

From Chernobyl to Fukushima.

If the truth about the health effects
from Chernobyl had been told,
Fukushima would never have
happened.

“The crime of Chernobyl; the nuclear gulag”

By

Wladimir Tchertkoff

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Conflict of interest

- Article 1 of the WHO states « The objective of the World Health Organization shall be the attainment by all peoples of the highest possible level of health. »
- Article 2 of the IAEA states « The Agency shall seek to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world. »

Fifty or a million deaths?

WHO, UN

50 deaths

Greenpeace 2006

10,000 to 200,000

Torch 2006

30,000 to 60,000

NYAS 2009

1 million up to 2004

Reactor 4 at Chernobyl following two thermal explosions that blew off the concrete cover (1,200 tons) and a fire lasting ten days in which radioactive material was distributed unevenly all across Europe, the Middle East and North Africa



The victims of the Chernobyl disaster

- **Emergency workers** (20 to 30)
- **Evacuees** (200,000 to 300,000)
- **Liquidators** (600,000 to 800,000)
-
- **Peasant communities** (5 million)
- **Northern Hemisphere** (3 billion)

Health effects

- Genetic disorders
- All cancers
- Heart problems, arrhythmia, heart attacks, high blood pressure
- Digestive problems, oesophagus, stomach, duodenum, damage to stomach lining, no digestive enzymes
- Cataracts, retinitis
- Reproductive disorders
- Neurological disorders, delayed development, mental retardation
- Miscarriages, stillbirths, congenital malformation, babies born weak and ill.
- Diseases of the immune system and hormonal changes (endocrine system)
- Growth problems in children and abnormal weight loss
- Abnormally long recovery time following illness
- Susceptibility to all infections, in particular respiratory and urinary.
- Premature ageing
- Specific Chernobyl syndromes, “Chernobyl AIDS”, “Chernobyl heart”

Explaining the discrepancy.

No-one denies the increase in mortality and morbidity in the contaminated territories.

Instead, the nuclear lobby say two things:

1. The levels of radioactivity are too low to cause these increases in illness and death.
2. The health effects are the result of smoking, alcohol, poverty, “radiophobia”, and the stress of evacuation.

Dr Timothy Mousseau, University of South Carolina, whose research on birds around Chernobyl and now around Fukushima shows decline in bird species and abundance, reduced fertility, smaller brain size and an increase in abnormalities.

- “I’ve never seen birds smoking, I’ve never seen birds drinking vodka and as far as I know, they don’t engage in unsafe sex and they don’t get depressed.”

The ICRP model, based on research following Hiroshima is based on “absorbed dose”, energy per unit mass.

This model works well for external radiation but not for internal radiation. Internal radiation produces an enormously high level of biological damage out of all proportion to its dose.

It is like comparing the warmth received by sitting in front of a coal fire, with the effect of swallowing a piece of coal from that fire.

The Hiroshima dogma

“Hiroshima and Chernobyl are not comparable. The first case involves the *very high external exposure to the flash of immaterial gamma rays*, and the second involves the *proximity effects of microscopic particles incorporated into living tissue*. But the second case does not exist for “science”. It falls outside the parameters of the “Hiroshima dogma”. According to the “accepted scientific view” only the very high doses of gamma radiation are pathogenic. At Chernobyl, *a priori*, the levels are too low.” (to cause damage)

Wladimir Tchertkoff

Scientific flaws of ICRP model

Relevant for external, not internal radiation

Averages the energy over the whole body or the whole organ

Treats the biologically complex body or organ as if it were a “bag of water”.

Ignores accumulation within an organ

Ignores affinities

Ignores different vulnerabilities

Bella Belbeoch 1928-2016

- *(Commenting on the haste with which the nuclear lobby, following a five day visit to the contaminated territories in 1989, made abstract calculations of the potential health effects from the Chernobyl catastrophe).*
- “It is frightening the way these *experts* deny to the Chernobyl disaster the sad privilege of being a new phenomenon in medical experience and close the door on the only possible approach to understanding this phenomenon; first, record all biological and medical information”

The work of Yury and Galina Bandazhevsky and Vassili Nesterenko

- **CORRECTLY** measured levels of radioactivity in the child's body
- **CORRELATED** levels of internal radiation in children with damage to heart.
- Measured the **CONCENTRATION** of radionuclides within an organ. Overall body may contain 100 Bq/kg but heart will contain 2,500Bq/kg and kidney 1000Bq/kg
- **DISCOVERED** the level at which damage to the heart becomes irreversible.(50Bq/kg)
- Tested and **PROVED EFFECTIVE** a pectin cure for children to reduce radioactive load.

“Chernobyl. Consequences of the Catastrophe for People and the Environment”

published by New York Academy of Sciences 2009

5000 research papers

Europe, Middle East, North Africa...even
Antarctica

Cancer and non-cancer health effects

Humans, animals, plants and microorganisms.

The scientific approach that might help victims at Chernobyl and Fukushima

Insist on independence of WHO from IAEA
Revise ICRP model to take account of internal radiation

Learn the lessons of Bandazhevsky's research findings.
Apple pectin cure!

Conduct epidemiological studies (Yablokov).

Bring to light the science relating to low dose radiation:

- Bystander effects

- Genomic instability

- Second event theory

- Petkau effect

“Start from the health effects, not from the dose.” Chris Busby's approach in the High Court June 2016, where test veterans are claiming compensation for the congenital malformation in their children and grandchildren.

Health Effects at Fukushima

184 cases of childhood thyroid cancer in Fukushima prefecture (out of 385,000 children).

Chiyo Nohara *et al*, 2012 study of butterflies in Fukushima Prefecture found genetic and physiological damage.

Mousseau and Moller, 2014, found significant genetic, physiological, developmental, and fitness effects stemming from exposure to radioactive contaminants in all major taxonomic groups - birds, bees, butterflies, grasshoppers, dragonflies, spiders, and mammals at Chernobyl and Fukushima

Vassili Nesterenko, Director of Belarus Institute of Nuclear Energy 1977 to 1987 and corresponding member of Academy of Sciences of Belarus, who turned his back on nuclear technology after the 1986 catastrophe. He set up his own institute called Belrad to care for the children in the contaminated territories. He suffered endless harrassment from the authorities and survived two attempts on his life. He died in 2008, from injuries sustained twenty two years earlier when he directed operations to extinguish the fire at Chernobyl .



The Hiroshima dogma

- The Hiroshima model created by physicists studying the effects of *uniform acute external high level doses of radiation* on the whole body is mathematical, reductionist and simplistic. It cannot be applied to biological mechanisms (which have not been studied) caused by *low internal exposure to hot particles incorporated at the microscopic (histological) level in the cell.* This model denies what it has not studied because it is incapable of apprehending it within its own parameters.
- *Wladimir Tchertkoff 2006*

“A deliberate scientific crime has been going on for twenty eight years at the heart of Europe, sanctioned at the highest level. In order to preserve consensus about the nuclear industry, the nuclear lobby and the medical establishment are knowingly condemning millions of human guinea pigs to experience new pathologies in their bodies in the vast laboratory of the contaminated territories of Chernobyl.”

Wladimir Tchertkoff “The crime of Chernobyl. The nuclear gulag”

Fukushima. Similarities and differences.

Cover-up

Evacuation

Iodine distribution

Role of IAEA

Population

Liquidators

Disposal of contaminated material

Return to contaminated territories

Galina Bandazhevskaya paediatric cardiologist,
continues to work in Belarus hospitals.

**The state of children's health
in Belarus following the
Chernobyl accident**



*Galina Bandazhevskaya (Belarus) paediatrician and
cardiologist*

Yuri Bandazhevsky, a brilliant scientist appointed in 1990 aged only 33 to direct the Gomel Institute of Medicine in Belarus. Criticised the regime's wasteful and ineffective radioprotection programme and published research that revealed the severity and extent of the health effects from the catastrophe. Sentenced to eight years in prison following trumped up charges of corruption. Adopted as prisoner of conscience by Amnesty International. Released 2005.



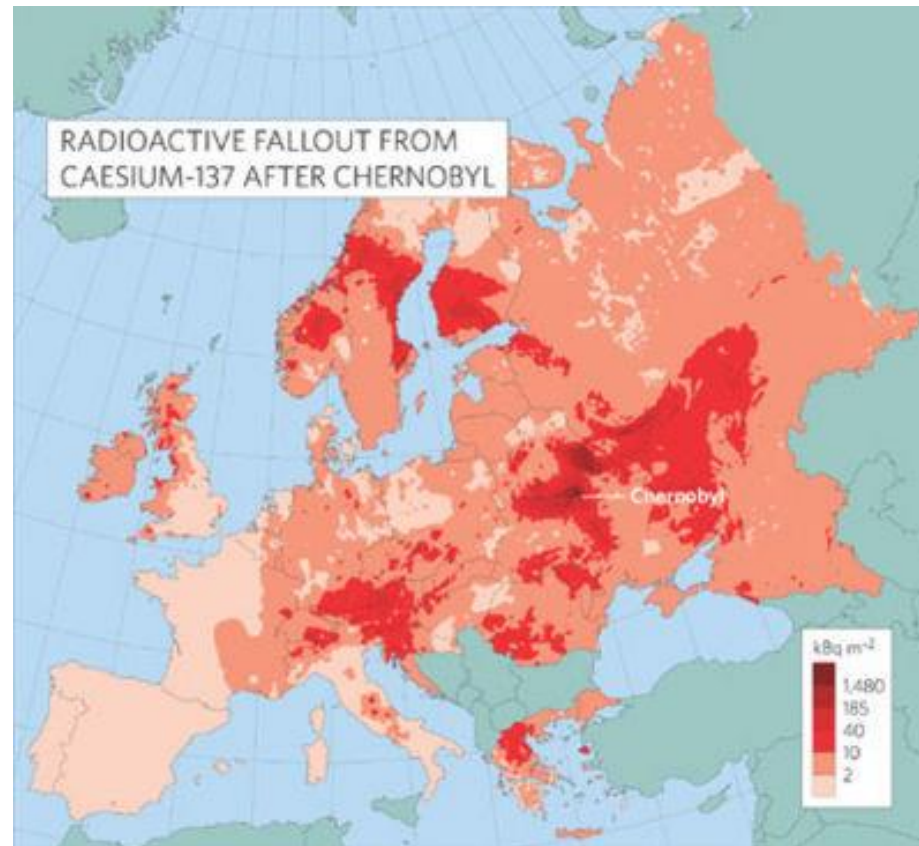
Professor Alexei Yablokov, ecologist, Member of the Russian Academy of Sciences, co-founder of Greenpeace in Russia, advisor to Gorbachev and to Yeltsin on the environment. Tireless opponent of the “scientific establishment” both in the USSR and in the West. Co-author of “Chernobyl. Consequences of the catastrophe for People and the Environment” published by the New York Academy of Sciences. Here he is speaking about Fukushima in Tokyo in 2012.



Alexei Yablokov, co-author of “Chernobyl. Consequences of the Catastrophe for People and the Environment”
compilation of 5000 articles about the health effects all over Europe and beyond.

- No fewer than 3 billion persons inhabit areas contaminated by Chernobyl's radionuclides. More than 50% of the surface of 13 European countries and 30% of 8 other countries have been contaminated by Chernobyl fallout. Given biological and statistical laws, the adverse effects in these areas will be apparent for many generations.

Radioactive fallout over Europe



UNSCEAR map of contamination in Ukraine, Belarus and Russia

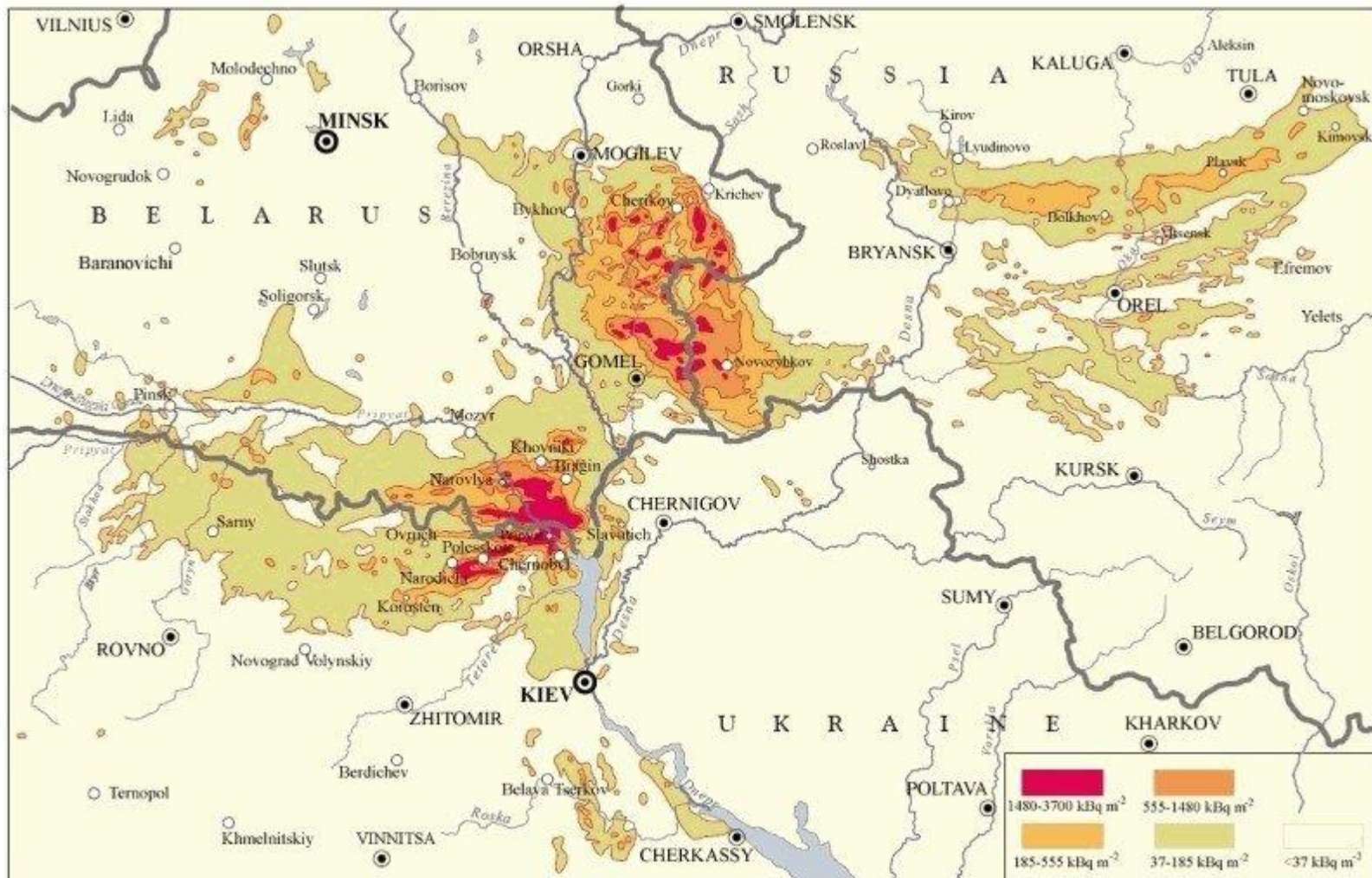
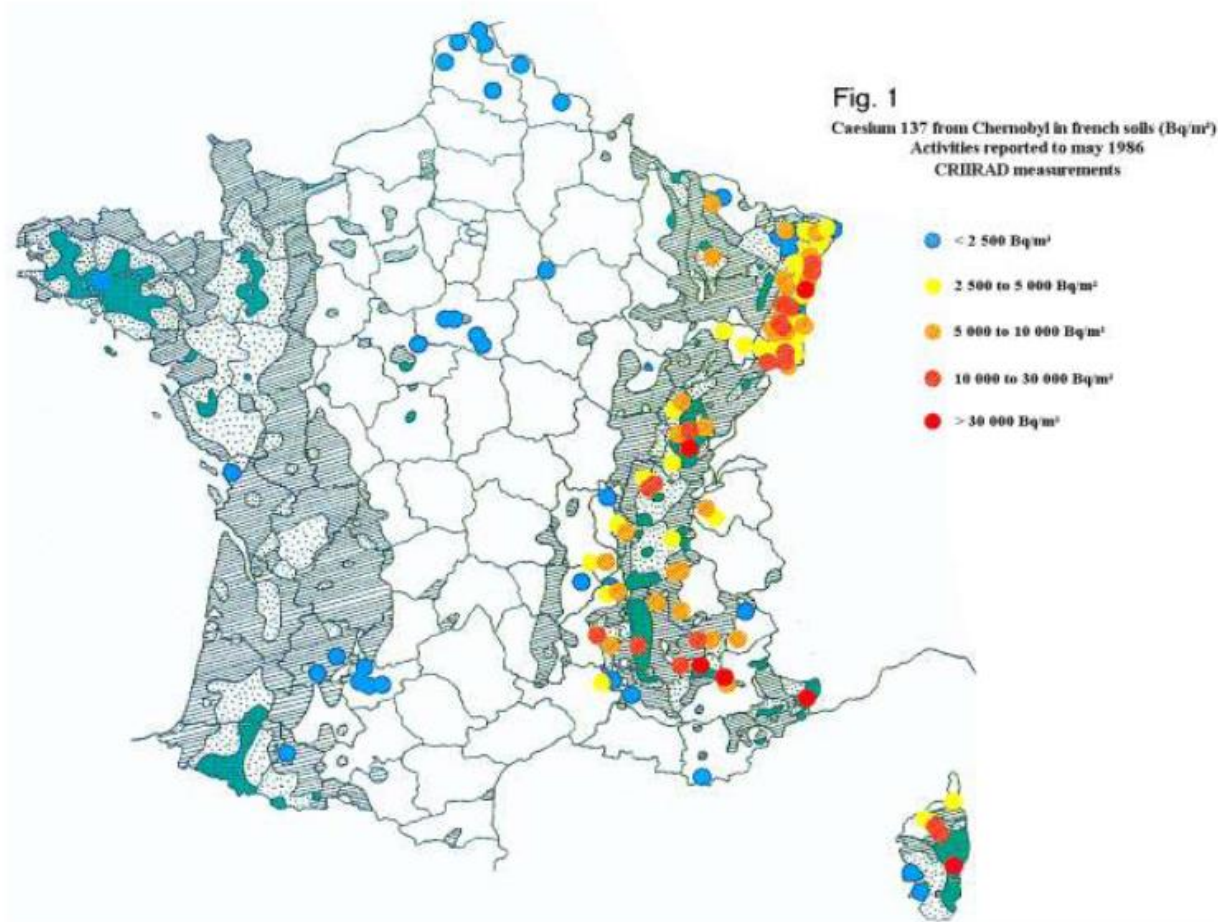


Figure VI. Surface ground deposition of caesium-137 released in the Chernobyl accident [11, 13].

CRIIRAD map France contamination



<http://www.criirad.org/english/chernobyl-fallout.pdf>

IndependentWho

- We are a collective demanding that the World Health Organisation act independently of the IAEA (International Atomic Energy Agency) in the area of radiation and health.
- Set up in 2007, and has maintained a vigil every working day outside the WHO headquarters in Geneva for ten years.
- Organised two Scientific and Citizen Forums on the subject of Radiation and Health in Geneva in 2012 and 2014.

Wladimir Tchertkoff talking to journalists outside the World Health organisation in Geneva



Alexei Yablokov, Rose Goncharova and Vassili Nesterenko
taking part in vigil outside WHO headquarters in Geneva in
2008



Message in a bottle

- Wladimir's book begins in 1990, with a "message in a bottle" from Alla Tipiakova, a schoolteacher in Poliske, a small town in the most contaminated area of Belarus.
- *"Thank you. Send our good wishes to everyone who is helping us. We know that most people on earth are generous and understanding. In spite of borders, political ambitions and obstacles, they've opened up their hearts to us.. But these are emotional gestures, heartfelt... But it's as if the policies, that might actually resolve our problems are being blocked somewhere and at the political level, no-one's interested in us."*

“The responsibility is entirely and exclusively human”

- Wladimir went back to find Alla some years later but she had died. He dedicates his book to her and makes this pledge
- “I will present the crucial pieces of evidence that might have helped Alla Tipiakova understand why the children in her class had been abandoned by the rich countries of the West. Neither destiny nor providence can be blamed for the fate suffered by these children, The responsibility is entirely and exclusively human.”

The liquidators

- Between 600,000 and 800,000 soldiers, miners, firemen and civilians with an average age of 30 at the time of the accident, in excellent health. According to the Chief Medical Officer of Russia, speaking at the WHO conference in Kiev in 2001, 10% of them were already dead and 90% invalids in 2001 (Some 60,000 to 80,000 deaths among the liquidators alone)

Wladimir Tchertkoff describes four ways in which the liquidators were sacrificed and betrayed:

- “They did not receive adequate information or protection.
- The price they have paid and continue to pay, in terms of their lives and their health has not been recognised.
- They receive no medical care.
- They have been forgotten by the world and cast onto the scrapheap of History.”

The work of the liquidators



Vehicle graveyard Chernobyl



The peasants.

- “These are poor people brought low by fear. They don’t care what happens to them, it’s their children they’re worried about. These people don’t know what to believe- because they have always been lied to. They are helpless. They don’t even know what a neutron is, or a white blood cell. You can’t blame them for that. They are peasants living off the land. Now they feel threatened by everything around them. A threat that you cant see, hear or touch.”
- *Yury Shcherbak, doctor, writer and leader of the first Green Party in Ukraine speaking to Wladimir in 1990.*

Ermakov, a poor farmer with a ten year old son, covered from head to foot in bruises, suffering from aplastic anaemia, needing a bone marrow transplant, living 90 km from Chernobyl in a rural area where levels of radiation are between 5 and 15 Ci/km squared

- *Wladimir asks him about his son's diet and if he manages to avoid sources of radioactive contamination from the fields, rivers and forest. Ermakov replies:*
- “What food? The cow goes into the wood which is radioactive. I feed the pig. It's radioactive. I fish... Can I refuse him fish? It's radioactive too. I can go to the shop to buy him sausages. And where is the sausage from? It's all our meat. What else is there? How else can I feed him?”