee chairman Sen. Russ Feingold (D-Wisc.) announced he has proposed that the Obama Administration consider appointing a senior envoy for the Horn of Africa.

In a news conference in Mogadishu, Mohammed Abdi Gandi, Somalia's Defense Minister, said the TFG had no choice but to undertake yesterday's counteroffensive, if it wanted to survive. After the fighting, both sides claimed victory. Many Somalis fear that the well-armed, radical militias are on the verge of toppling the TFG.

President Ahmed was elected in January 2009, after UN-brokered reconciliation talks in neighboring Djibouti, which began last year. The departure of the Ethiopian occupation facilitated the outcome of the talks, and his election.

Ken Menkhaus, an expert on Somalia and the Horn of Africa, also testified at the hearing, noting that past U.S. policies have made things worse for Somalia and its neighbors. He pointed out that the two-year Ethiopian occupation of Somalia had raised anti-Americanism there to a very high level. The Ethiopian invasion had been encouraged by former Vice President Dick Cheney and former British Prime Minister Tony Blair, as part of their so-called War on Terror, which aided the British deployers of the terrorists.

The TFG is under siege by a loose coalition of hardline Islamist insurgencies—most notably Shabaab and Hisbul Islamiyya, which received support from the population because of the Ethiopian presence, said Menkhaus. But since the Ethiopian withdrawal, they have continued to survive because of strong external support.

He cautioned against any military interventions, because that would play into the hands of the radicals. He said that the majority of the Somali people do not like the fact that al-Qaeda-linked movements are "urging Somalis to kill one another in the name of a radical, Wahhabist interpretation of Islam," just because these movements think the TFG is too willing to co-exist with Ethiopia and the West. He cautioned against globalizing the crisis in Somalia as part of a war on terrorism or piracy, because this would play into the hands of the radical militias.

SCIENCE FOR LEGISLATORS

Is the Fear of Nuclear Radiation Constitutional?

by Laurence Hecht

The author is editor-in-chief of 21st Century Science & Technology *magazine.*

NASA/Swift/Jules Halpern, Columbia Univ.

An expanding halo formed by X-rays coming from the neutron star SGR J1550-5418, as captured by the Swift satellite's X-Ray Telescope (XRT). The halo forms as X-rays from the brightest flares scattered off of intervening dust clouds. For a video of the event, see http://science.nasa.gov/headlines/y2009/10feb_sgr.htm

March 11—A recent burst of high-energy X-rays and gamma rays from the Southern Hemisphere constellation Norma, should serve to remind us that the current widespread fear of anything to do with radiation is much out of harmony with those *Laws of Nature and of Nature's God,* famously invoked in our Declaration of Independence. As the rights defined in that document stand, along with our Constitution, as twin pillars of our nation's fundamental law, the question arises: Should not the incitement of such fears against a natural and necessary phenomenon, with the clear intent of misleading a frightened populace down a path of national self-destruction, rise to the level of a Constitutional violation? However that point may ultimately be decided at law, our urgent aim here is to aid that present majority of misinformed policymakers and citizens in general, to learn the truth about nuclear radiation, and the wonderful power for good that it holds out for mankind.

What makes this task urgent is the present, rapidly accelerating economic collapse. Denial of the clear immediate and future benefits to be derived from knowledge of the atomic and subatomic realms (a denial due in significant part to the ignorance and prejudice of the audience we now address), constitutes a serious and immediate threat to the survival of our own people as well as those of other nations.[1] Unless those widespread

1. Such potential benefits include, but are not limited to: 1) nuclear-powered generation of electricity and industrial process heat; 2) production of hydrogen-based fuels for replacement of petroleum; 3) production of fresh water by nuclear-powered desalination; 4) nuclear medicine; 5) development of new materials and industrial processes through nuclear research; 6) research and development up to and through the engineering stage of more advanced forms of nuclear energy, including fission-fusion hybrids, and thermonuclear fusion devices of both the inertial and magnetic containment design; 7) research into anomalous phenomena in the subatomic domain, including but not limited to (a) "cold" fusion (low energy nuclear reactions); (b) anomalous coherence phenomena, including self-organizing phenomena in plasma; (c) non-linear spectroscopy, generally; 8) research into insufficiently explored regions of the biotic domain, including, but not limited to (a) biophoton emission and other manifestations of the relationship of life to the electromagnetic spectrum; (b) isotopic anomalies related to living matter; 9) matter/anti-matter reactions.

fears and prejudices respecting nuclear radiation are soon reversed, the threat to human civilization as a whole will be catastrophic. The currently popular proposals to increase our reliance upon so-called renewable energy sources, such as wind and solar, demonstrate a level of incompetence respecting the elementary principles of physical economy, such as to doom to inevitable failure whatever other well-intentioned, even courageous, measures might be forthcoming from the present Administration. Motivated by such urgent considerations as these, we are convinced that the serious reader, even without prior familiarity with the subject matter, can gain a working grasp of the essentials of these matters, and overcome those ill-founded prejudices he or she may have previously accepted without examination.

Now, to the galaxy. As detected by NASA's Swift X-ray Telescope, a small object about 30,000 light years distant, lying within our Milky Way galaxy in the direction of the constellation Norma, began a series of forceful eruptions on Jan. 22, at times producing over 100 X-ray flares in as little as 20 minutes. The most intense of these were estimated to contain more total energy than the Sun produces in 20 years! In addition, the new Fermi Gamma-ray Space Telescope has detected 95 bursts of radiation from the same object in the gamma ray band of the spectrum, the same general type of radiation that comes from radioactive objects on Earth. The object, located about 30,000 light years away, is of a type known as a neutron star.

Despite the large numbers, there is nothing that unusual about these events. Bursts of radiation of this power, and far greater, are normal occurrences in the universe. Much of it ends up in our bodies. Another flux of radiation known as cosmic rays (we shall explain and distinguish the different common types of radiation shortly), is bombarding Earth's atmosphere continuously. This type of radiation consists mostly of very energetic protons (hydrogen nuclei), as well as the nuclei of heavier elements, all the way up the periodic table. The determination of the content of cosmic rays was an important focus of physics for the first half of the 20th Century.

The human body is full of radioactivity—all natural—from the foods we eat, like citrus fruit (source of potassium-40) or bananas (potassium-40). Edward Teller used to joke that a man would get more radiation from sleeping with two women than living next door to a nuclear plant.

Colliding with atoms in our atmosphere, the cosmic rays transform the elements in a way similar to a particle accelerator, creating many radioactive byproducts. Included among these is carbon-14, a radioactive isotope of the element carbon which is found in every molecule of our bodies. Green plants respire this naturally produced carbon-14, and use it to grow. When we eat vegetables, or the meat of animals that have eaten them, and when we breathe fresh air, we take this carbon-14 into our bodies. The carbon-14 present within the average human body is responsible for *more than 3,000 radioactive disintegrations every second*.[2]

Another naturally occurring isotope, potassium-40, is the most abundant radioactive substance in our bodies, responsible for *4,440 disintegrations per second* inside the average adult. Potassium is an essential mineral for cell function, and with every gram of it that we consume, about 1/10 milligram is the radioactive isotope. We obtain potassium from eating fruits, vegetables, and meats. Potatoes, figs, chicken, hamburgers, citrus fruits, and bananas are all high in potassium-40.

2. R.E. Rowland, "The Radioactivity of the Normal Adult Body," http://www.rerowland.com/BodyActivity.htm

Radioactive Elements in the Human Body

Radioactive Isotope	Half-Life (years)	Isotope Mass in the Body (grams)	Element Mass in the Body (grams)	Activity within the Body (Disintegrations/sec)
Potassium 40	1.26×10^{9}	0.0165	140	4,440
Carbon 14	5,715	1.9×10^{-9}	16,000	3,080
Rubidium 87	4.9×10^{10}	0.18	0.68	600
Lead 210	22.3	5.4×10^{-10}	0.12	15
Tritium (^{3}H)	12.43	2×10^{-14}	7,000	7
Uranium 238	4.46×10^{9}	1×10^{-4}	1×10^{-4}	3 - 5
Radium 228	5.76	4.6×10^{-14}	3.6×10^{-11}	5
Radium 226	1,620	3.6×10^{-11}	3.6×10^{-11}	3

Source: R. E. Rowland, "The Radioactivity of the Normal Adult Body," http://www.rerowland.com/BodyActivity.htm

A conservative estimate of the radioactivity in the human body, showing the isotopes responsible for about 8,000 disintegrations per second. Other sources estimate a total of about 15,000 disintegrations per second.

If every radioactive disintegration represents a cancer threat, as so many people have been led to believe, then perhaps we should consider a legislative ban on cosmic rays and orange juice. Or, might it be wiser to first know a bit more about the whole subject?

1. What Is Radioactivity?

Discovery of the Electron and Proton

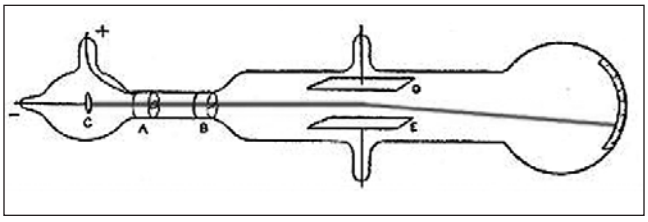
We shall begin by attempting to understand what we mean by such terms as *radioactivity, isotope, proton, gamma ray, etc*. But first a warning. Most of these and other terms we shall employ here are, properly, not things, but concepts. We may, at times, form visual images of them, but we must remember that not only are they not generally perceptible to our senses, but even if they were, our conception of what they are would never be comprehended by a verbal definition. The same methodological warning applies here as to the inevitable failure of any effort to interpret *natural law* in the manner of the strict constructionist. An infinite number of readings of the Constitution will never yield the intent of the framers, if it is not known through other means. The same applies to the terms employed by science. A true understanding of them can only be gotten by studying and repeating the path of experimental discovery. No deep understanding of science is ever attained by any other means. And so we proceed.

We shall start then with the experimental discovery of the *electron* and *proton*.

A central focus of scientific investigations in the 1880s and 1890s was the behavior of gases contained within glass tubes, from which most of the air had been sucked out, and an electric potential (voltage) excited between metal wires placed at opposite ends of the tube. Depending on the gas or gases left in the tube, a beautiful, fluorescent glow, ranging from coral pink, to pale green, to a deep indigo blue, is observed. The ray seems to originate from the negatively charged electrode (*cathode*) at one end of the tube, hence the name *cathode rays*. However, despite its resemblance to a light beam, it turned out that the colorful ray, unlike an ordinary light beam, could be deflected by a magnet, or by strongly electrified plates placed parallel to the walls of the tube.

A very strange phenomenon is observed when small holes are drilled in the cathode, and it is placed in the center rather than at one end of the tube. It then occurs

British scientist J.J. Thomson followed up on work in Germany, which had laid the foundations of studies of the negative and positive rays produced in evacuated glass tubes when an electric current is passed through the tube. In his second experiment (below), Thomson showed that a cathode ray was deflected by electrified plates, indicating that it had a negative charge.



that in addition to the *cathode rays*, which pass toward the positive electrode, other rays shoot out from the back side of the cathode, like fiery sparks. Because they seemed to originate from the little holes (channels) drilled in the cathode, these were called *Kanalstrahlen* by Eugen Goldstein, who discovered them in his laboratory at the Berlin Observatory in 1886. The term was translated, somewhat over-literally, into English as *canal rays*, though *channel rays* might have been more accurate.

It turned out that, like the cathode rays, the *canal rays* could also be deflected, although in precisely the opposite direction, by a sufficiently strong magnetic or electric field. It was this common property that proved the key to the initial unmasking of both the cathode and canal rays. For in 1896, the assumption was made by J.J. Thomson at Cambridge University's Cavendish Laboratory, that the cathode rays, unlike light beams, actually consisted of tiny electrified particles of negative charge. Wilhelm Wien in Aachen found similar results, and, in 1898, Wien showed that the canal rays could be considered as positively charged electrical particles.

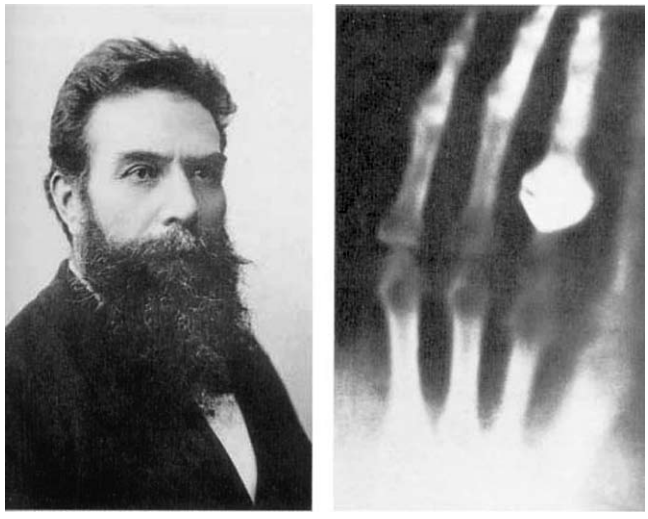
By measuring the amount of deflection produced by an electric or magnetic field of given strength upon the two different types of rays, it was possible to compare the bending of the ray to that of a larger body of known charge and mass experiencing the same amount of electric or magnetic force. After all the measurements and calculations were done, it turned out that the *cathode ray* possessed a mass more than a thousand times

smaller than that of the least massive *canal ray* (today we know it more exactly as 1,836 times smaller). The least massive canal ray, it turned out, was that produced when the gas in the tube was hydrogen, and by this and other evidence, *canal rays* came to be seen as electrified versions of ordinary chemical atoms (today called *positive ions*).[3] The hydrogen ion thus became known as the elementary particle of positive electricity, or proton. The *cathode ray* particle, discovered first, became known as the elementary particle of negative electricity, or *electron*.[4]

From X-rays to Radioactivity

Slightly before the results just reported, a professor of physics at the University of Würzburg made an astounding discovery of both theoretical and immediate practical significance. While experimenting with various types of gas discharge tubes in November of 1895, Wilhelm Roentgen noticed that a screen painted with fluorescent material would light up when the tube was activated. A similar phenomenon had been noted by other observers back to 1875, but Roentgen was the first to thoroughly pursue it. He soon discovered that the rays could penetrate many materials. At the end of two weeks of intensive experimentation, eating and sleeping in his laboratory, he produced the world's first *X-ray* picture. It was an image of his wife's hand, showing the bones of the fingers and wedding ring.

Roentgen's discovery was quickly made known worldwide. Just weeks later, physicians in Dartmouth, New Hampshire, used photographs taken with an X-ray tube to set the broken arm of a boy. Roentgen also discovered in this early period that lead served as an effective shield against the radiation, and he used sheets of this metal to protect himself from direct exposure. Roentgen summarized his discoveries in a paper in 1896 calling them "Radiation X," or *X-rays*. They are also known as Roentgen-rays.



Wilhelm Roentgen caused a scientific sensation by his discovery of what he called X-rays in 1895. He was experimenting with gas discharge tubes, and found that they would light up a screen painted with fluorescent material. He discovered that the X-rays could penetrate many materials, including human tissue. Here is his first X-ray picture: his wife's hand, showing her bones and her wedding ring.

Excited by Roentgen's discovery, just months later Henri Becquerel in Paris discovered what was soon to become known as *radioactivity*. He found it while looking for something else. Henri Becquerel was the third member of his family to occupy the chair of physics at the Museum of Natural History in Paris. His father, Alexandre-Edmond Becquerel, had been the leading authority on the phenomenon of *luminescence*, the property of certain materials to glow in the dark, and Henri himself had written 20 scholarly papers on the topic. Observing an experimental apparatus for producing X-rays which was exhibited at a weekly meeting of the French Academy of Sciences, Becquerel thought that the unusual radiation might emanate from a part of the glass vacuum tube which glowed when struck by the cathode rays. He suspected that luminescence might be a prerequisite for the production of X-rays, and he thus began to examine various luminescent materials for X-ray production. Many rocks and minerals can be made to glow in the dark after exposure to sunlight, and others,

3. Remarkably, the tiny mass of the hydrogen atom was already known, thanks to the hypothesis put forward by Count Amedeo Avogadro in 1811, that equal volumes of gases all possess the same number of indivisible parts, known as atoms, and the work of the Austrian physical chemist Josef Loschmidt in calculating in 1865 what this number of atoms actually was.

4. The assumption made by the Cambridge scientists, that the cathode rays consisted of particles, was seriously doubted at first by most researchers. However, the experimental results could not be disputed, and the concept of *electron mass* took hold. Later it turned out that there had been some basis for the hesitations, for it was demonstrated in 1926 that the electron did indeed behave like a light wave, in being capable of refraction by a crystal and exhibiting interference patterns, and so the paradox of wave vs. particle was reborn, never yet to be put to rest.

This experimental proof carried out by Davisson and Germer at the Bell Laboratories was confirmation of a hypothesis proposed several years earlier by Count Louis de Broglie. Later it was seen that not only the electron, but also the heavier particles, such as the proton and neutron, showed wavelike characteristics, and from then on had to be thought of in a somewhat ambiguous way as particle/waves.

Henri Becquerel, inspired by a demonstration of Roentgen's rays, suspected that luminescence might be involved, and thus investigated rocks and minerals that were known to glow in the dark after being exposed to sunlight. He inadvertently discovered that uranium rocks produced rays even when they were not exposed to sunlight!

by immediate exposure to ultraviolet light. Today these phenomena are termed *phosphorescence* when the light emission is delayed, and fluorescence when it occurs immediately; *luminescence* is the general term.

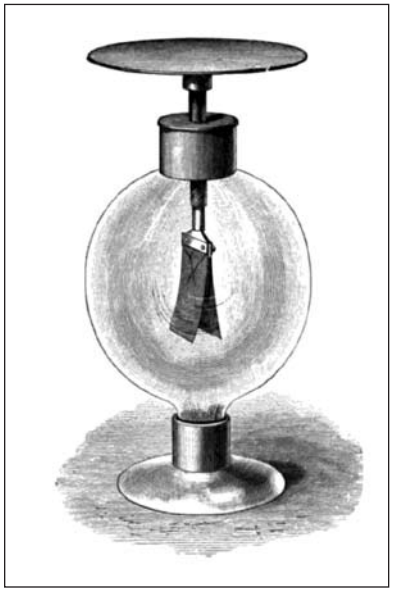
Among the materials Becquerel examined for X-ray production were rocks containing a uranium compound known to be phosphorescent. His procedure was to expose the uranium rocks to sunlight, then wrap them in black paper, place them on top of a photographic plate, and store them in a dark place for a time. If the photographic plate became exposed, he might assume that *X-rays* were somehow being generated, and penetrating through the black wrapping paper onto the photographic plate. Sometimes he placed a coin or other object next to the rock sample, in order to see if its outline would be imaged on the photograph. Samples of the uranium-bearing mineral potassium uranyl sulfate showed an exceptional capability to penetrate the black paper and leave an image on the photograph.

By chance, a spell of bad weather caused him to leave some of the rocks in a drawer, wrapped in black paper next to photographic plates, but not exposed to sunlight. When his curiosity provoked him to develop these, he found that they too showed a photographic image. Yet the rocks had not been stimulated to emission by previous exposure to sunlight.

Within a few months, Becquerel had become certain that previous exposure to sunlight was not required to cause the rocks to radiate. Furthermore, even samples of uranium compounds that did not exhibit any phosphorescence were able to produce an image on the photographic plates. Finally, experimenting with a sample of nearly pure uranium metal, he found the power to expose photographs was greatly increased. That was convincing proof that the radiations were not related to luminescence, but were a property of the element uranium.

It was now late Spring of the year 1896. News of Becquerel's experiments travelled fast, and created a great conundrum among chemists and physicists. Where did the power of the rays come from? In phosphorescence, the energy for the light production was seen as coming from an external source of energy, the Sun. As long as the power to produce light seemed to derive from prior exposure to sunlight, the principle of the conservation of energy was not violated. The energy of the sunlight was stored in the rock and emitted later. Once that hypothesis was dashed, some new cause had to be found for the energy of the rays. Some began to suspect that some new power existed within the interior of matter. Perhaps the concept of the atom, the indivisible substance which had served chemistry so well for nearly a century, needed to be modified.

Some bold minds began already to suspect that perhaps the atom itself consisted of smaller parts. Perhaps the ordinary chemical means would not allow access to these, but by some other means not yet known, their powers could be released. But this was only speculation. Such a bold suggestion would first have to be proven experimentally.

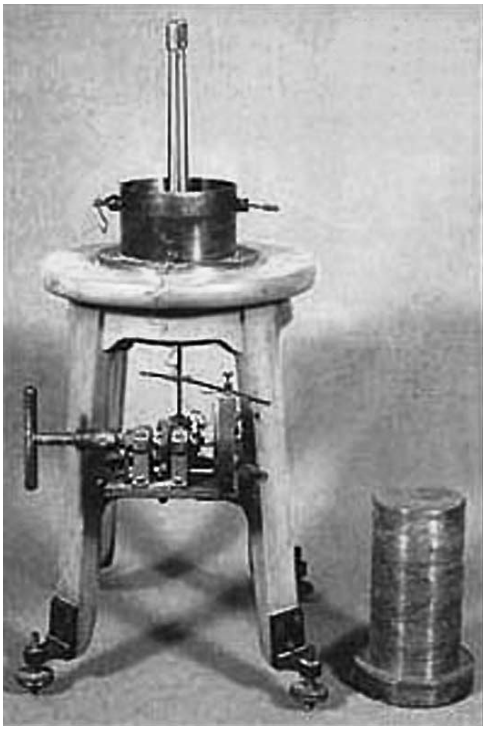


In a gold leaf electroscope, two thin strips of gold leaf are placed in contact with each other, and are hung from a metallic clip inside a glass container. The clip is electrically charged by a conductive ball or disk outside the container. When an electrically charged object is put in contact with the ball, the charge is communicated to the gold leaf, and the two strips, because they are of the same charge, repel each other, rising into the air in opposite directions. As the charge dissipates, the strips fall back to their original position.

Roentgen showed that his X-rays could discharge the electroscope, and later Becquerel showed that a uranium sample caused a discharge. But it was not known initially what caused the uranium to have this effect.

It was not yet clear if the *Becquerel rays*, as they had come to be called, were X-rays, or some new kind of radiation. One of Becquerel's experiments had been to observe the effect of the uranium rays on an instrument known as an *electroscope*. Two thin strips of gold leaf, placed in contact with each other, are allowed to hang from a metallic clip which is placed within a glass container. Electrical contact is maintained from the metallic clip to a conductive ball or disk outside the container. (See drawing.) When an electrically charged object is put in contact with the ball, the charge is communicated to the gold leaf, and the two strips, being of the same charge, repel each other, rising into the air in opposite directions like spreading wings.

Over time, the charge dissipates, and the strips fall back to the vertical position. When the air in the surrounding atmosphere is more conductive, the charge will dissipate faster, causing the strips of gold leaf to droop sooner. Roentgen had already shown that his X-rays had the power to discharge the electroscope, causing the gold leaf to droop. When Becquerel brought a uranium sample near to a charged electroscope, it too caused a discharge. Was the effect caused by X-rays, somehow produced within the uranium ore, or was it by some other power?



The Curie electrometer, invented by Pierre Curie and his brother, Jacques, used a quartz electrobalance to detect extremely small changes in electrical currents produced when rays from uranium ionize the surrounding air.

Two New Elements

It was going to take further investigation to determine the nature of the new Becquerel rays. By the Fall of 1896, another investigator, a young woman by the name of Marie Sklodowska Curie, had entered the search. Recently married to the physicist Pierre Curie, theirs was a marriage of true minds, built on an intellectual and scientific collaboration conjoined with the deepest love. She conceived the idea of applying a device, which her husband and his brother had invented 15 years earlier for another purpose, to the investigation of the *Becquerel rays*. The *electroscope* is capable only of a rough measurement of the strength of charge by the degree of deflection of the gold leaves. The ability of different substances to discharge the electroscope, known as the *ionizing power*, could be roughly estimated by the length of time it took for a sample held at a certain distance to accomplish this. However, with the new device known as the *Curie electrometer*, the measurement of the ionizing power of any material could be precisely measured.

By now the two Curies were partners in the quest to understand the curious powers of uranium. Pierre and Marie Curie soon began experiments with samples of uranium ore (pitchblende), most of them obtained from mines in Bohemia, then part of Austria. While still sup-

A sample of pitchblende, the ore containing uranium that Marie and Pierre Curie obtained from Bohemia. The Curies devised a way to separate out the uranium from the mass of pitchblende and were astonished to find that the remaining ore exhibited more radioactivity than did the pure uranium.

Cogema

Uranium oxide (known as yellowcake), is the raw material processed into nuclear fuel. It is converted to a gas and then "enriched" through gaseous diffusion or centrifuge processing to concentrate the fissionable uranium isotope, U-235. The non-fissionable isotope, U-238, constitutes all but 0.7% of natural uranium. Reactor fuel generally requires about 3-5% of U-235.

posing that the effect might be due to the "Radiation X" identified by Roentgen, they soon came upon a crucial anomaly. Being accomplished chemists, the Curies tried experiments to remove the uranium from the pitchblende ore. By subjecting samples of the ore to acid, they could cause much of the uranium to precipitate out as a salt. When samples of the ore with most of the uranium removed were placed in the measuring device, a remarkable thing happened. They showed more ionizing power than the ore samples containing uranium.

The Curies then isolated pure uranium metal from the ore and compared its activity. The ore samples with the uranium removed showed an ionizing power three to four times greater than the pure uranium. They became convinced that a new element, many times more active than uranium, must be present in the ore. They began a process of chemical separation. Aided by the Curie electrometer, they were able to separate out the portions of the ore which showed greatest ionizing power. By June 1898, they had separated a substance with 300 times the activity of uranium. They supposed they had found a new element which they named polonium, after Marie Sklodowska Curie's embattled Poland. There was still some doubt as to whether it was a new element. It had not been isolated yet, but always appeared together with the already known element bismuth. But continued work finally showed the polonium to be distinct.

By December of 1898, the Curies had separated another product from the Bohemian ores which also showed strong ionizing power. This one appeared in combination with the known element barium, and behaved chemically much like barium. Again, it had not yet been isolated in a pure form, and there was uncertainty as to whether it was a distinct element. Spectral analysis showed mostly the spectral lines characteristic of barium, but their friend, the skilled spectroscopist Eugène-Anatole Demarçay, had detected a very faint indication of another line not seen before.[5] On the basis of the chemical and spectral evidence, and its strong ionizing power, the Curies supposed it to be a new element, which fit in the empty space in the second column (Group II) of Mendeleyev's periodic table, below barium. They named it radium.

Roger Viollet

Pierre and Marie Curie in the unheated shed in the courtyard of the School of Physics and Chemistry, which they used as a laboratory to process the pitchblende ore. On the table is Pierre's quartz piezoelectrometer.

The Curies now dedicated themselves to obtaining pure samples of these new elements. It took four years of dedicated labor, working in an unheated shed behind the University of Paris, to isolate the first sample of pure radium. Polonium proved even more difficult. While they were engaged in this effort, research was under way in other locations, sparked by the earlier papers of Becquerel, and by the Curies' announcement of two new elements with such extraordinary powers.

Some time in the course of these discoveries, it was felt that a new name ought to be given for the unusual ionizing power of these new elements. Marie Curie proposed the term *radioactivity*.

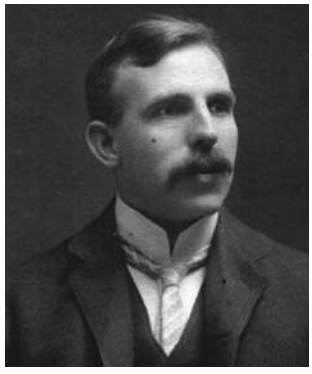
2. Transmutation and Radioactive Isotopes

Alpha, Beta, and Gamma Rays

The Curies' work attracted worldwide attention. One of the most important lines of development led to the discovery that there was more than one type of radiation

5. Upon heating, each chemical element shows a characteristic color. Most people have seen the green color produced in a flame by a copper-bottomed pot. If the light produced when the element is heated be passed through a prism, it is dispersed into a band of color, just as sunlight passing through a prism forms a rainbow. Within the colorful band, known as a spectrum, certain sharp and diffuse lines appear. Bunsen and Kirchoff began work in 1858 which established a means for identifying each element by its flame spectrum.

coming from the *radioactive* substances. Becquerel had already reported from his early experiments with uranium that he suspected this to be the case, and experiments by the Curies had also suggested it. In 1898 Ernest Rutherford, a young New Zealander working at the Cavendish Laboratory in England, used an apparatus based on the Curies' radiation detector to examine the radiation from uranium in a slightly different way. He placed powdered uranium compounds on the lower metallic plate of a Curie electrometer, and covered the powder with layers of aluminum or other metal foils.



Ernest Rutherford's experiments in 1898 found two types of "rays" emanating from uranium, which he named alpha and beta.

It was found that most of the radiation, as measured by the charge collected on the upper plate, was stopped by a single thin layer of foil. But some of it got through and was only stopped after a considerable number of layers had been added. The conclusion, already suggested by earlier work of Becquerel, was that there were at least two different types of radiation, to which Rutherford gave the name *alpha rays* for the less penetrating, and *beta rays* for those which were stopped only by more layers of foil.

What were these two types of rays? In 1899, Becquerel and two separate groups of experimenters in Germany, all found that the radioactive emissions from radium could be bent by a magnetic field. Although the rays are invisible, their bending could be detected in the following way: A sample of the substance was placed in a lead container with a narrow mouth, so that radiation could only escape in one direction. The container was placed between the poles of a powerful electromagnet, and by detection on a fluorescent screen, it was found that the emerging radiation was curving in the same direction as had been observed with the cathode rays mentioned above. As further experiment confirmed, the *beta rays* emitted by radioactive substances were found to be identical with the *cathode rays* produced in gas discharge tubes. Both were nothing more than beams of electrons.

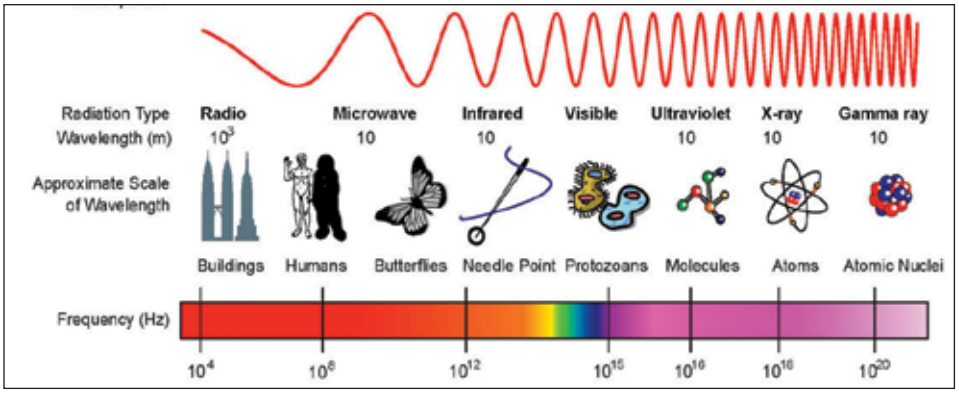
More careful experiments by Pierre and Marie Curie in 1900, showed that only a part of the radiation was deflected by the magnet in these experiments. Marie Curie then showed that the undeflected part of the radiation had a lesser penetrating power. It was thus likely that this other part was the so-called *alpha radiation*. Under a stronger magnetic field, the *alpha rays*, could be deflected as well, but by a lesser angle and in the opposite direction of the *beta rays*, indicating that they were more massive and positively charged. It was to take a few more years before the character of the *alpha rays* was discovered to be identical to the nucleus of the second element in the periodic table, helium. Thus, by the first decade of the 20th Century it was understood that these newly discovered radioactive substances were regularly emitting high-speed helium nuclei (*alpha particles*) and electrons (*beta particles*).

Yet a third type of radioactive emission was discovered in 1900 by the French physicist Paul Ulrich Villard. These had the power to penetrate through all the layers of aluminum foil that Rutherford had used to distinguish the *alpha* from the *beta* rays. They could only be stopped by a relatively thick piece of lead. They were not bent by the strongest magnetic or electric fields. This third type of radiation became known as *gamma rays*. Though some suspected that they too would correspond to some particle, it turned out that they more closely resembled light in having no detectable mass.[6] They could be identified and measured by their wavelength, however, which was discovered in 1914 to be thousands of times shorter than visible light. A shorter wavelength means a higher frequency, and consequently higher energy for the radiation.[7]

In 1900, Paul Villard discovered gamma rays, which were able to penetrate to a greater depth than alpha or beta rays.

6. Whether a photon of light possesses mass or not remains a matter of controversy. By equating the expressions for energy of Planck ($E = h\nu$) and Einstein ($E = mc^2$), a value for the mass of a photon of any given frequency can be obtained.

7. We understand the properties of light by recourse to an analogy to waves in water, first proposed by Leonardo da Vinci. We measure light by the distance from crest to crest of each successive wave, a distance known as the *wavelength.* As we imagine the waves all to travel at a constant speed, if we were to count the number of wave crests passing a particular point in a second, we would find that light of shorter wavelength would squeeze in more crests in the course of a second than that of longer wavelength. The number of wave crests passing a particular



The various types of electromagnetic radiation are measured by their wavelength and frequency. As the graphic shows, the higher the frequency, the shorter the wavelength.

We see thus that all the principal forms of radiation which emanate from radioactive substances were known by the year 1900. By 1914, their essential physical properties were known as well. These were the *alpha ray* or *alpha particle* (helium nucleus); the *beta ray* or *beta particle* (electron); and the *gamma ray* (a form of electromagnetic radiation, like light).

As we have seen, another kind of radiation, the X-ray, was also known, and had been found to be a form of electromagnetic radiation as well. The X-rays known at that time were of a lower frequency and thus less energetic than the gamma rays emitted from radioactive substances. Thus for a long time, X-rays were defined as any radiation having a frequency of from about 10^{16} to 10^{19} cycles per second, and gamma rays any frequency above that.[8] Now however, more powerful X-rays can be produced, and less powerful gamma rays have been found. Gamma rays and X-rays are thus distinguished today by their origin. The gamma ray is thought to originate in the atomic nucleus, while the X-ray seems to arise from the outer parts of the atom.

Transmutation of Elements

The separation of the radioactive elements, polonium and radium, by Marie and Pierre Curie soon led to the remarkable discovery that one element could be transformed into another. In 1898, Marie Curie and Gerhard Schmidt had independently discovered that a third heavy element, thorium, close to uranium in the periodic table, produced radioactive emissions.

Working at McGill University in Canada, the young chemists Ernest Rutherford and Frederick Soddy first recognized in 1901 that radioactive thorium was transforming itself into radium. Soddy called it *transmutation*, a term previously applied to the alchemists' hope of transmuting base metals into gold. Over the course of the next decade, it was discovered that all of the elements higher than lead (atomic number 82) in the periodic table were undergoing continuous transmutation. Eventually it was realized that it was usually not the whole sample of the element, but certain of its isotopic parts, that were changing. In undergoing this *transmutation*, a sample of a certain isotope would emit a characteristic radiation, the alpha, beta, or gamma ray. (A fourth mode of radiation, the positive electron or *positron*, was discovered later.)

By about 1910, the sequence of spontaneous changes of the elements from uranium to lead, known as *radioactive decay*, had been well mapped out by the careful chemical analysis of Soddy and other investigators. It turned out that there were, not one, but three different paths, known as *decay chains*, that the elements could follow. A fourth decay chain, not found in nature, was

point in a second is known as the *frequency,* and thus is inversely proportional to the wavelength. It also turns out that at this higher frequency, or shorter wavelength, light does more work in the course of a second than that of lower frequency, and thus is described as more energetic.

Not only light, but heat, radio waves, and high-energy radiation, such as X-rays and gamma rays, can all be described by this wave analogy. The waves have both electrical and magnetic properties. Although a magnetic or electric field will not change their direction as it does that of electrons and protons, it will cause an internal change known as rotation of the plane of polarization. They are known as electromagnetic waves, and their vast range of frequencies is known as the electromagnetic spectrum.

8. The notation 10^{16} means 1 followed by 16 zeroes, and thus is equal to 10,000,000,000,000,000 (10 quadrillion) cycles per second. The standard unit for the *cycles per second* of frequency is now known as the *hertz* (abbreviated *Hz*).

The first measurement of the wavelength of light was made in 1801 by Thomas Young, an English opponent of the Newtonian theory of optics. Young passed a ray of light through two slits, thus causing the two separated beams to interfere with each other, producing alternating bands of darkness and light. The interpretation was that, like waves in water, the crests of the two separated beams reinforced each other where they came together, while when a crest of one beam met the trough of the other, they cancelled each other, producing darkness.

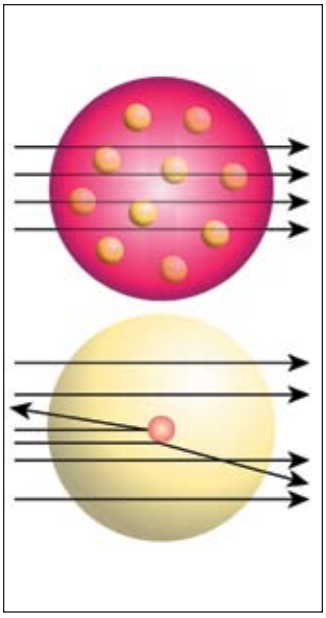
Chemist Frederick Soddy, who worked with Rutherford, determined that radioactive thorium decayed into radium, a process he named transmutation. He and others later mapped out the types of spontaneous transmutation that occurred in the periodic table.

discovered several decades later, after the discovery of nuclear fission, and the creation of the first artificial elements. Then it was seen that the four decay chains could be categorized, like the arithmetic numbers, into series of 4n, 4n+1, 4n+2, and 4n+3. Further, the mass number of all the isotopes belonging to a particular decay chain must possess the same arithmetic residue modulus 4.[9]

The amount of radiation emitted is always proportional to the amount of mass of the radioactive substance which is transmuted. The rate of disappearance of the original mass is measured by its *half-life*, which will be different for each isotope. The *half-life* is the amount of time it takes for one half of the mass of the radioactive substance to transmute into its new form. Whether the sample is large or small, the time it takes for half of it to disappear is always the same, but the amount that has transmuted (and thus the amount of radiation emitted) is proportional to the size of the sample. Radioactive decay is thus describable mathematically by an exponential function, like the compound interest on a mortgage or car loan, but in reverse. (Some might find an analogy to the present reverse-leveraged collapse of our financial system. The difference is that the products of radioactive decay can be very useful.)

The Nucleus and Radiations

Gradually, a theory emerged to explain the emission of radiation and transformation of the elements. Early



In Rutherford's experiments, alpha particles from a radioactive substance were aimed at a very thin layer of gold foil. Most of the positively charged particles passed through the foil (top), but about 1 in 8,000 particles was deflected backward at an angle greater than 90 degrees (bottom). This indicated that there were tiny concentrations of positive charge in the gold foil. Rutherford called these concentrations the nucleus of the atom, and deduced from the experimental data a relative measurement of the nucleus.

experiments with the canal rays had suggested to Philipp Lenard in Germany that most of the space within a substance is empty (or at least transparent to rays), and the mass is concentrated in only a very small portion of the space. He called these concentrations of mass *dynamids.*

In 1909, Hans Geiger and Ernest Marsden, working in Rutherford's Manchester University laboratory, carried out experiments in which they aimed alpha particles from a radioactive substance at an extremely thin layer of gold foil. Most of the positively charged alpha particles passed right through the gold foil, supporting the notion that the space between the atoms of the seemingly solid substance was devoid of matter. About 1 in 8,000 alpha particles was deflected backwards, at angles greater than 90 degrees. This suggested that tiny concentrations of positive charge were spread throughout the substance of the gold foil. Rutherford called these concentrations of charge, the *nucleus* of the atom.[10] By

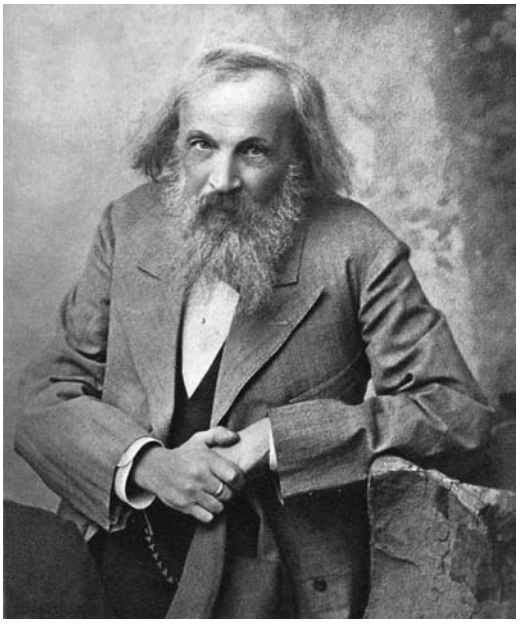
9. Of the four principal types of radiation emitted in nuclear decay, only one, the alpha particle, significantly changes the mass of the substance. The *alpha particle* weighs approximately four times the mass of the proton, which is nearly the unit of mass number. (Recall that studies had shown the cathode ray particles [electrons or beta rays] had only 1/1,836 the mass of the proton, and that the gamma ray was virtually massless.) Thus, whatever the mass number of the initial isotope in the decay chain (U-238, for example), the final one (Pb-206, in this case) and all of the intermediate ones would have a mass number of the form 4n+2. The deeper significance of this correspondence is perhaps yet to be discovered.

10. Said Rutherford: "It was quite the most incredible event that has ever happened to me in my life. It was almost as incredible as if you fired a 15-inch shell at a piece of tissue paper and it came back and hit you. On consideration, I realized that this scattering backward must be the result of a single collision, and when I made calculations I saw that it was impossible to get anything of that order of magnitude unless you took a system in which the greater part of the mass of the atom was concentrated in a minute nucleus. It was then that I had the idea of an atom with a minute massive centre, carrying a charge."

Rutherford's powers considerably deteriorated later in life. After his 1919 appointment as director of Cambridge University's Cavendish Laboratory, he increasingly adopted the role of controller of scientific discov-

analyzing how the positively charged alpha particles were deflected, it was possible to show that the nuclear charge was concentrated in a volume of less than one trillionth of a centimeter in radius, and occupied less than one three-thousandth of the total volume of each atom.

Over the course of subsequent decades, it was discovered that the nucleus could be viewed as a concentration of protons and a neutral particle/wave known as the neutron. The alpha, beta, and gamma rays were recognized as originating from this nucleus. The emission of each one of these particles could be correlated to a change in the character of the nucleus, a transmutation of the element. So, for example, the emission of an alpha particle (a helium nucleus consisting of 2 protons and 2 neutrons) reduces the atomic mass of the substance by 4 units and the charge (atomic number) by 2 units.



Dmitri Mendeleyev's work on the periodic table in the 1860s, and his prediction of future elements to be found, were an invaluable guide for later scientists.

Alpha emission is typical of the heavier elements. Another common form of radiation, the beta decay, can occur anywhere on the periodic table. The emission of a beta particle (electron), being only about 1/2,000 of the mass of a proton, scarcely changes the atomic mass of the substance. However, it causes an increase in the charge, or atomic number, of the element. Beta decay may occur from radioactive isotopes anywhere in the periodic table.

What Is an Isotope?

An isotope is a variation on an element, so named because all the isotopes of an element occupy the same position (*iso*+*topos*) within the periodic table. When Dmitri Mendeleyev first deduced the periodic table of elements, the existence of isotopes was not known. The isotopes of a given element behave almost the same chemically, and thus are very difficult to detect by chemical means. The discovery of radioactivity, and studies of the radioactive decay process at the beginning of the 20th Century, led to the suspicion that elements may exist in different isotopic forms. However, the first proof of the existence of isotopes was not obtained until the time of World War I.[11]

Now it is known that of the 92 elements in the periodic table, the majority have at least one other naturally occurring isotopic variant, and the number of natural isotopes reaches 10 for the element tin.

An isotope may or may not be radioactive. However, by exposure to radiation, artificial isotopes of every element can now be created. As all species of a given element have the same number of protons, the isotopes differ by the number of neutrons found within their nucleus. The number appearing after the hyphen in an isotope's name (e.g., carbon-14) refers to the combined number of protons and neutrons in the isotope's nucleus.

To understand the meaning and use of isotopes, let us look more deeply into carbon-14. Most elements naturally appear in various isotopic forms. Carbon, for example, is found on Earth in two stable forms, carbon-12 (98.9%) and carbon-13 (1.1%), and the radioactive carbon-14 (.0000000001%). The percentage distribution of the different isotopes of an element, which is almost the same anywhere on Earth that it is found, is known as its natural abundance.

Carbon-14 is a radioactive isotope of the element carbon, often called the building block of life, because the molecules in every living thing must contain it. The

ery, rather than innovator. His relentless attacks on American physical chemist William D. Harkins, who had foreseen the neutron in 1915, among other innovations, were typical. Rutherford later became notorious for his statement that any idea of attaining power form the atomic nucleus was "moonshine." More than likely, he knew better, but made the statement in the interest of British imperial policy, not science.

11. The detection of two isotopes of neon in positive rays of the gas was reported in 1913 by J.J. Thomson of the Cavendish Laboratory in England, but only conclusively demonstrated after 1919 in Francis Aston's *mass spectrograph*. Evidence for the existence of two isotopes of chlorine was achieved by W.D. Harkins and collaborators at the University of Chicago between 1915 and 1920, using separation by diffusion of the gas through various membranes. Harkins was thus the first to obtain chemically significant samples of isotopically enriched species.

isotope was discovered in 1940 by two chemists at the Berkeley Radiation Laboratory, Martin Kamen and Sam Ruben, who had been working for a decade to discover the path of carbon in photosynthesis. In 1942, they passed on the samples of carbon-14 which they had isolated to a young chemist, Andrew Benson, who used it in studies that first unraveled the secrets of the carbon pathway.[12]

Carbon-14 is produced in the upper layers of the atmosphere, when neutrons arising from cosmic ray collisions transmute atmospheric nitrogen. The nitrogen absorbs a neutron yielding carbon-14 plus a proton (hydrogen nucleus). This is expressed by the formula

$$^{1}n + {}^{14}N \rightarrow {}^{14}C + {}^{1}H$$

The carbon-14 then mixes in the atmosphere, and reacts with oxygen to produce carbon dioxide. About 1 in every trillion carbon dioxide molecules is formed of radioactive carbon-14. Although this is a small proportion of the total, the prevalence of carbon derived from the atmosphere in all living molecules leads to the result that about 3,000 radioactive disintegrations per second of carbon-14 occur in the average human body. The carbon-14 decays within your body by emitting a beta particle (electron), the same form of radiation produced by many of the reactions in a nuclear reactor. As a result of the decay, the carbon-14 is transmuted back to nitrogen.

The rate of decay of a radioactive isotope can be assessed by knowing the *half-life*. That is the time that it will take half of the substance to be transmuted into what is called its *daughter product*. The shorter the half-life, the more radiation is being emitted. Carbon-14 has a half-life of 5,730 years. Potassium-40, which is responsible for even more radioactive disintegrations within our body (averaging about 4,440 per second), has a half-life of 1.25 billion years. The potassium-40 produces more radioactivity than the carbon-14, because there is much more of it in the body. Radioactive potassium-40 makes up more than 1 part in 10,000 of naturally occurring potassium, compared to 1 part in 1 trillion for carbon-14. So, although the total mass of carbon in the body is about 100 times greater than the mass of potassium, the mass of radioactive potassium is almost 10 million times greater than that of radioactive carbon.

USGS

The radioactive carbon-14 isotope is found in every living thing, and thus is often called a building block of life. Produced in the upper atmosphere layers, carbon-14 reacts with oxygen to produce carbon dioxide. About 1 in every trillion carbon dioxide molecules is formed of radioactive carbon-14. Although this is a small proportion of the total, its prevalence results in the occurrence of about 3,000 radioactive disintegrations per second of carbon-14 in the average human body.

Carbon-14's ubiquitousness and its long half-life enable it to be used by scientists to date artifacts.

Here, carbon samples are converted to acetylene gas by combustion in a vacuum line. The acetylene gas is then analyzed in a mass spectrometer to determine its carbon isotopic composition. The proportion of carbon-14 to other isotopes is used for dating objects.

Natural Sources of Radiation

There are many other natural sources of radiation which reach us all the time. Some of the principal ones are shown in the accompanying table. These naturally occurring radioactive isotopes enter our bodies either through our food and water, or from the atmosphere. A certain amount of body radiation is also produced by collision of cosmic rays directly with our bodies, by the natural background radiation coming from radioactive elements in the Earth, and by the radiation from space such as from gamma ray bursts.

Cosmic rays and their by-products collide with us, all the time. In an experimental device known as the

12. After the war, Kamen was falsely accused of leaking atomic secrets to the Russians. The charge arose after he helped an official of the Russian consulate in San Francisco in obtaining experimental leukemia treatment for a friend. Kamen, an amateur violist, had met the Russian official in 1944 at a party given by his friend Isaac Stern, the world-famous violinist whom Kamen sometimes accompanied. Kamen later won a libel suit against the *Chicago Tribune* for naming him as a suspected spy. But for the false accusation, the groundbreaking discovery would most probably have led to greater fame and a Nobel prize.

Lawrence Berkeley Laboratory

Martin Kamen (left) and Sam Ruben (right), working at the Radiation Laboratory of what is now Lawrence Berkeley National Laboratory, discovered carbon-14 in 1940.

cloud chamber, the evidence for the existence of the cosmic rays can be demonstrated at any location on Earth. The first cloud chamber was perfected by C.T.R. Wilson in 1911.

A simplified cloud chamber is easy to build, often forming the subject of a high school science project. A closed container, like a small aquarium tank, and some dry ice are the principal materials required. When the proper conditions are created inside the tank, the collision of these high-speed protons from outer space with molecules of the air in the container, trigger condensation of the water vapor in the contained air. The vapor trails provide visual evidence that the cosmic rays have passed through. These cosmic rays also pass through our bodies, and are continuously producing radioactive by-products.

Another major source of radiation is the Earth itself. Most of this radiation comes from the natural decay of uranium or thorium, which is contained in varying amounts in every portion of earth or rock. The average soil contains from 1 to 3 micrograms of uranium, rocks contain from 0.5 to 4 micrograms, and beach sand contains about 3 micrograms.

Some locations on Earth are much more radioactive than others. In some parts of the United States it is possible to obtain *aeroradioactivity* maps, showing the natural background radiation levels from the Earth. These maps are derived from surveys conducted during the time of atmospheric nuclear testing to try to determine base levels of radiation. But elevation can have an even greater effect on background radiation level than soil and subsoil content. People living at high elevations and airline pilots receive a considerably higher exposure than average.

But, before you decide to abandon your home in Denver or Albuquerque, or never fly again, consider that there is *no evidence whatsoever that higher background levels of radiation have a negative effect on health or longevity.* In fact, there is a substantial body of scientific evidence that people exposed to low-level background radiation live longer. The experimentally proven positive effect of low-dose radiation is known as *hormesis.*

Low-dose radiation has been shown to enhance biological responses for immune systems, enzymatic repair, physiological functions, and the removal of cellular damage, including prevention and removal of cancers and other diseases. In Japan, advanced medical research showed that preliminary treatment with low-dose, full-body radiation could drastically reduce the dose

Tracks of ionizing radiation from cosmic rays, in a cloud chamber. The thick, short tracks are alpha particles; the long, thin ones are beta particles. C.T.R. Wilson perfected the first cloud chamber in 1911.

level required for patients undergoing high-level radiation therapy for various cancer treatments and increase the longevity of the patient.

Many healing springs and baths derive their benefits from low-dose radiation in the water, usually in the form of absorbed radon gas. In Germany, a nation which suffered an anti-radiation hysteria in the 1980s, causing the shutdown of numerous nuclear construction projects, people still flock to the traditional radioactive healing spas to bathe in radon-containing waters. In the Soviet Union, treatment with controlled doses of artificially produced radon was a standard and highly successful therapy for tuberculosis and other lung conditions.

3. So, Why Are You Afraid?

The principal cover story for promoting fears of radiation is a piece of pseudoscience known as the Linear No-Threshold (LNT) hypothesis. To call it a hypothesis may be gross exaggeration. According to the Linear No-Threshold argument, unlike any other known biological process, the response of the body to radiation is directly proportional to dose. Because radiation in large doses is dangerous or deadly, the LNT argument is simply that radiation in any dose is therefore dangerous or deadly. Thus, if a certain exposure to radiation produces 1 cancer in a population of 100 people, then, according to the Linear No-Threshold view, one-tenth that amount of radiation will produce 1 cancer in a population of 1,000.

By the same type of reasoning one could argue that, if 25 cups of water forced down the throat will generally cause a person to die of drowning, then drinking 1 cup of water would produce a 1 in 25 chance of drowning. At root the LNT argument is that simple, and ridiculous. Yet LNT is the basis on which decisions are made as to what levels of radiation are safe, or what levels might even be beneficial (*none,* according to the LNT proponents).

The data for estimating radiation cancer risks come from long-term studies of survivors of the atomic bombings in Hiroshima and Nagasaki, as well as studies of smaller human populations accidentally exposed to high doses of radiation. After plotting the statistics available from these cases of high exposure, a straight line is drawn on the graph back toward zero. The assumption is thus made, not deduced from the data, but imposed on it, that any lesser dosage will produce the same deadly results in a proportionally smaller number of people. The massive evidence that radiation dosage below a certain threshold is beneficial, not harmful, is ignored, as are the experimental data showing that some level of radiation may be necessary for life to exist at all.

Naturally, LNT has not gone unchallenged. Every review of the issue produces opposition from specialists in the field who raise cogent arguments but are ultimately overridden. A hypothesis which makes no sense is sustained by the popular fear of radiation.

Radiation Hormesis

A great number of human and animal studies show that not only is radiation at low levels not dangerous, but it is actually beneficial. Studies of large populations exposed to higher than average levels of radiation show increased longevity and lower mortality from cancers.

In the May 1961 *Journal of the American Medical Association* (*JAMA*), Dr. Hugh Henry, then at Oak Ridge National Laboratory, reported on all low-dose studies, saying that the results show consistent life-lengthening. He reported on early animal studies that showed hormetic (beneficial) effects from uranium and plutonium injections, feeding of uranium compounds, and exposure to external gamma and X-radiation. Henry concluded:

> The preponderance of data better supports the hypothesis that low chronic exposures result in an increased longevity than it supports the opposite hypothesis of decreased longevity.... Increased vitality at low exposures to materials that are toxic at high exposures is a well-recognized phenomenon.[13]

In a 1990 study of nuclear medicine, Marshall Brucer, M.D., reported:

> During the 1960s and 1970s about 40 articles per year described hormesis. In 1963, the AEC [Atomic Energy Commission] repeatedly confirmed lower mortality in guinea pigs, rats, and mice irradiated at low dose. In 1964, the cows exposed to about 150 rads after the Trinity A-bomb in 1946 were quietly euthanized because of extreme old age.... No experimental evidence

13. H.F. Henry, 1961. "Is All Nuclear Radiation Harmful?," *J. Am. Med. Assoc.,* Vol. 176, p. 671.

of damage at low doses existed; self-serving extrapolations from high dose-data dominated health physics.[14]

There is voluminous peer-reviewed scientific literature documenting the evidence for radiation hormesis. Dr. T.D. Luckey, Professor Emeritus of the University of Missouri School of Medicine, compiled more than 2,000 references.[15] Yet, the regulatory agencies ignore this evidence.

One of the largest and most thorough studies of the effects of low-level radiation was the Nuclear Shipyard Workers Study, funded by the Department of Energy, but never published. As reported by James Muckerheide, State Nuclear Engineer for the Commonwealth of Massachusetts:

> This 10-year, $10-million study of 39,004 nuclear workers, carefully matched with 33,352 non-nuclear workers, was completed in 1987.[16] After pressure on the DOE, which had chosen not to publish the data and conclusions, the Department finally, in 1991, issued a contractor's report on the study, with a two-page press release.... In the summary, the Nuclear Shipyard Workers Study reports that the high-dose mortality rate of the nuclear workers was 0.76 that of the non-nuclear workers in the control group. Of special significance is the fact that the summary report did not include "all cancer" mortality, which is a most common factor, and of most interest in any such study. However, Myron Pollycove, M.D., of the Nuclear Regulatory Commission, documented that the "all cancer" mortality in the detailed tables is also statistically significantly lower among nuclear workers than among the non-nuclear workers.[17]

The Radon Follies

The Linear No-Threshold Hypothesis was put to an extensive statistical test beginning in the 1980s by Dr. Bernard Cohen of the University of Pittsburgh. Cohen carried out a massive data collection effort, analyzing radon levels in 272,000 homes in the most populous U.S. counties and comparing them to lung cancer incidence.

The basis of the great household radon scare was (and remains) that high levels of this radioactive gas, released during the natural decay of uranium in the ground, would contribute to increased risk of lung cancer. Cohen's results showed the opposite: the higher the radon levels, the lower the incidence of lung cancer![18]

Dr. Graham Colditz of Harvard University, a world renowned epidemiologist, contributed to an interim analysis of the same data by counties. He confirmed the validity of the epidemiological analysis of these data.[19]

Dr. Kenneth Bogen at Lawrence Livermore National Laboratory independently compared 1950-1954 lung cancer mortality for women of ages 40 to 80 and 60 to 80 (who had smoked little), by county, with EPA county environmental radon data. Bogen also confirmed the inverse correlation between lung cancer and radon.[20]

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14. M. Brucer, 1990. *A Chronology of Nuclear Medicine* (St. Louis: Heritage Publications).

15. T.D. Luckey, 1990. *Hormesis with Ionizing Radiation* (Boca Raton, Fla.: CRC Press). Also in Japanese (Tokyo: Soft Science, Inc., 1980). In addition, see T.D. Luckey, 1995. "Test of the Linear-No Threshold Theory of Radiation Carcinogenesis for Inhaled Radon Decay Products," *Health Phys.,* Vol. 68, pp. 157-174.

16. J.R. Cameron, 1992. "The Good News about Low Level Radiation Exposure: Health Effects of Low Level Radiation in Shipyard Workers," *Health Phys. Soc. Newsletter,* Vol. 20, p. 9.

17. James Muckerheide, "It's Time to Tell the Truth About the Health Benefits of Low-Dose Radiation," *21st Century Science & Technology* (Summer 2000) http://www.21stcenturysciencetech.com/articles/nuclear.html

Muckerheide continued in his report of Summer 2000: "After long negotiations, Dr. Genevieve Matanoski, Principal Investigator for the shipyard worker study, received another substantial contract from DOE in 1994, and retired as Head of Epidemiology at Johns Hopkins University. Now, more than 5 years later (and about 12 years since the completion of the study), no papers have been published. There is no report to Congress, the shipyard workers, radiation protection agencies, or to the public. There is substantial concern about the integrity of the data, which have been kept under wraps. Further, this most definitive nuclear workers study was not included in a study of "all" U.S., U.K., and Canadian nuclear workers, contracted by DOE with the International Association for Research on Cancer (IARC)."

18. B.L. Cohen, 1987. "Tests of the Linear, No-Threshold Dose-Response Relationship for High-Level Radiation," *Health Phys.,* Vol. 52, p. 629. See also: B.L. Cohen, 1989. "Expected Indoor ^{222}Rn Levels in Counties with Very High and Very Low Lung Cancer Rates," *Health Phys.,* Vol. 57, p. 897; and B.L. Cohen, 1995, "Test of the Linear-No Threshold Theory of Radiation Carcinogenesis for Inhaled Radon Decay Products," *Health Phys.,* Vol. 68, pp. 157-174.

19. B.L. Cohen, and G.A. Colditz, 1994. "Tests of the Linear-No Threshold Theory for Lung Cancer Induced by Exposure to Radon," *Environmental Res.,* Vol. 64, p. 65.

20. K. Bogen, 1996. "A Cytodynamic Two-Stage Model That Predicts Radon Hormesis (Decreased, then Increased Lung-Cancer Risk vs. Ex-

Health Benefits of Radiation

Proponents of the Linear No-Threshold theory argue from a very simplistic model, that every particle or quantum of ionizing radiation (e.g., alpha, beta, gamma, or X-ray) is likely to damage the DNA within the cell, producing mutations which lead to cancer. As there are about 1 billion radioactive decays every day within the average adult body, it is hard to imagine why we are not all sick from cancer from a very young age.

Dr. Sadao Hattori, a leader in Japan's research into low-dose radiation.

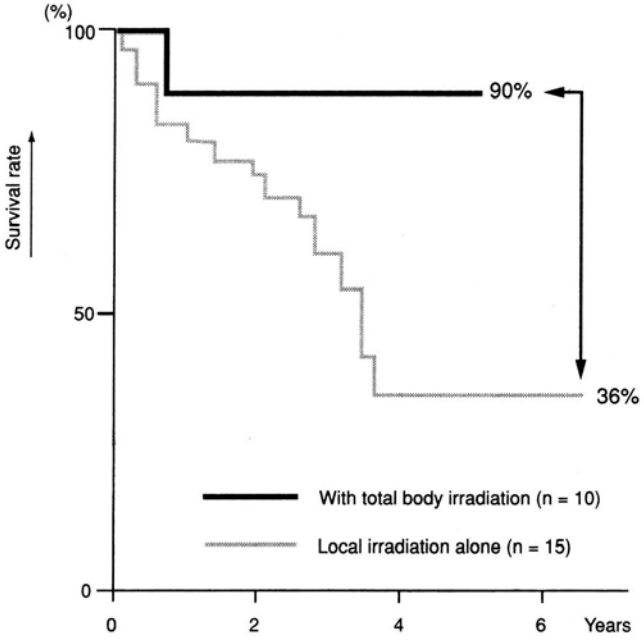
However, knowledge gained in recent decades has shown that there is a natural process of DNA repair. It turns out that radiation is not the principal cause of damage to the DNA. Body heat is. The mutations from unrepaired or misrepaired damage to the DNA caused by the natural metabolism outnumber those caused by natural radiation by 10-million fold.[21] Every time you exercise, digest your food, or just breathe, you are generating atoms or molecules with unpaired electrons (known as free radicals), active little creatures ardently in search of something to combine with by donating their free electrons. One of the things they will combine with are the molecular components of the DNA known as nucleotides. The marriage (known as *oxidation*) causes a change of the DNA chain, a mutation, which sometimes cannot be properly repaired.

Normal cell division and DNA replication also contribute somewhat to the number of mutations. If you want to stop this process, just stop eating, breathing, and exercising (in whatever order you choose).

Fortunately it isn't necessary to take such extreme measures. A great variety of molecules, known as antioxidants, are always present to prevent the damage. These may be vitamins, enzymes, or other natural substances. Some enzymes are present to aid in continually repairing damaged nucleotides in the DNA, and a process of removal of the irreparably damaged chains is also at work.

Studies of specific immune responses in animals suggest that low-dose radiation helps to stimulate the immune system. Positive results in cancer treatment using low-dose radiation have been reported by Dr. Sadao Hattori of Japan from the work of Drs. Sakamoto, Miyamoto, Takai, and others. Work in Japan, and in the United States, has shown that 10 to 15 cGy full-body or half-body X-ray doses, delivered in 1 to 2 minutes, several days apart, stimulate the body's de-

Survival Rates of Non-Hodgkin's Lymphoma Patients With and Without Total Body Irradiation



Source: Dr. K. Sakamoto, Tohoku University

Lymphoma patients who were given a total body irradiation of 10 centigray by X-ray, three times a week, in addition to the standard local high-dose irradiation treatment for this cancer, had a 90% six-year survival rate as of 1997. The control group, which received only the local high-dose treatment, had a 36% six-year survival rate.

The benefits of this treatment are prevented from being used in the United States and elsewhere in order to protect the myth that radiation is dangerous at any dose.

posure)" (Livermore, Calif.: Lawrence Livermore National Laboratory), Preprint UCRL-JC-123219 (40 pp. with 150 references).

21. D. Billen, 1990. "Spontaneous DNA Damage and Its Significance for the 'Negligible Dose' Controversy in Radiation Protection," *Radiation Research,* Vol. 124, pp. 242-245.

Even high-level radiation adds only a few more mutations to the millions that are occurring each day from natural metabolism. Radiation causes more double breaks per event than normal metabolism, but even given this difference, the mutations caused by metabolism are 10-million fold greater.

fense mechanisms. (The cGy, or *centigray*, is the modern unit used to measure the estimated absorbed dose of radiation, equal to 1 *rad* in the older units.)

A long-term clinical trial of non-Hodgkin's lymphoma patients has confirmed that the group that received low-dose radiation substantially outlived the control group at 5 years and 10 years.[22]

No Life Without Radiation

As radiation is a natural part of our environment—and life has never existed without it—might it be possible that the potassium-40, carbon-14, and other radioactive isotopes found within our bodies are performing a necessary function? An important question, but one that has never been permitted to be freely explored. The hysterical insistence on the Linear No-Threshold hypothesis has actually shut off productive lines of research in this direction. Yet, all the evidence points to the fact that there is no life without radiation.

In the 1950s, samples of natural potassium were processed at Oak Ridge National Laboratory to separate out the radioactive potassium in order to conduct radiobiology experiments. Animals were than fed a diet containing the processed potassium which lacked the radioactive component. The animals did poorly, but they recovered when the extracted potassium-40 or natural potassium was added back to the diet.

Forty years later, Charles Willis, who had participated in those experiments, spoke of them before a March 1996 meeting of the U.S. Nuclear Regulatory Commission of which he was a member:

> . . . [I]t's clear to many of us that we are not seeing the predicted ill effects at low doses, as has been pointed out to you. I personally came to this hormesis observation fairly late in the game. It wasn't until 1958 that I was working with the laboratory [Oak Ridge National Laboratory] situation where we were doing experiments with below background levels of radiation, taking the potassium-40 out and seeing what the effects would be on the cellular level, when we saw that the cells looked good but they didn't function. So we couldn't publish the results, another ill effect of the paradigm about the linear hypothesis.[23]

The Oak Ridge finding is consistent with a wide variety of experiments with organisms that were shielded from background radiation. For example, organisms grown on glass slides were repeatedly found to grow differently. It was eventually found that organisms grown on glass slides that contained lesser quantities of the naturally occurring radioactive element thorium were deficient.[24]

There are now indications that natural radiation may serve as a substitute for sunlight for deep sea and subsurface organisms. For example, laboratory evidence indicates that gamma radiation can stimulate photosynthesis in algae denied natural light.[25]

Life is now thought to have appeared on our planet at least 3 billion years ago. At that time the radiation dose from ingested potassium would have been 6 to 7 times higher than present levels. Doses from the decay of uranium-238 would have been nearly twice present levels. This can be deduced from the known half-life of potassium-40 and uranium-238. Similar analysis of the periodic table shows that many other radioactive substances were also more abundant in the early Earth.[26]

The evidence is clear enough: Life has never existed without radiation, and probably cannot exist without it. Shall we run around like Chicken Little, in perpetual fear of natural phenomena, or shall we try to understand and master them? The decision is a very important one,

22. Interview with Sadao Hattori, "Using Low-dose Radiation for Cancer Suppression and Revitalization," *21st Century Science & Technology,* Summer 1997. Also, the following references:

Y. Takai, 1990. "Direct Anti-Tumor Effect of Low Dose Total (or Half) Body Irradiation and Changes of the Functional Subset of Peripheral Blood Lymphocytes in Non-Hodgkin's Lymphoma Patients after TBI (HBI)," *J. Jpn. Soc. Ther. Radiol. Oncol.,* Vol. 3, pp. 9-18.

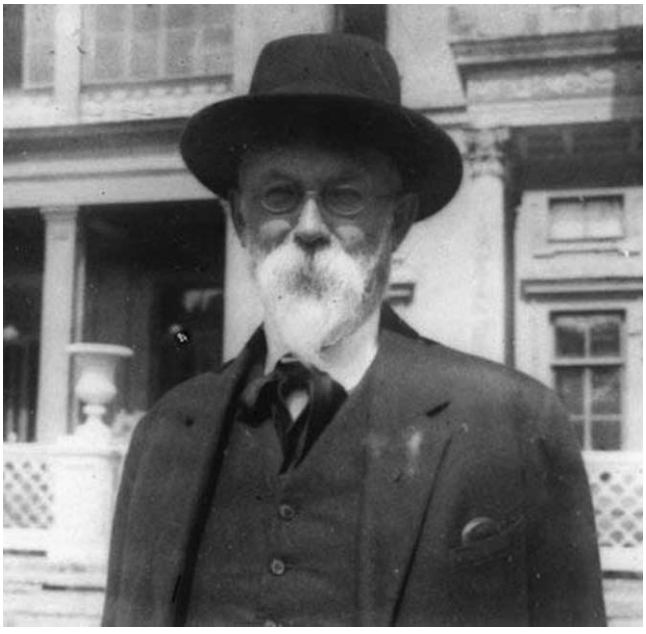
S. Hattori, 1997. "State of Research and Perspective on Adaptive Response to Low Doses of Ionizing Radiation in Japan," in *Low Doses of Ionizing Radiation: Biological Effects and Regulatory Control,* IAEA-TECDOC-976, IAEA-CN-67/126, pp. 402-405.

23. ACRS/ACNW, 1996. U.S. Nuclear Regulatory Commission, Advisory Committee on Reactor Safeguards and Advisory Committee on Nuclear Waste Joint Subcommittee: First Meeting, Rockville, Maryland, March 26, 1996.

24. *Op. cit.*, footnote 17.

25. T.D. Luckey, "Evidence for Gamma Ray Photosynthesis," *21st Century Science & Technology* (Fall-Winter 2008) http://www.21stcenturysciencetech.com/Articles%202008/F-W_2008/Research_Communication.pdf

26. The existence of species of radioresistant bacteria, such as *D. radiourans,* discovered as a survivor in foods thought to have been sterilized by high doses of gamma radiation, may be leftovers of an earlier epoch of high radiation.



Vladimir Ivanovich Vernadsky. The most crucial unanswered question of 20th-Century science remains the proper understanding of the relationship of the biotic to the abiotic domain, as that question was first defined nearly a century ago by the Ukrainian-Russian Academician Vernadsky.

as it touches on the distinction of man from the beast. The application of nuclear power to human need, is but the most obvious of the benefits which the discovery of atomic and nuclear science has bequeathed mankind. Beyond the promise of nuclear power, for lifting the presently immiserated majority of humankind out of a life of perpetual poverty, lies the promise of future discovery.

The most crucial unanswered question of 20th-Century science remains the proper understanding of the relationship of the biotic to the abiotic domain, as that question was first defined nearly a century ago by the Ukrainian-Russian Academician Vladimir Ivanovich Vernadsky.[27] One of the crucial and still insufficiently explored paths to understanding involves the study of the fractionation of isotopes, not necessarily radioactive, by living processes.

Since the mass spectroscopic studies of American spectroscopist A.K. Brewer in the 1930s, which suggested a fractionation of the potassium isotopes in species of kelp, this subject has been a topic of controversy among biologists and physical chemists.[28] Despite attempts to disprove Brewer's original work with more advanced techniques of mass spectroscopy, more recent evidence continues to confirm the existence of significant isotopic fractionation in living processes. Among the most conclusive are the studies carried out at the Swiss Federal Institute of Technology, showing a high degree of enrichment of the lighter isotopes of iron in the human blood, as compared to non-biological samples.[29] Variations as high as 5% in the ratios of deuterium to ordinary hydrogen found among different fractions of water in the leaves of ivy and sunflower plants are also highly suggestive.[30] Similarly, the evidence for calcium isotope fractionation in bone and shell as compared to the dietary sources.[31]

Whether or not the fractionation can ultimately be explained as a result of a physical chemical process, the question remains, in what way is the living organism making use of the isotopic variation? What might careful observations of such isotopic shifts teach us about that scientifically crucial distinction among the three domains of the non-living, living, and noëtic, as first clearly enunciated for modern science by Academician V.I. Vernadsky? What fundamental distinction between the living and non-living domains demands a shift in the abundance distribution of the isotopes from that observed in the abiotic domain, and what insight into the still unresolved questions of atomic science might be gained from knowing it?

Herein lies the importance of overcoming the fear of radiation.

27. See for example: V.I. Vernadsky, "On the Fundamental Material-energetic Distinction between Living and Nonliving Natural Bodies of the Biosphere," English translation in *21st Century Science & Technology* (Winter 2000-2001), pp. 20-39. http://www.21stcenturysciencetech.com/ articles/ProblemsBiogeochemistry.pdf

28. Cf. Lasnitzki and Brewer, "A Study of the Isotopic Constitution of Potassium in Various Rat Tissues," *Biochem J.,* January 1941, Vol. 35, Nos. 1-2, pp. 144-151. http://www.pubmedcentral.nih.gov/articlerender. fcgi?artid=1265476

29. Walczyk and von Blanckenburg, 2005. "Deciphering the iron isotope message of the human body," *International Journal of Mass Spectrometry,* Vol. 242, pp. 117-134. http://www.sciencedirect.com/science?_ob=Article URL&_udi=B6VND-4FC3S60-1& _user=10&_rdoc=1&_fmt=&_orig=search&_sort=d&view=c&_acct=C000050221&_ version=1&_urlVersion=0&_userid=10&md5=f6d1c44806d1b47e28801df759d9606b

30. Yakir, DeNiro, and Rundel, 1989. "Isotopic inhomogeneity of leaf water: evidence and implications for the use of isotopic signals transduced by plants," *Geochimica et Cosmochimica Acta,* Vol. 53, pp. 2769-2773.

31. Skulan and DePaolo, 1999. "Calcium isotope fractionation between soft and mineralized tissues as a monitor of calcium use in vertebrates," *PNAS,* Vol. 96, no. 24 (Nov. 23), pp. 13709-13713. http://www.pnas.org/content/96/24/13709. full.pdf+html

Editorial

America's Unique Mission

The future the world faces, in the immediate years ahead, is grim indeed, if the measures outlined by Lyndon LaRouche to reverse the economic breakdown crisis are not adopted in the very short term. But while the task of loosening the British oligarchical grip may seem overwhelming, there is a sound historical basis for hope. It lies in the American Constitutional tradition.

Lyndon LaRouche reviewed this potential in some depth once again this last week. We here excerpt his remarks:

"There's no other part of this planet on which anyone is qualified, except in the United States, to deal with the threat to the planetary crisis today.

"This distinction lies in our history: That we are unique, because we are a creation, indirectly, of Nicholas of Cusa, who was the founder of modern science, and was also the founder of the modern nation-state, and several other things as well. And because Europe was no damned good at the time, the best Europeans got up on boats, and hiked across the ocean, to come to the Americas. . . .

"We're in that kind of situation, where the principle which created the United States, which was the intention of Nicholas of Cusa, who was the founder of modern physical science, and founder of the modern nation-state, and several other good things; and based at the time, as some of our people know, who have studied this history, as a result, Cusa realized that the corruption which had taken over Europe in the period and following the Fall of Constantinople, meant that an evil had taken back Europe. And therefore, his recommendation was that we must seek across the oceans, to find places and people with which to build up the kind of civilization which was then not possible in a corrupted Europe, on behalf of all humanity. The principal, original colonists, including Christopher Columbus himself, who was specifically inspired by the testament, directly, of Nicholas of Cusa, and the New England colonists, also, and others, especially those who finally built what became the United States, was to create a place for European civilization, minus its oligarchical degeneracy, across the waters, in order to build up a culture on these shores, from which to launch the rescue of European civilization from its own oligarchical corruption. . . .

"Therefore, we in the United States, despite our imperfections, precisely because of the *dynamic* principle—remember, *dynamics*! This nation is not 'good' because of its individual people, as you know, having met many of them! This nation is good because of the dynamics which ties us together in the same way, that Shelley, in the final paragraph of his *A Defence of Poetry*, defines that principle of dynamics. We are good, because we are bound together by a dynamic principle of organization of our society. And therefore, today, we are the only nation on this planet, which has the moral qualifications to lead other nations, in forming a new order in the world, which will deal with otherwise, what is a breakdown crisis in general. That's our mission. . . . "

How will the American people be aroused to take up this mission? That is the task we in the LaRouche movement have committed ourselves to—to revive the Constitutional principles upon which our nation was founded, and mobilize to remove those oligarchical, even Nazi, usurpers who have taken up residence in our nation's government. We do that with the historically based hope that the American people, who saved the world by defeating Hitler, will play their indispensable role in defeating the Nazis again today.

See LaRouche on Cable TV

INTERNET
- BCAT.TV/BCAT Click BCAT-2
  Mon: 10 am (Eastern Time)
- LAROUCHEPUB.COM Click *LaRouche's Writings.* (Avail. 24/7)
- MNN.ORG Click *Watch Ch.57*
  Fri: 2:30 a.m. (Eastern Time)
- QUOTE-UNQUOTE.COM
  Click on Ch.27. Tue. 6 pm (Mtn.)
- SCAN-TV.ORG Click *Scan on the Web (Pacific Time).*
  Ch.23: Wed. 7 am
  Ch.77: Mon. 11 am
- WUWF.ORG Click *Watch WUWF-TV.* Last Mon 4:30-5 pm (Eastern)

INTERNATIONAL

THE PHILIPPINES
- MANILA Ch.3: Tue 9:30 pm

ALABAMA
- UNIONTOWN GY Ch.2: Mon-Fri every 4 hours; Sun Afternoons

ALASKA
- ANCHORAGE
  GCI Ch.9: Thu 10 pm

CALIFORNIA
- CONTRA COSTA
  CC Ch.26: 2nd Tue 7 pm
- COSTA MESA
  TW Ch.35: Thu 5:30 pm
- LANCASTER/PALMDALE TW
  Ch.36: Sun 1 pm
- LONG BEACH CH Analog
  Ch.65/69 & Digital Ch.95:
  4th Tue 1-1:30 pm
- ORANGE COUNTY (N)
  TW Ch.95/97/98: Fri 4 pm

COLORADO
- DENVER CC Ch.56 Sun 10 am

CONNECTICUT
- GROTON CC Ch.12: Mon 5 pm
- NEW HAVEN CC Ch.23: Sat 6 pm
- NEWTOWN CH Ch.21:
  Mon 12:30 pm; Fri 7 pm
- NORWICH CC Ch.14: Thu 7:30 pm
- SEYMOUR CC Ch.10: Tue 10 pm

DISTRICT OF COLUMBIA
- WASHINGTON
  CC Ch.95 & RCN Ch.10: Irregular

FLORIDA
- ESCAMBIA COUNTY
  CX Ch.4: Last Sat 4:30 pm

ILLINOIS
- CHICAGO
  CC./RCN/WOW Ch.21: Irregular
- PEORIA COUNTY
  IN Ch.22: Sun 7:30 pm
- QUAD CITIES
  MC Ch.19: Thu 11 pm
- ROCKFORD CC Ch.17 Wed 9 pm

IOWA
- QUAD CITIES
  MC Ch.19: Thu 11 pm

KENTUCKY
- BOONE/KENTON COUNTIES
  IN Ch.21: Sun 1 am; Fri Midnight
- JEFFERSON COUNTY
  IN Ch.98: Fri 2-2:30 pm

LOUISIANA
- ORLEANS PARISH
  CX Ch.78: Tue 4 am & 4 pm

MAINE
- PORTLAND
  TW Ch.2: Mon 1 & 11 am; 5 pm

MARYLAND
- ANN ARUNDEL CC Ch.99; FIOS Ch.42: Tue & Thu: 10 am; Fri & Sat: midnight
- P.G. COUNTY CC Ch.76 & FIOS Ch.42: Wed & Fri: 6 pm
- MONTGOMERY COUNTY
  CC/RCN/FIOS Ch.21: Tue 2 pm

MASSACHUSETTS
- BROOKLINE CV & RCN Ch.3:
  Mon 3:30 pm; Tue 3:30 am;
  Wed 9 am & 9 pm;
- CAMBRIDGE CC Ch.10:
  Tue 2:30 pm; Fri 10:30 am
- FRANKLIN COUNTY (NE)
  CC Ch.17: Sun 8 pm; Wed 9 pm; Sat 4 pm
- QUINCY CC Ch.8: Pop-ins.
- WALPOLE CC Ch.8: Tue 1 pm

MICHIGAN
- BYRON CENTER
  CC Ch.25: Mon 2 & 7 pm
- DETROIT CC Ch.68: Irregular
- GRAND RAPIDS CC Ch.25: Irreg.
- KALAMAZOO
  CH Ch.20: Tue 11 pm; Sat 10 am
- KENT COUNTY (North)
  CH Ch.22: Wed 3:30 & 11 pm
- KENT COUNTY (South)
  CC Ch.25: Wed 9:30 am
- LAKE ORION
  CC Ch.10: Mon/Tue 2 & 9 pm
- LANSING CC Ch.16: Fri Noon
- LIVONIA BH Ch.12: Thu 3 pm
- MT. PLEASANT CH Ch.3:
  Tue 5:30 pm; Wed 7 am
- SHELBY TOWNSHIP CC Ch.20 & WOW Ch.18: Mon/Wed 6:30 pm
- WAYNE COUNTY
  CC Ch.16/18: Mon 6-8 pm

MINNESOTA
- ALBANY AMTC Ch.13:
  Tue & Thu: 7:30 pm
- CAMBRIDGE
  US Ch.10: Wed 6 pm
- COLD SPRING
  US Ch. 10: Wed 6 pm
- COLUMBIA HEIGHTS
  CC Ch.15: Tue 9 pm
- DULUTH CH Ch.20: Mon 9 pm; Wed 12 pm, Fri 1 pm
- MARSHALL Prairie Wave & CH Ch.35/8: Sat. 9 am
- MINNEAPOLIS
  TW Ch.16: Tue 11 pm
- MINNEAPOLIS (N. Burbs)
  CC Ch.15: Thu 3 & 9 pm
- NEW ULM TW Ch. 14: Fri 5 pm
- PROCTOR
  MC Ch. 12: Tue 5 pm to 1 am
- ST. CLOUD CH Ch.12: Mon 6 pm
- ST. CROIX VALLEY
  CC Ch.14: Thu 1 & 7 pm; Fri 9 am
- ST. LOUIS PARK CC Ch.15:
  Sat/Sun Midnite, 8 am, 4 pm
- ST. PAUL CC Ch.15: Wed 9:30 pm
- ST. PAUL (S&W Burbs) CC Ch.15:
  Wed 10:30 am; Fri 7:30 pm
- SAULK CENTRE
  SCTV Ch.19: Sat 5 pm
- WASHINGTON COUNTY (South)
  CC Ch.14: Thu 8 pm

NEVADA
- BOULDER CITY
  CH Ch.2: 2x/day: am & pm
- WASHOE COUNTY
  CH Ch.16: Thu 9 pm

NEW HAMPSHIRE
- CHESTERFIELD
  CC Ch.8: Wed 8 pm
- MANCHESTER
  CC Ch.23: Thu 4:30 pm

NEW JERSEY
- BERGEN CTY TW Ch.572: Mon & Thu 11 am; Wed & Fri 10:30 pm
- MERCER COUNTY CC
  Trenton Ch.26: 3rd & 4th Fri 6 pm
  Windsors Ch.27: Mon 5:30 pm
- MONTVALE/MAHWAH
  CV Ch.76: Mon 5 pm
- PISCATAWAY
  CV Ch.15: Thu 11:30 pm
- UNION CC Ch.26: Irregular

NEW MEXICO
- BERNALILLO COUNTY
  CC Ch.27: Tue 2 pm
- LOS ALAMOS
  CC Ch.8: Wed 10 pm
- SANTA FE
  CC Ch.16: Thu 9 pm; Sat 6:30 pm
- SILVER CITY
  CC Ch.17: Daily 8-10 pm
- TAOS CC Ch.2: Thu 7 pm

NEW YORK
- ALBANY TW Ch.18: Wed 5 pm.
- BETHLEHEM
  TW Ch.18: Thu 9:30 pm
- BRONX CV Ch.70: Wed 7:30 am
- BROOKLYN
  CV Ch.68: Mon 10 am
  TW Ch.35: Mon 10 am
  RCN Ch.83: Mon 10 am
  FIOS Ch.43: Mon 10 am
- BUFFALO
  TW Ch.20: Wed & Fri 10:30-11pm
- CHEMUNG/STEUBEN
  TW Ch.1/99: Tue 7:30 pm
- ERIE COUNTY
  TW Ch.20: Thu 10:35 pm
- IRONDEQUOIT
  TW Ch.15: Mon/Thu 7 pm
- JEFFERSON/LEWIS COUNTIES
  TW Ch.99: Irregular
- MANHATTAN TW & RCN Ch.57/85
  Fri 2:30 am
- ONEIDA COUNTY
  TW Ch.99: Thu 8 or 9 pm
- PENFIELD TW Ch.15: Irregular
- QUEENS
  TW Ch.56: 4th Sat 2 pm
  RCN Ch.85: 4th Sat 2 pm
- QUEENSBURY
  TW Ch.71: Mon 7 pm
- ROCHESTER
  TW Ch.15: Sun 9 pm; Thu 8 pm
- ROCKLAND CV Ch.76: Tue 5 pm
- SCHENECTADY
  TW Ch.16: Fri 1 pm; Sat 1:30 am
- STATEN ISLAND
  TW Ch.35: Mon & Thu Midnite.
  TW Ch.34: Sat 8 am
- TOMPKINS COUNTY TW Ch.13:
  Sun 12:30 pm; Sat 6 pm
- TRI-LAKES
  TW Ch.2: Sun 7 am, 1 pm, 8 pm
- WEBSTER TW Ch.12: Wed 9 pm
- WEST SENECA
  TW Ch.20: Thu 10:35 pm

NORTH CAROLINA
- HICKORY CH Ch.6: Tue 10 pm
- MECKLENBURG COUNTY
  TW Ch.22: Sat/Sun 11 pm

OHIO
- AMHERST TW Ch.95: 3X Daily
- CUYAHOGA COUNTY
  TW Ch.21: Wed 3:30 pm
- OBERLIN Cable Co-Op
  Ch.9: Thu 8 pm

OKLAHOMA
- NORMAN CX Ch.20: Wed 9 pm

PENNSYLVANIA
- PITTSBURGH
  CC Ch.21: Thu 6 am

RHODE ISLAND
- BRISTOL, BARRINGTON, WARREN
  Full Channel Ch.49: Tue: 10 am
- EAST PROVIDENCE
  CX Ch.18; FIOS Ch.25: Tue: 6 pm
- STATEWIDE RI INTERCONNECT
  CX Ch.13; FIOS Ch.32 Tue 10 am

TEXAS
- HOUSTON CC Ch.17 & TV Max Ch.95: Wed 5:30 pm; Sat 9 am
- KINGWOOD CB Ch.98:
  Wed 5:30 pm; Sat 9 am

VERMONT
- BRATTLEBORO CC Ch.8:
  Mon 6 pm, Tue 4:30 pm, Wed 8 pm
- GREATER FALLS
  CC Ch.10: Mon/Wed/Fri 1 pm
- MONTPELIER CC Ch.15:
  Tue 10 pm; Wed 3 am & 4 pm

VIRGINIA
- ALBEMARLE COUNTY
  CC Ch.13: Sun 4 am; Fri 3 pm
- ARLINGTON CC Ch.69 &
  FIOS Ch.38: Tue 9 am
- CHESTERFIELD COUNTY
  CC Ch.17; FIOS Ch.28: Mon 1 pm
- FAIRFAX CX & FIOS Ch.10:
  1st & 2nd Wed 1 pm; Sun 4 am.
  FIOS Ch.41: Wed 6 pm
- LOUDOUN COUNTY CC Ch.98 & FIOS Ch.41: Wed 6 pm
- ROANOKE COUNTY
  CX Ch.78: Tue 7 pm; Thu 2 pm

WASHINGTON
- KING COUNTY
  CC Ch.77: Mon 11 am, Wed 7 am
  BS Ch.23: Mon 11 am, Wed 7 am
- TRI CITIES CH Ch.13/99: Mon 7 pm; Thu 9 pm

WISCONSIN
- MARATHON CH Ch.10: Thu 9:30 pm; Fri 12 Noon
- MUSKEGO
  TW Ch.14: Sat 4 pm; Sun 7 am

WYOMING
- GILLETTE BR Ch.31: Tue 7

MSO Codes: AS=Astound; BD=Beld; BR=Bresnan; BH=BrightHouse; BS = Broadstripe; CV=Cablevision; CB=Cebridge; CH=Charter; CC=Comcast; CX=Cox; GY=Galaxy; IN=Insight;
MC=MediaCom; TW=TimeWarner; US=US Cable. FIOS=Verizon FIOS-TV.
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[updated Mar. 2, 2009]