

The Linacre Quarterly

Volume 56 | Number 3

Article 5

August 1989

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Recommended Citation

Kugelmann, Robert W. and Cassidy, Joseph D. (1989) "Beyond Chernobyl: Radiating A New Word Meaning Mistrust "Authentic human development by ecological and transnational moral interdependence" (Solicitududo Rei Socialis, 1987)," *The Linacre Quarterly*: Vol. 56: No. 3, Article 5.

Available at: <http://epublications.marquette.edu/lnq/vol56/iss3/5>

Beyond Chernobyl: Radiating A New Word Meaning Mistrust

*"Authentic human development by ecological
and transnational moral interdependence"*
(*Sollicitudo Rei Socialis*, 1987)

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After the (Fall) Human Error

The 1986 high rise of the radioactive plume discharging lethal levels of poisonous radioisotopes from Chernobyl's RBMK reactor, in the verdant Ukraine, was an error of technology igniting internationally-echoing questions. *The Children? Life On The Continent? Ecosystems? Food Chains? Ground Water? Cancer? Accountability? Long-Range Effect Of Nuclear Radiations? Risks of High Technology? Rational And Irrational Doubts And Fears?*

The *immediately-recognized*, fatal dangers of the *worst-case* reactor malfunction have passed after delayed detection of the unreported emissions in the contaminating radioactive clouds. *Two years later*, environmental hazards to neighboring countries, political crises, economic losses, emergency public health measures, destroyed and wasted crops and livestock, human populations at medical risk, doubts and challenges to the sincerity of official reports, and concerns regarding the subtle low-level residual radioactivity, *linger!*

Altered Ecosystems: Physical and Political Effects

A recent review of the catastrophe at the Chernobyl nuclear power station (*The New York Times*, June 12, 1988) illustrated the continued incorporation of radioisotopes in the food chain, by the contamination of a Welsh farmer, his wife and sheep, still testing abnormally high for

radiation 26 months after this nuclear tragedy. Another 300,000 sheep in northern Great Britain cannot be marketed because of incorporation of high levels of dangerous isotopes. In northern Sweden, whole herds of reindeer are transported to avoid stretches of still-radioactive lichen. Some fruit, mushrooms, lake fish and fishing are banned. A temporary drop of birth rate in Italy followed the menacing emissions when nuclear technology went out-of-control. Playground sands still register above-average radioactivity in Munich.

Green parties and *environmental groups* gained a stronger membership, and leading *political groups* mobilized resistance against expansion of nuclear power. The Swedish government scheduled a progressive phase-out of nuclear energy. An Italian government, yielding to an alarmed population, declared a moratorium on plans of the nuclear power industry. In many European minds, the anxiety deriving from health, agricultural radiation-level, and nuclear power reporting subsequent to Chernobyl, is augmented by current threats of terrorism and assassination, tending to intensify many still-unresolved fears of the *Chernobyl syndrome*.

Fallout of Fears: Psychological Effects

Among the many effects of prolonged fear is either the sense of being overwhelmed by what is perceived as an ongoing threat or hazard, or a giving-in to a dangerous fatalism. Remedies are needed for both maladies. In the shadows of *acid rain*, and then the *greenhouse effect*, *Chernobyl*, as reported by *The Times*, is a word that has come to mean "distrust of official explanations". It connotes a warning, a challenge, and a set of fears and fantasies.

The psychological consequences of the fear of Chernobyl and related environmental disasters are manifold. Viewed from the depth psychology of C. G. Jung and others, radiation, because it is invisible, long-lived, omnipresent, and powerful, evokes deeply-rooted or archetypal fantasies. Fallout stirs the archetypal image that Goethe gave form in *Faust*. Faust, in his desire to know all and to make things work ("*In the beginning was the Deed*" is Faust's interpretation of *John 1:1*), drew upon demonic powers that Faust attempted to use humanistically. Radioactive fallout can arouse archetypal fantasies of demons (white and black), who demand magical propitiation by primitive sacrifices. We are called upon to endure the threat of further nuclear accidents, for example, for the electric power that nuclear energy generates. The magical responses to the fear of our "demon" are equally dangerous: a desire to exorcise all reminders of them, usually coupled *back-to-nature* romanticism; identification with the dark focus in an imitation of Faust. "Man strikes a Faustian bargain with energy whether it be fire or nuclear energy. There is no energy without a price," writes R. P. Gale (*Issues in Science & Technology III.19, 1986.*) Such fears are highly resistant to rational analysis. What can be done is to

recognize them, and to attempt to persuade ourselves and others to discern other archetypal images that promise hope.

The danger is compounded because we all once experienced fears as young children. Then, perhaps we saw ourselves as helpless and at the mercy of powerful beings. The psychoanalyst Harold Searles, writing on the environmental crisis in the *Psychoanalytic Review* (1972) stated that "our greatest danger lies in the fact that the world is in such a state as to evoke our very earliest anxieties and at the same time to offer the delusional 'promise,' . . . of assuaging these anxieties . . . by fully externalizing and rectifying our most primitive conflicts." If radiation embodies these conflicts that Searles discusses, then we are tempted to view ourselves as "omnipotently free of human conflict." This is rooted in Feuerbach's interpretation of creative human powers in *The Essence of Christianity*. Also, Freud wrote about the necessity of defending ourselves against the crushingly superior forces of nature in *Civilization and its Discontents*. European *Greens* and *technocrats* alike are seen as affected by these primal modes of experience.

"*Christian* humanism sees every person as being called, even as was mankind in Adam, to rule over creation. Such a mandate forbids humanity or the person to surrender in the face of nature, to be willingly overwhelmed by creation or dominated by its blind forces, including those at work within man himself. It calls all mankind and every free person . . . to responsible stewardship over all that God has given us, beginning, with our instincts. This from the beginning has been the heart of humane morality, faculties and powers" (Cardinal John Wright, *L' Osservatore Romano*, July 29, 1971).

What is needed psychologically, *i.e.*, what is needed to correct our perception of *Chernobyl*, is a rectification of the imagination, which can give us possibilities to steer through these perilous times so dominated by expanding technologies. To heal the imagination, we need first to face with courage our deepest fears.

The Moravian bishop, Comenius warned his *Unitas Fratrum Bohemorum* against the *designs* and *machines* of men: "They were deliberating among themselves as to how they could give *wings to Death*, so that it could *in a moment penetrate everywhere* both near and far" (*The Labyrinth of the World*, 1623). Among the forerunners and architects of modern *techne*, Francis Bacon, Thomas Hobbes and John Locke were preoccupied with the preservation of life, *fearing death* was the greatest evil. Thus, the primary human goal, delineated within the range and expectations of technology, became their pivotal concern, namely a secure and comfortable self-preservation. De-emphasized were the higher Christian values of truth, family, society, service of God, and a purposeful sense of the human good.

The industry-on-trial in Malaysia is another compelling example of how *fears* of ionizing radiation have become so prevalent beyond the highly industrialized world. Increasingly, a major issue in the developing world, it is imperative to distinguish *real vs. perceived* threats to well being (H. N.

Wagner, *Radiation: Is it Worth the Risk?* Johns Hopkins Univ., *in press*).

Ernest Becker observed in *Escape from Evil* (Free Press, 1975) that technology offers the allure of immortality through a transcendence of bodily limitations. To be able to perceive this deeply rooted human desire at work in technology, together with the fears it evokes, can provide a basis to consider responsible ways of confronting the dangers that we face. Facing our fears teaches us that there are no "magic bullets."

The Risks of Unpredictability in Technology vs. an Ethics of Responsibility

Martin Heidegger voiced, from the outset of this new age, the inherent dangers of an autonomous modern high *techne*. In *Technology at the Vanishing Point* (Routledge, Kegan Paul Press, London, *in press*) Prof. Robert Romanyshyn analyzes the dark and shadowy side of technology. He suggests the necessity for developing an *ethics of sadness*, a process of remorse and grieving for *assaults* on the *global ecology* imperiling the interacting systems of our plan. Scientific, political and medical policymakers have worked together to counteract the frightful fallout from Chernobyl's recent failure of nuclear engineering (G. M. Woodwell, "Chernobyl: A Technology That Failed," *Issues in Science & Technology III*, 30-36, 1986). Two years before the disastrous breakdown, Prof. Hans Jonas cautioned the world about the confluence between politics and the accepted probability levels of risks in technology, since modern *techne* is based upon Heisenberg's *uncertainty principle*. The Soviet system is wedded to technology in its dual creative and destructive potentials. The psychology of technology and this dualism are reviewed by Romanyshyn and Whalen in *Pathologies of the Modern Self*, pp. 198-220 (New York University Press, 1987). Western democracies are less committed to the *technological imperative*, due to the ethical principle of public accountability, to which technologies are obligated.

In *The Imperative of Responsibility: In Search of an Ethics for a Technological Age* (University of Chicago Press, 1984), Jonas proposed a current "heuristics of fear" (Hobbes) germane to an apocalyptic potential of existing technology (Bacon), moderated providentially by the informed optional choices of our gift of human freedom (Locke). This offers one timely solution to the inherent risks derived from the foundations of the technological enterprises, with a *consensus ethic* appealing to human fears about *physical death*, considered as '*the great evil for oneself*'. One criticism arises from the *interconnectedness* of *fear* and *anger* in a violent society. An *ethics of responsibility* is a current approach to our society's concerns about the unpredictable outcomes in the application of technology, present and future. It is developed in several countries by Jonas and an increasing number of medical and public health planners, political and social scientists, and moral philosophers and theologians. Concomitantly, some of the affected governments heightened preparedness for nuclear accidents and regained public confidence.

Call to Committed Leadership in Restoring Trust and Progress

The human achievement of harnessing nuclear energy, initially developed as a weapon of war, ought to be used as technology's instrument and weapon for human development. What will reduce the human risks and offer a comprehensive solution for the future? Will scientists and technologists, teachers and statesmen, philosophers and theologians, working together, present new rational alternatives? As we approach the new millennium, more responsible leaders need to promote moral mandates of *check and balance incentives*. Such a system must include sound principles of *public accountability, truth telling*, and the prior process of *technology assessment* at all levels of society. Governments and educators can collaborate with the energy industry and health care facilities to reduce risks and fears. Responsible, public monitoring of new and aging energy systems with representative experts, advocates and adversaries of nuclear power can provide combined wisdom for the security of every citizen. Responsible policy formation radiates trust among people; indeed it is applicable to all of technology's inherent uncertain and unpredictable consequences and societal risks and benefits. It is needed in our nation's nuclear manufacturing system as evidenced by the shutdown of reactors at the Savannah River and Rocky Flats Plants; at the latter because of an accident involving radioactive contamination of employees (*The New York Times*, October 11, 1988).

Pope John Paul II opened his recent encyclical on the global concerns of the Church, commemorating the 20th anniversary of the social encyclical "Populorum Progressio," by instructing us how to progress in this Age of Technology. In contrast to an *ethics based upon fear*, he outlines a global trust and *principle-based*, more comprehensive, *moral program* to address the technology question. The encyclical balances human fear with the positive pursuit of the human good by insisting that powerful *techne* ought to serve the needs of persons and the whole family of mankind. It entrusts scientists and technologists with the obligations of becoming concerted moral instruments of public policy. By diagnosing the "plague in both of our houses, East and West," it ought to make clearer that neither envy nor greed leads to the authentic human good, or excellence of the person.

The new encyclical challenges us to collaborative, rational direction of technology's nobler, alternative contributions toward restoration of a sense of the good, and human dignity. *Moral responsibility* among nations is based upon the solid principle of the *common good* of the entire human family. The social vision of the Church is directed toward "an economic and moral transnational development of man and society respecting and promoting all the dimensions of the human person . . ." to reverse past technological irresponsibility through better stewardship of all scientists, engineers, and political decision-makers. In a synopsis of the new social encyclical, "Sollicitudo Rei Socialis," *The Woodstock Report* (June, 1988)

gave focal attention to society's standard that "to abuse or destroy nature, making it unfit or unavailable for the role it is to play by God's will, is immoral."

Moral theologian, Rev. Benedict Ashley, detailed our new awareness of how disastrous had been the unthinking expediency which led to waste of our natural resources, pollution of the environment, and upset of the subtle ecological balance of our planet. The principle we violated was a respect for a nature which reflected the wisdom of the Creator (*Ethics and Medics*, 13(1)1988). Now, shouldn't we heed and trust the voice of the Church when it proclaims the application of that same principle so that "sheep may safely graze"? Providentially, the human community has had the healthful rays of leaven from the Gospel ever since the Lord cautioned Jairus, the concerned Synagogue official, that "Fear is useless; what is needed is trust" (Mark 5:21-43).
