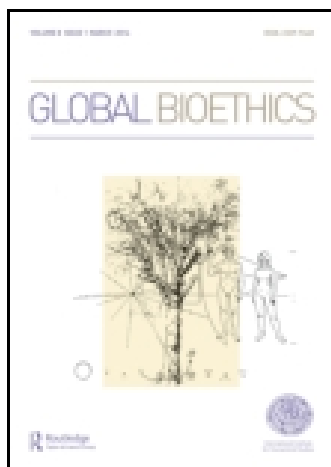


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Publisher: Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



## Global Bioethics

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/rgbe20>

### Total nuclear disarmament: ethical and moral issues

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Published online: 17 Jun 2014.



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To cite this article: E. Pellegrichia, R. Antonini, A. Bottai & A. D'Alessandro (2014) Total nuclear disarmament: ethical and moral issues, *Global Bioethics*, 25:2, 136-146, DOI: [10.1080/11287462.2014.924724](https://doi.org/10.1080/11287462.2014.924724)

To link to this article: <http://dx.doi.org/10.1080/11287462.2014.924724>

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## Total nuclear disarmament: ethical and moral issues

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Moving focus from the geostrategic and political realms to ethical and moral ones can lead to a better understanding of the paradox of “guaranteeing peace” by means of implementing an infrastructure for the extinction of mankind (i.e. the nuclear weapons industry). A possible way forward is derived from this major paradigm shift. The analysis is contextualized within the broader scope of questioning the implicit legitimization of unrestrained tampering with nature, from matter to life.

**Keywords:** nuclear disarmament; ethics; bioethics; global bioethics; social responsibility; human species; evolution; extinction; illegality; immorality

What would a nuclear weapons free world (NFWF) (Rotblat, Steinberger, & Udgaonkar 1993) be like? We could speculate that it would be exactly like the world we are living in now, since many of us are convinced that no nuclear weapons have been *used* since the Hiroshima and Nagasaki bombings (on 6 and 9 August 1945). However, in order to be more precise, maybe we should refer to the present world as a *nuclear weapons partially free world*. We use the word *partially* because unfortunately explosions to test increasingly powerful and destructive nuclear weapons have been going on for more than 50 years,<sup>1</sup> at an average rate of almost one *every single week*.<sup>2</sup> In fact, the whole world has become an immense laboratory and, albeit the rate of explosions has sharply declined in the last few years and bombs have been detonated underground from 1963<sup>3</sup> onwards, we still cannot state that this series of explosions has completely ceased.<sup>4</sup> What *has* ceased is the direct targeting of nuclear weapons *against military and civilian objectives*. It is worth being explicit in this respect:

- the only usage that has been suspended is their usage as mass killing devices;
- official jargon prefers these to be called devices of mass *destruction* because devices of mass *killings* would be too strong a term to be used generally.

However, another less visible, though still powerful, use of nuclear weapons is that of persuasion: by simply *threatening* to use them. The usage of nuclear weapons as “an instrument of pressure” is indeed the usage that has characterized and still characterizes the post-war period: a practice that can better be described as “blackmail”.

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Albeit the aforesaid *threat* has almost always been, with few exceptions, like in the so-called “Cuba crisis” of 1962, implicit and silent, it has always been powerful enough to remind the “have nots” of the power exercised by the “haves”.<sup>5</sup>

One should also note that the question of nuclear disarmament has *only* been addressed from *political* and technical points of view (Cerutti, 2007), carefully avoiding any *specific* and *explicit* references to moral and/or ethical questions, with the exception of some notable attempts in the early years of the atomic age.<sup>6</sup> Nowadays, however, reflections on these specific aspects are inescapable.

This necessity emerged with extraordinary clarity from some of the pages of *Hiroshima Notes* by Kenzaburō Oe (1981) (Nobel Prize for Literature, 1994):

Hiroshima is like an open wound on the whole of the human race, and like all wounds, this poses two possible developments: the hope and healing, on the one hand, and the danger of a lethal infection, on the other. [...] Trying to reflect on life and death, it is important that all of us who managed to escape merely by chance from the atomic holocaust, learn to consider Hiroshima like an intrinsic part of Japan and of the whole world, in other words of ourselves. If we survivors want to atone for the Hiroshima that exists in our interior and transform it into something positive, then we must give methodical order to our efforts against nuclear weapons under the motto: “From the human tragedy of Hiroshima to the restoration of the whole of humanity.”<sup>7</sup>

Hence we may ask, what are the ethical and moral questions that lie at the foundation of a quest for a truly NFWF?

Moreover, we may question whether the official *paradigm* supporting the present situation, which in itself is unlawful from many points of view,<sup>8, 9</sup> is immoral *too*. We firmly believe:

- (1) It is immoral because of what it *means*.
- (2) It is immoral because of what it has *done*.
- (3) It is immoral because of what it *continues to do*.
- (4) It is immoral because of what it *is prepared to do*.

#### ***It is immoral because of what it means***

The current paradigm is immoral primarily because it promotes the idea that, in order to resolve conflict, it is ethically acceptable and practically feasible to destroy others, in terrible pain, forgetting that we belong to a common human family.

#### ***It is immoral because of what it has done***

Nuclear weapons were first conceived and then used in Hiroshima and Nagasaki in order to demonstrate to the Russians their destructive capabilities.<sup>10</sup> This demonstration, *in corpore vili*, was carried out on real human beings, who had already surrendered.<sup>11</sup> From the beginning, the whole *nuclear establishment* relied on *lies* in order to justify the insane tasks that it assigned to scientists who would otherwise have *refused to obey*. In fact, the USA knew that Hitler had no bomb as early as November 1944.<sup>12</sup> No working bomb existed at that time anywhere in the world, not even in the USA or Germany. “Pandora’s box” was still safely sealed.

#### ***It is immoral because of what it continues to do***

Those responsible for nuclear weapons are responsible for, and proactively maintain, a *mindset* based on the assumption that “national security” is the *supreme* good, an end in itself. Therefore,

any sacrifice, including *human sacrifice*, is more than justified, even if it leads to the extinction of the entire human race, a phenomenon more prevalent since Hiroshima and Nagasaki. Despite witnessing the atrocities, the unspeakable suffering, the damage projected into future generations, we have continued to build, develop and test ever more powerful and devastating weapons.

***It is immoral because of what it is prepared to do***

The simple fact that the *nuclear industry* has not only considered, as a theoretical possibility, the total annihilation of humankind, but has also carefully planned it, in detail, together with all the necessary actions “*to get the job done*” and has built tremendously complex and expensive infrastructures for their actual implementation, should be considered immoral from *any* point of view.

This raises vital questions also from an anthropological perspective:

- (a) How has it been possible for a *small group* of the nuclear industry’s leading *elites* to prevail over the *survival instincts* of an entire species?
- (b) Why is it that other *powerful* industries, on predominantly moral grounds, have been banned, like those taking advantage of *institutionalized* slavery, and yet the nuclear industry seems not to be *doomed* to a similar fate, at least not for the time being?
- (c) How is it that even though *90%* of the *global* population is in favour of the *complete* elimination of nuclear weapons,<sup>13</sup> the nuclear *weapons* industry continues to dominate?

It would appear that “The Considerations on the Soul” developed by Gunther Anders in 1956 are still highly pertinent today:

“If Man today is aware that there is something absolute or infinite, it is no longer the power of God, nor the power of nature, but *our* power. Instead of *creatio ab nihilo*, proving omnipotence, it has been taken over by an opposing force: the *potestas annihilationis*, the *reductio ad nihil* – power which we ourselves have. The omnipotence that for so long we have craved, with Promethean spirit, we have actually acquired, albeit in a different form than that which we hoped for. Given that we possess the power to prepare for one another’s end, we are the *lords of the Apocalypse*. The infinite is us” (Anders, 2007). Making us not only a new generation, but beings that belong to a “new species”: “we are no longer mortal as individuals, but as a species whose existence is subject to revocation”. (Anders, 2007)<sup>14</sup>

Yet we are blind to the Apocalypse, and in this blindness Anders (2007) detected – and we with him – a profile of grave responsibility:

For however confused the problem of imputation may have been until now, the real problem of blame is beginning only now. Because now we know what the bomb means. And however innocent we may have been until now, now we become guilty if we do not open the eyes of those who do not yet see, if we do not stun the ears of those who still do not understand. The blame lies not in the past, but in the present and in the future. Not only the eventual assassins are guilty, but also us, the *morituri* (the ones who are expected to die). (p. 240)<sup>15</sup>

We are therefore called upon to assume individual responsibility, as a pre-condition for effective collective action. The assumption of individual responsibility, though, requires first and foremost an imaginative capacity to expand one’s “moral imagination” to encompass “caring for the world”, awakening in every single individual concern for humanity and the destiny of the world.

In this process, the perception of our own, and other people’s, vulnerability plays an important role, and generates what Jonas (1990) defined as *heuristic fear*: not a paralysing fear, but a fear that generates interest and foresight, that foresees evil with apprehension, asks questions,

prompting us to correct what has been done and thought so far. Such *heuristic fear* helps to emancipate us from the role of spectator/victim and to revert to actor/protagonist of our own destiny. *Heuristic fear* can contribute to our emotional awakening: no more fear of something, but fear for something, namely, the world. This kind of fear is capable of triggering solidarity and brotherhood, the bases for a new paradigm: the paradigm of care, enlivened by a sense of responsibility (Pulcini, 2010). Responsibility not just for something, but for someone: the victims of Hiroshima and Nagasaki, and hibakusha (the survivors of Hiroshima and Nagasaki who continue to suffer from the effects of radiation (Bizzozero et al., 1966; Morgan, 2003)), the present generation (to which we belong) and future generations, thus heightening the possibility of the continuance of human survival.

The construction of a paradigm based on care requires a collective creative imagination, to which we can all contribute: since this will determine not only the defence and survival of our own species, but also the kind of world we choose to build and live in. Millions of people around the world are already aware of this process and are making their voices heard to promote a world free of nuclear weapons, demanding new guidelines for security, motivated by solidarity, fellowship and union.

In this framework in Italy, the “*Senzatomica*” campaign was initiated, promoted by the Italian Buddhist Institute, Soka Gakkai, and joined by private citizens, organizations, associations and local authorities, in a collective commitment aimed at asserting a global citizenship dimension to such a crucial issue (for further information, see: [www.senzatomica.it](http://www.senzatomica.it)).

*Senzatomica* is not just a quest for signatures, neither is it just a socio-political movement encouraging people to raise their voices against nuclear weapons. It is a cultural movement, rooted in the Buddhist way of life. The aim of the *Senzatomica* campaign is to develop an international treaty prohibiting the development, testing, production, stockpiling, transfer, use and threat of nuclear weapons. Such a treaty intends to capitalize on an enormous amount of technical and juridical work done so far by a vast international community.

The first practical result of international campaigns in which “*Senzatomica*” has officially participated is that more and more countries without nuclear weapons are taking an official stand against nuclear weapons, hence breaking the de facto standards that state that such questions should be the *exclusive* affair of those countries with nuclear weapons. This major paradigm shift demonstrates that change is possible and ethical considerations really do matter (Gorbaciov & Ikeda, 2000).

Another fundamental scope of the campaign is to work towards the complete elimination of nuclear weapons, behind which is the belief that a transformation of the consciousness of people is the primary condition for nuclear disarmament. This condition is referred to as “interior disarmament” and includes the refusal of violence to solve conflicts.

The experience of past anti-nuclear movements has served to demonstrate that collective actions are not sufficient per se for guaranteeing success with nuclear disarmament campaigns. It is our own conviction that nuclear weapons came into being because of people’s habitual desire to dominate others in their daily lives, and their willingness to resort to any means in order to do it. Building peace requires a paradigm shift in the way people regard themselves, others and the environment. We are *all* interconnected, moreover the concept of “me” and “others”, as two distinct entities, exists only in our minds and leads to egocentrism. Operating as one, a whole, it becomes impossible to benefit from the privation of internal components. Hence, either there is security for everyone, or for no one. “Interior disarmament” reflects this very idea. It originates from the Buddhist concept of “dependent origination”, a way of considering all phenomena as deeply interconnected, not only on the physical level but on an existential level as well.

A move towards quality engagement is required, a new culture and language of peace that can be achieved in a threefold way. First, with a new vision of human security, based on respect for

human rights, and the right to live, access health care and education for all; second, the creative use of dialogue to resolve conflicts (Giaiero, 2008) in such a way that nobody feels defeated; and third, the empowerment of common people to make a difference in their environment, caring for society and others (Ikeda, 2011).

The process of empowering ordinary people enhances each segment of society and contributes to building a new culture of peace. The power of ordinary people, working outside official negotiations, was investigated, among others, by Ambassador John W. McDonald. McDonald (1993) created the term Track Two Diplomacy to indicate the role played by private citizens, professionals, companies or groups of individuals, outside formal diplomatic and government structures (Track One), directed to resolve social problems.

Ambassador McDonald eventually defined Multitrack Diplomacy, which was composed of nine tracks: 1 – Government, 2 – Non-government/Professional, 3 – Business, or Peacemaking through Commerce, 4 – Private Citizen, or Peacemaking through Personal Involvement, 5 – Research, Training and Education, 6 – Activism, or Peacemaking through Advocacy, 7 – Religion, or Peacemaking through Faith in Action, 8 – Funding, or Peacemaking through Providing Resources, 9 – Communications and the Media, or Peacemaking through Information.

Nuclear disarmament from this perspective could result from the engagement of many different actors, sharing the same language of peace, each working to his or her own capacity towards a common goal. In other words, many in body, but of a single mind.

If we are to take care of our world, action is required; this is not a theoretical perspective but a concrete and far-reaching *practice* that manifests itself in daily life, through actions that allow us not only to help prevent the “loss of the world”, but, more importantly, to create a life with meaning (Nancy, 2003).

In a comprehensive review, the current worldwide situation regarding nuclear disarmament, regional conflicts, peace and non-violence is characterized by a positive trend, compared with previous decades of the past century. However, one cannot but recognize that the global panorama presents very different scenarios in different continental areas, with essentially ambiguous and contradictory tendencies, but there are also new forms of association between states, which represent a new “regionalization” of the world and the end of strategic assets characteristic of the twentieth century.

The formation of a new moral conscience was initiated by the very same scientists who worked on the first atomic weapons, and has achieved undoubted success, raising the general level of awareness and vigilance, and creating a vast network of associations, organizations and institutions, people able to speak out at the highest political levels to counteract, at least partially, the use and threat of nuclear and conventional weapons. Despite these positive developments, the anti-nuclear peace movement has not been able to exercise, until now, sufficient force of persuasion to interrupt the dynamics of power within the “nuclear establishment”. The worldwide movement for peace, despite its numerical significance, has not been able to obtain either a ban or the complete elimination of nuclear arsenals, or the peaceful resolution of conflicts, such as the ongoing conflicts arising from attempts to get control over non-renewable energy resources.

The current situation, therefore, is determined both by structural and institutional factors and by other aspects related to changes in attitudes and individual moral consciences. The eventual outcome should be a complete review of the entire question of nuclear disarmament, not only in a strategic military, political, economic and techno-scientific light, but primarily in an ethical (bioethics and civic ethics) light, with more decisive interventions in social-educational spheres.

The need to emphasize the ethical perspective is apparent by the history of the last 40 years, or rather the first two decades of the atomic age, with the progressive arrival of nuclear weapons in



the mainstream, as a sort of expansion of new destructive potential for new global challenges, produced by the tacit legitimization of any kind of tampering with the internal processes of the physical and biological worlds.

This situation has been determined by two main causes: (1) the ecological impacts of Man on the planet, particularly exponential population growth, and the intense and arbitrary depletion of carbon-based energy resources resulting in global warming and (2) the innovative and decisive role of science and technology.

Scientific discoveries and technological innovations are no longer confined to the purely functional, but tend to deliberately alter the very structure of physical and biological processes, thereby nullifying the concept of “natural law”:

First, with atomic physics envisioning the splitting of the atom, until then considered the fundamental unit of matter, then with biotechnology and molecular biology leading interventions that eliminate in biology the concept of the individual as the fundamental unit and that of the species as a unit of systematic reference. (Chiarelli, 1996, p. 121)

*Bioethics* and later *Global Bioethics* were conceived in this historical context, the latter attempting to redress the balance between Man and Nature (Ikeda, Simard, & Bourgeault, 2004). Global Bioethics, as a biological and anthropological science, considers the overall state of human civilization and designs for its future. The fundamental premise, however, is that the survival of Man is dependent upon the survival of the entire ecosystem, which must be safeguarded. Therefore, whatever should put that at risk, for example, nuclear weapons, is undoubtedly a “*major global problem*” (Chiarelli, 1990). Consequently, the production and application of nuclear energy, for both military and civil purposes, are, without doubt, areas of focus in bioethical research. Today, Global Bioethics attempts to establish a final covenant of non-conflict not only between Man and Nature, but within the human species too.

The now very real, and not so remote, possibility of extinction of the human species and many other forms of life on our planet, could be caused by any of the following: (a) the use of nuclear weapons, biological warfare or large-scale military conflicts; (b) global ecological catastrophes, produced by different and converging factors, impacting on food resources; (c) the indiscriminate use, without ethical and legal control, of technology: biotechnology, molecular biology, genetic engineering, nanoscience and pollution.

The continuance of Man within these new historical boundaries should not be taken for granted, and for the first time the question of human survival, and of life as such, is entirely in our own hands. Moreover, as anthropological studies amply demonstrate, Man has no privileged rights to survival, over and above those of nature and all other living forms:

Today’s Man is a product of evolution as are all the other living species. But, as has already happened and happens constantly, man, engaged in a reproductive orgy and disordered exploitation of available resources, could destroy himself and lead to the destruction of other species of plants and animals. (Chiarelli, 1996, p. 124)

The extreme fragility of life and the uncertainty of the future of Modern Man calls for new moral stances, in overcoming the present crisis and legacy of modernity, together with the traditional ideological perspectives of Western anthropocentrism and Eurocentrism, now definitely delegitimized by survival pressures.

Considering what is at stake, it is no longer ethically acceptable, to continue to legitimize ideological and political divides, be they religious, racial or cultural. On the contrary, we must promote, in all forms and by adequate means, dialogue and the coming together of cultures – especially minority cultures, those at greater risk of extinction – to this aim, we must summon



from every corner of the globe all the fundamental components of the contemporary age: secular cultural traditions and the religious ones, critical reasoning and science.

The present time, therefore, demands a Global Code of Ethics, in response to the pressing need for effective global solutions, and responsible choices which, despite having ramifications far beyond everyday life and general levels of awareness, are inextricably linked to behaviour, needs, desires and lifestyle.

Today the spectre of extinction of the human species is no longer a remote possibility and for this reason we must affirm, shouting with all our might, the imperative of developing a global code of ethics, ensuring social harmony and peaceful coexistence. (Rotblat & Ikeda, 2006, p. 148)

In 1955, in an era of atomic explosions, the need for a new global ethical conscience was for the first time expressed in the Russell–Einstein Manifesto, one founded not on a particular religious faith or philosophical concept of the world, but on a common belonging to the human species – “members of the same biological species” – understood as the fundamental and self-sufficient principle of moral life.

The “global” dimension of Global Bioethics refers to two primary aspects: one, the globality of problems related to interaction between the human species and its environment; and two, the “superterritoriality” of ethics targeted not at one particular and local interest, but at the global development of our species. In that sense, in the context of Global Bioethics, the production, proliferation, commerce, threat, use and abolition of nuclear arms are of particular relevance, inasmuch as they could undermine our very survival (Henderson & Ikeda, 2005).

Nevertheless, many today are wondering whether Global Bioethics has any real chance of success in a world increasingly characterized not only by a widespread and legitimate ethical pluralism, but, above all, by worrying trends towards integralism, fundamentalism, dogmatism and relativism, which involve, often in aggressive and devastating forms, single citizens, organized groups, institutions and states.

The general desire is strong, however, to formulate ethics for global life on a biological foundation with ecological relevance – something which was already present, albeit as an embryo, in the Russell–Einstein Manifesto – where natural components and human values converged, and in which the term “life” is understood as an integration of the two meanings of Aristotle’s “*Bios*”: (a) “culturally determined life” and (b) “*Zoe*”, life in its biological–organic dimension (Chiarelli, 2008). The question of nuclear weapons, in this context, becomes the subject of examination from both theoretical aspects; nuclear plants and arsenals arise from the use of nuclear energy and are therefore the product of human social and cultural development, yet, because of their production and use, are capable of dramatically altering the balance of interactions between humans and the natural environment.

There still remains a fundamental dispute that for several years seems to have paralysed – with deleterious practical consequences evident to all – the debate within Global Bioethics, namely, the meaning and value of the underlying concept of bioethics itself, that of “life” and “biological life”. Perhaps we can end this stalemate by reconsidering the whole question of the relationship between *Bios* and *Zoe*, that is, *between* the autonomy of the human world and natural laws, by considering both as interdependent and interactive, therefore in terms of ethics which are the joint responsibility of individuals and science.

The whole nuclear weapons argument must be regarded in the same light, the question of human survival cannot be definitively resolved by isolating it to the sphere of *Bios*, with little regard for the conservation of the entire physical and biological world (Bianca, 2011).

Our own opinion is that the only form of universality possible today, capable of determining the formulation of an ethics for life that is global and shared, is one based on critical and scientific

reasoning. There is little doubt that a convergence of science (technology) and ethics, or rather, of scientific thought and humanistic traditions, could bring about positive results for both the human species and its environment.

More recently, there has been a move towards establishing acceptable parameters of freedom within scientific research and a code of ethics specifically for the scientific industry, with a recognized need for mandatory education in ethics for scientists. This has come about in light of a general acceptance that scientists have a responsibility to society. Some scientific institutions have undertaken to subject their own scientists to a sort of oath or declaration when defining the scope and beneficial purposes of their research. Regardless of whether such a symbolic procedure is effective or not, it is symptomatic of an ethical emergency, and the need for an oath, in whatever form, indicates a profound need for reassurance and guarantees, and above all, civil relations sanctioned and recognized on the basis of common values. The theme of the oath reveals, ultimately, the lack – particularly dramatic in a country like our own (Italy) – of a new secular civil religion, within which the oath of every citizen, may be the full expression (not just symbolical) of the sacred nature of the social group, a sense of belonging and a commitment to the common good.

The great ethical relevance of nuclear disarmament ultimately stems from its close connection to a series of theoretical problems that revolve around the relationship between Law and Freedom. This theme readdresses, on the one hand, the meaning of *natural law* and *world order*, and, on the other, the value and limits of free human initiatives within the biological framework of the ecosystem. If the interaction between the human species and the totality of the physical and biological world is regulated by an order made of natural laws, under what terms are we to define the relationship between physical and biological predetermination and human self-determination? In other words, to what extent can the possibility of extinction of the human species via technology be opposed by building a global ethics on naturalistic bases that takes into account the biological roots of aggression and includes social norms and shared values, like those that belong to the species: sacrality, dignity and the inviolability of life? (Furlan, 2009).

Global Bioethics operates within this perspective in order to guide the choices of Man as part of the natural order, and not in conflict with it. We face a huge challenge, which contains all the elements of a possible global catastrophe or a true mutation of the human species, in evolutionary terms, analogous to one of the many mutations over the past millennia that produced as a result *Homo sapiens*.

Scientists and researchers, who carefully observe ongoing and long-term mutations, believe that an “anthropological turning point” and a sort of “evolutionary trigger” is possible in the third millennium. On the basis of a simple calculation of probabilities, they warn us that if such a turning point does not occur in this century, life expectancy will be reduced to zero. Scholars, on the other hand, foresee the end of *Homo sapiens* and the emergence of *Homo globalizatus*, some await the appearance of *Homo moralis* and others live in hope that more evolved beings will descend from the cosmos, and resolve the problems of our planet, possibly saving humanity through a global regeneration (Chiarelli, 2003).

Without relying on aliens, Teilhard de Chardin clearly understood that the human species is the only living species capable of designing a self-conscious evolution, to the point of producing profound changes in its own biogenetic structure and in the physical–biological tissue of living matter. If it is true that evolution has assigned to humans the function of being the world’s conscience, it is also legitimate to expect this conscience to orient itself, by means of an ethic of responsibility, not towards destruction and death but in the direction of life and dignity. Many positive signs in recent decades seem to be going in this direction and towards a progressive reawakening of the conscience: human rights, dialogue and tolerance, global citizenship,

humanitarian competition, new environmental awareness, ethical responsibility towards the present and future generations (Toynbee & Ikeda, 1988).

If it seems possible, then, to address the ethical question of total nuclear disarmament with relation to the human capability to design a “conscious evolution”, it follows that one should ask how and by what means would it be possible to realize reforms of the self or a revolution of the human individual conscience so that, at its core, it recognizes the absolute importance of life, while respecting human dignity and acknowledging the interdependency of the entire physical and biological environments, and assuming full responsibility for full personal development and the quality of global life.

From this point of view, we can attempt to give a less evasive answer to the question that many people today are asking: *why, after over half a century from the first atomic explosion, has humanity not yet been able to abolish nuclear weapons, despite the international support of large numbers of pacifists and anti-nuclear campaigners?*

We can respond in many ways, either by calling into question an alleged biological determinism to exclude any possibility of change, or by citing several “objective” reasons of a political, military, economic, social and cultural nature, all of which may contain an element of truth.

However, perhaps the most comprehensive response ultimately acknowledges not so much an “outside enemy”, but an internal dimension of the human conscience, so insidious and powerful that it is difficult to recognize and master. We are dealing with those basic existential structures of the mind, which are nevertheless connected to the basic biological functions of the species, in which vital states act and interact, in various forms, having always marked the history of individual and collective human beings: pain, fear, destructive and self-destructive impulses, greed, aggressivity towards weakness, the tendency to threaten and use force to obtain self-centred gratification, the desire for power and domination over others. To this complex dimension of the individual self, in addition to its external projections, we must pay careful attention if we believe ourselves to be the “conscience responsible for the world” and capable of a “self-conscious evolution”. In this sphere of self are the roots of all the “diseases” of our time and, as we all know, when seeking to effectively cure a disease, one must look beyond the symptoms to the causes (Galtung & Ikeda, 2007).

Naturally, we have a moral duty to raise our voices in protest against the evils of the world, but having pointed the finger, in a more or less preachy way, against those responsible for an interminable list of crimes and massacres that have occurred up to now, has not prevented these from being repeated in other geographical areas, political and cultural contexts, with different ideologies, technologies and players. From this point of view, the global history of the twentieth century is exemplary and unequivocal, yet it is best not to harbour any illusions: total nuclear disarmament will either be the result of the internal disarmament of individual consciences or it will not happen at all (Onorato, 2005).

In the current phase of the history and evolution of our species, human beings have not been able to adopt a global code of ethics in defence of life, which shields them from self-destruction and the possibility of extinguishing life on this planet. Nevertheless, it is fair to assume that the numerous testimonies of many men and women, at the cost of their lives, in favour of peace and non-violence, will not suffice to declare immoral and illegal the use of nuclear weapons or to bring about, by means of an International Convention, their total abolition.

Could this be the first step to that anthropological turning point capable of opening a new humanism and a century dedicated to the dignity of life? It could be so, but we have no certainty. The only certainty we have is that the journey has begun all over the world, by millions of human beings, in order to achieve this goal and this already, in itself, is a transformation of life and the environment. It is a journey that, in the midst of all the contradictions of the present, anticipates and paves the way for a new possibility of life tomorrow.

## Notes

1. Until the adoption of the Comprehensive Test Ban Treaty (CTBT) by more than two-thirds of the General Assembly's membership on 10 September 1996. The USA signed but have not ratified it, however, until now they have substantially respected it.
2. The estimated total number of nuclear tests to date is believed to be around 2054 (source: Stockholm Peace Research Institute [SIPRI], *SIPRI Yearbook 2010*, Appendix 8B, Table 8B2) but only two have occurred since 1998 (by PR Korea). Hence  $2052/50 = 41$  tests a year *on average*. In some periods (1957–84) there have been more than 52 tests a year, with two peaks: 116 tests in 1958 and 178 tests in 1962 (*ibid.*).
3. As per the treaty which came into effect on 10 October 1963, the treaty is known as Partial Test Ban Treaty (PTBT), Limited Test Ban Treaty (LTBT) or Nuclear Test Ban Treaty (NTBT) – although the latter also refers to the Comprehensive Test Ban Treaty.
4. Japanese artist Isao Hashimoto has created a time-lapse map of the 2053 nuclear explosions which have taken place between 1945 and 1998, beginning with the Manhattan Project's "Trinity" test near Los Alamos and concluding with Pakistan's nuclear tests in May 1998.
5. The status of "haves", and (implicitly) of the "have nots", has been officially codified in article IX.3 of the Non Proliferation Treaty (NPT) of 1968 as the one of a "nuclear-weapon State", and (always implicitly) the one of a "non-nuclear-weapon State", respectively. Albeit more states have, illegally, acquired nuclear weapons since then they cannot be said to have joined the status of "haves" as per the definitions of the NPT. Beware anyhow that "threatening the use of a nuclear weapon" is not, by any means, what is officially meant by "deterrence". Indeed "deterrence" should be, by definition, limited to the club of the "haves". Deterring a "have not", albeit silently and implicitly, is not "deterrence", it is blackmail.
6. *"The weapons, especially those terrible ones, that modern science has given to you, even before they produce victims and ruins, cause bad dreams, foster bad feelings, create nightmares, distrust and sadness, require enormous expenditure, obstruct projects of solidarity and useful work, distort the psychology of people"* (Pope Paul VI, while addressing the UN General Assembly, 4 October 1965).
7. Translation of the Italian version by the authors of the present paper.
8. International Court of Justice (ICJ), "Legality of the Threat or Use of Nuclear Weapons", Advisory Opinion of 8 July 1996. See in particular p. 266 (C) "A threat or use of force by means of nuclear weapons that is contrary to Article 2, Paragraph 4, of the United Nations Charter and that fails to meet all the requirements of Article 51, *is unlawful*" (emphasis by authors); (E): "[...] the threat or use of nuclear weapons would generally be contrary to the rules of international law applicable in armed conflict, and in particular the principles and rules of humanitarian law".
9. Non-proliferation Treaty (NPT), 1 July 1968.
10. *"The real purpose of the Manhattan Project was – from the beginning – to subdue the Russians"*, Head of Manhattan Project, General Leslie Groves (Groves, 1962).
11. Rear Admiral Ellis M. Zacharias, USN (Ret.), "How We Bungled the Japanese Surrender", *Look Magazine*, 6 June 1950.
12. Telegram by Colonel Boris Pash – Commander of the Alsos Project (search for a possible "Nazi atomic bomb") – to General Leslie Groves on November 1944: "Mother had no baby – not ever pregnant – doctors pronounce her infertile."
13. A poll by WorldPublicOpinion.org of 19,142 respondents across 21 nations was conducted between 10 January and 29 August 2008, a collaborative research project involving research centres from around the world and managed by the Program on International Policy Attitudes (PIPA) at the University of Maryland. Margins of error range from  $\pm 2$  to 4 percentage points. The study included all nations with nuclear weapons (except North Korea) and the following non-nuclear nations: Argentina, Azerbaijan, Egypt, Indonesia, Iran, Kenya, Mexico, Nigeria, the Palestinian Territories, South Korea, Thailand, Turkey and Ukraine (from [www.icanw.org](http://www.icanw.org)).
14. Translation of the Italian version by the authors of the present paper.
15. Translation of the Italian version by the authors of the present paper.

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