

An Instance of Ethics as Civic Virtue? Ethical Reflection after Chornobyl and Fukushima*

Abstract

In remembering Chornobyl yesterday, in reminding ourselves of the Fukushima disaster today, and in anticipating a similar catastrophe in Europe tomorrow, further reflection on the aftermath of Fukushima in the terms of a global eco-ethics may prove fruitful for understanding civic virtue more fully as, sometimes, a philosophical exercise.

Sympathetic yet critical appreciations of eco-ethics are still infrequent. Despite more than 30 international symposia and many publications devoted to understanding eco-ethics as “a new ethics for our new times,” specifying the nature of eco-ethics remains elusive. Here, I try briefly to elucidate the pursuits of an eco-ethics

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as perhaps an instructive instance today for Europe generally and for Ukrainian society in particular. I do so by identifying several cardinal connections between eco-ethics and specifically the now globalized information and communications technologies.

I also try to exhibit the philosophical interest in trying to think second thoughts about the nature of normative ethics today when viewed from the unfamiliar perspective of an ethics of broad relationality and indirectness among individuals broadly understood.¹

Introductory Remarks

At the opening of our discussions, perhaps we may think of civic virtue in the terms of those who have so thoughtfully organized our meeting here. For these persons, members of the Ukrainian Catholic University's Philosophy Department, civic virtue may exist in a civil society. And a civil society may be understood as a "voluntary association outside of the sphere of the state and the economy" having an "institutional core."²

An example of such an association existing in Ukrainian society today might be the Ukrainian Catholic University and UCU's philosophy department itself. Accordingly, the philosophy department here is a place where civic virtue might be communally on exhibit.

But how could doing philosophy ever be an instance of sometimes exercising civic virtues?

Here, I would like to propose for some further reflection together a modest but somewhat challenging idea. The idea is that

¹ Besides these footnotes, further references and supplementary materials may be found in the separately Roman numbered endnotes.

² Letter of Invitation to the International Conference on Ethics in the Global World.

sometimes pursuing some forms of ethical reflection, specifically with respect to current urgent issues facing Ukrainian society today such as energy self-sufficiency, might count as reflective exercises of civic virtue.

In developing this idea, I will discuss in detail a recent set of events that have both global and European consequences. With the details of at least one supposed instance of civic virtue in mind, we might then be better situated to appreciate more fruitfully the important presentations that will follow these opening remarks.

I. Re-Openings

In Tokyo, on Sunday, July 29, 2012, weekly country-wide demonstrations of tens of thousands of citizens developed once again. This time, however, the demonstrations culminated in the formation of a human chain surrounding the Japanese Parliament. At issue were the newly problematic relations between ethics and technology and especially the reopening of previously shut down nuclear power plants.

For according to the distinguished Japanese newspaper, *Asahi Shimbun*, the Japanese government decided to reopen several of the roughly 45 automated nuclear power plants which the government had quickly closed immediately following the Fukushima Daiichi disaster of March 11, 2011.ⁱ

The first re-openings occurred despite increased scientific demonstrations of persisting great security risks. They also occurred despite the 80% recorded public support at the time for Japan's definitive, rapid exit from dependence on any nuclear generated power.

One important question here that arose was whether the Japanese government, in re-opening technologically controlled nuclear

power plants, acted unethically.ⁱⁱ In a moment I will be suggesting, from an intrinsic Japanese perspective and not just from an extrinsic one, five considerations why some have come to think that, indeed, the Japanese government did act unethically. But first consider briefly some details.

II. Dissemblings

The Japanese government mandated the re-opening of the nuclear power plant at Ohi in western Honshu on July 18, 2012. The reopening came only two weeks after the publication on July 18, 2012 of the negative findings of the Japanese Parliament's independent committee of experts, the NAIIC. The reopening also came but a few days before publication on July 23, 2012 of the Japanese government's own official commission's negative findings.

These two authoritative reports were damning. For they almost completely contradicted earlier government official communications, reports of the national nuclear energy safeguard group, and those of the electrical conglomerate and owner of Fukushima, the Tokyo Electrical Company or Tepco.

Tepco had repeatedly alleged that a natural disaster was the major cause of the Fukushima catastrophe. Moreover, arrogating to itself an authority it did not have, Tepco fully exculpated any groups or individuals of moral responsibility. But the independent reports demonstrated that, despite the occurrence of an immense tsunami after an extremely powerful earthquake, the major cause of the disaster was actionable, and culpable, human negligence: "the disaster was," I quote, "caused by man."³

³ Cited and translated by P. Pons, *Le Monde's* long-time resident journalist in Tokyo, in his article, "Au Japon, l'atome se reveille," *Le Monde*, July 27, 2012.

In such fraught contexts some persons might not unreasonably think that, with respect to ethics and technology, the resumed technological applications of nuclear energy to the production of electrical energy is ethically reprehensible. How so? ⁱⁱⁱ

In fact, continued applications of now globalized information and communications technology (GICT), of nuclear technology in many places too often subordinate the greater ethical good of the personal safety of large human populations to the lesser economic good of the cost-efficient and profitable production of electrical power. Hence, some argue that some uses of technology are ethically unacceptable.

But why there might be something ethically unacceptable not just in some applications of nuclear technologies, but perhaps also in some conceptions of key relations between the techno-sciences and the human milieu, remains unclear. Recalling several key elements from the distinguished contemporary Japanese philosopher Tomonobu Imamichi's (1923-2012) "*Eco-Ethica*" may shed some light on both issues.^{iv}

III. Eco-Ethics

Imamichi believes that among the many factors that are probably responsible for the newly questionable relations between ethics and technology today is one quite basic element. He calls this basic element, in English, "the technological conjuncture."^v And he uses this English language expression to call attention to at least two closely related aspects of what he believes is our fundamental world situation today.

The full report may be consulted at the Fukushima internet address www.telegraph.co.uk/.../japan-nuclear-crisis-Fukushima. *Le Monde* may be consulted in French at www.lemonde.fr.

The first aspect is historical. Thus, “the technological conjuncture,” may be understood to refer historically to the novel technological breakthroughs that occurred in the early nineteen fifties at Princeton.^{vi}

In late 1950, at Princeton’s Institute for Advanced Study, the Hungarian computer scientist, John von Neumann, constructed a machine based on ideas of a universal computer as a “stored-program computer.”^{vii} These ideas went back to the English mathematician, Alan Turing, who had come to Princeton in 1936 to do his doctorate in mathematics.^{viii} With help from some of Turing’s insights von Neumann developed a computer architecture for constructing the first “high-speed, stored program, all-purpose digital reckoning device.”^{ix} In turn, this invention so radically affected the technological situation at the time that many historians of science believe it marked the beginning of a new era.

This era continues to unfold today under the almost complete guidance of ever more evolved information and communications technologies. Thus, the pre-eminently techno-scientific character of our own era is, for Imamichi, the historical aspect that most fundamentally characterizes our basic world situation today. (We need to note, however, that not all properly informed, critically reflective persons and fully competent observers would agree).⁴

The second aspect is interpretive. In this respect the expression, “the technological conjuncture,” highlights one group only of crucial elements in the key set of historical circumstances. Nonetheless, Imamichi propounds this expression as an interpretation of the basic world situation today. For interconnected and integrated

⁴ For an alternative and highly nuanced account of the contemporary situation with respect to science and technology see H. Putnam’s large collection of his most recent papers in his *Philosophy in an Age of Science: Physics, Mathematics, and Skepticism*, ed. M. De Caro and D. Macarthur (Cambridge, MA: Harvard UP, 2012).

ICTs exist almost everywhere human beings live their lives.^x The once emergent technological conjuncture is now globalized.^{xi} And this globalized technological conjuncture is, Imamichi thinks, what most deeply characterizes our world today.

Identifying five major elements of the technological conjuncture (something that Imamichi himself has not made explicit) may help us understand better just what kind of ethics Imamichi has in mind when he speaks of ethics and technology in terms of an “eco-ethics.” In turn, this fuller understanding of eco-ethics may help elucidate several of the ethical dimensions of the Fukushima disaster. Perhaps it may also help elucidate the need elsewhere, for example in France, Germany, and Ukraine, for some forms of philosophical reflection as the pursuit of civic virtues.

IV. Elements

The technological conjuncture is the substantial transformation in our own times of the basic character of the human environment from the natural and organic to the artificial and technological. That is, until very recently what essentially constituted the human milieu was nature; what now essentially constitutes that milieu is the interconnection of science and technology. (Again, however, not all would agree).⁵

The technological conjuncture comprises several central elements.

- (A) First, the technological conjuncture involves not just the application but the progressive worldwide interconnection and integration of previously separated technological and scientific domains.

⁵ See for example B. R. Allenby and D. Sarewitz, *The Techno-Human Condition* (Cambridge, MA: MIT Press, 2011).

This manifold phenomenon is what the technological conjuncture is understood to “conjoin.” As Imamichi writes, “...because technology as a means has transmogrified into science and technology, it has expanded its scope and capabilities, with a concomitant broadening in the range – and impact – of technological actions...”⁶

(B) Second, historically speaking, the technological conjuncture has gradually constituted a new basic human environment or milieu for human action.

This new environment has not so much replaced the previous human environment as established itself both “alongside nature as a new human environment” while at times also “encroaching on nature” (vii). Further,

(C) third, the technological conjuncture may be understood as the technologically mediated environment.⁷

Thus, when a society is situated within a “technology-mediated environment,” then eco-ethics can be understood as “an emerging philosophy [or an emerging philosophical ethics] aimed at rethinking how we live. . . .” (p. 1). Moreover,

(D) fourth, the technological conjuncture as the techno-scientifically mediated human milieu today depends on two opposed structural supporting forces, the nation state (call this figuratively a centripetal force) and the globalization process (a centrifugal force).

⁶ Imamichi 2009, p. vi. Since I continue to rely here mainly on this work for these supplementary details on the nature of the technological conjunction, further references to this work appear within parentheses in my own text.

⁷ “The technologically mediated environment” is Imamichi’s translator’s rendering of what he himself has previously called in English “the technological conjuncture” (p. 1).

That is, eco-ethics takes the nation as causing the nation state to tend primarily towards its own internal centres and primarily to its own citizens' basic interests. And eco-ethics takes the other structural supporting force of the technological conjuncture as a continuation of a new globalization process.^{xii}

Finally,

(E) the technological conjuncture necessarily affects human temporality adversely.^{xiii}

For some apparent positive gains in time turn out more basically to comprise important and very negative aspects. On an eco-ethical account, time-saving ICTs do save time; they do so however only by "compressing" time. And these static temporal compressions seriously endanger the possibilities for the sustained ethical reflection and deliberation and more adequate understanding of the dynamic contractions and dilations of time that very complex situations today often require.⁸

But with these five elements now in hand of what the basic eco-ethical notion of the technological conjuncture comprises, just what kind of ethics does eco-ethics take itself to be? Eco-ethics takes itself as, in a word, a normative ethics.

V. Normativities

In general, the expression "normativity"⁹ designates here naturalistic normativity only. For naturalistic normativity is but one

⁸ Cf. B. Dainton, *Time and Space*, 2nd ed. (Montreal: McGill-Queen's UP, 2010), pp. 317-319, and T. Maudlin, *Philosophy of Physics: Space and Time* (Princeton: Princeton UP, 2012), pp. 12-16 and 153-169.

⁹ In most English language philosophical contexts today, and, standardly, "a term or sentence, etc., is normative if its basic uses involve prescribing norms or standards, explicitly or implicitly." For example, "ought" is normative, and so

of several kinds of normativity. Naturalistic normativities are the essential properties of those facts, statements, or claims on view mainly in the natural and social sciences.^{xiv}

In particular, “normative ethics” designates here two matters. Normative ethics is, first, the rather narrow philosophical inquiry into both the nature of moral goodness and the nature of morally right action. And normative ethics is, second, the prescription of ethical standards about what is right and good with respect to persons’ actions and characters.

Now Tomonobu Imamichi thinks of eco-ethics as a normative ethics, but not in the ordinary philosophical senses of normative ethics we have just reviewed.¹⁰ For unlike other kinds of normative ethics, eco-ethics is a normative ethics that “is,” Imamichi writes, “an entire system ... [that] must consider the connection with technology (i.e., the technology-mediated environment), which is the essence of modern society. . . .” (p. 10).

In other words, eco-ethics is a different kind of normative ethics in that it considers “moral issues facing the human race [mainly] as a result of changes in our habitat” (p. 11). That is, eco-ethics mainly considers the ethical implications of certain kinds of very recent fundamental changes in what constitutes our most basic human milieu.

is ‘good’ for anyone holding that... ‘Piety is good’ either means or entails ‘One ought to be pious’” (*The Routledge Dictionary of Philosophy*, ed. M. Proudfoot and A. R. Lacey, 4th ed. [London: Routledge, 2010]). See the extensive analyses in R. Wedgwood, *The Nature of Normativity* (Oxford: Clarendon, 2007), esp. pp. 17-132.

¹⁰ Imamichi writes that “it [eco-ethics] is a normative ethics” that seems to belong to that type of ethics that comprises “the study of particular moral propositions or moral ideas as held by a particular society or scholar” (p. 10).

Specifically, eco-ethics is a different kind of normative ethics in that it focuses on what Imamichi calls the “the ontological structure and the multipolarity of relationships today.”

This description, however, is misleading. For the expression “relationships” here has a different primary sense than the usual primary sense in English of personal relationships. Here, however, the word “relationships” designates what Imamichi’s renowned teacher, Watsuji Tetsurō (1889-1960), called *aidagara*. *Aidagara* does not designate personal relationships. Rather, *aidagara* denotes people’s so-called “betweenness,” that is, a “relationality among people” (p. 11).^{xv} For Watsuji, ethics studies the “betweenness” of relationality among persons.

Imamichi concurs. “Ethics,” he writes, “must indeed encompass this relationality aspect” (p. 15). He insists, however, that, unlike Watsuji, he wants to stress “the ethical question of the kind of attitude that human beings should now adopt toward nature” (p. 15).

Accordingly, Imamichi claims that the scope of ethics must be broadened so as to include not just “*ethica ad hominem* (interpersonal ethics [call this a narrowly relational normative ethics]), but also *ethica ad rem* (ethics towards things [a broadly relational normative ethics])” (p. 15).¹¹ Thus, whereas Watsuji’s normative relational ethics is narrowly relational, we may say that Imamichi’s normative eco-ethics is broadly relational.

VI. Implications

One major implication for understanding normative ethics with respect to an eco-ethics of a broad relationality is that the

¹¹ Ethics includes, he claims further in the same place, “an attitude towards co-existence with nature . . . or, more properly, responsibility for nature” (p. 15).

technological conjuncture has significantly broadened the range for human activities, actions, and interactions.

(A¹) Thus, firstly, with respect to the progressive integration of the techno-sciences (see [A]) in §4 above), the Japanese government's decision to reopen some nuclear power plants may be understood from a normative, Japanese eco-ethical standpoint as ethically unacceptable. For this decision violates the basic eco-ethical normative principle of broad relationality.

That is, such a decision seriously underestimates the very dangerous yet inevitable basic relations between ICTs controlling nuclear energy technologies and persons' safety, the environments of other living things, and even dynamic inorganic geomorphologies.

A second implication for understanding normative ethics with respect to an eco-ethics, one that turns on the notion of the technological conjuncture, is the necessity of re-examining the substantially changed relations today in the human milieu between the natural and the artificial.

(B¹) Thus, the Japanese government's decision may be understood from a Japanese normative, eco-ethical standpoint as ethically unacceptable also with respect to the emergence of the novel fundamental human milieu today. For such a decision fails to incorporate appropriate ethical reflection on the global interconnectedness of the actions it mandates.

A third implication is that a not-unsatisfactory philosophical ethics today must inquire into how some traditional understandings of ethical values within their novel technologically mediated human environment today may have changed with respect to their earlier naturally mediated human milieu. This supposed change in the basic situatedness of some ethical values may have had as

yet insufficiently remarked consequences on our understanding of what normative ethics itself is and what its major tasks are.

(C¹) Thus, thirdly, the decision may be understood as ethically unacceptable with respect to the requirements for developing a broader normative ethics for our transformed human milieu today. For such a decision issues from a deliberation process that makes no room for critical reconsiderations of how the situatedness of ethical values and of ethical reflection itself may have changed.

Still another implication of the technological conjuncture for normative ethics is that an eco-ethics takes that globalized interconnectedness of the ICTs to be structurally supported, not just because of the nation state's essentially internally directed forces but also because of the globalization process's essentially externally directed forces.

(D¹) Thus, fourthly, the decision may also be understood as ethically unacceptable with respect to the other directed forces of one of the two structural supports of the technological conjuncture. For the Japanese government's decision has issued from exclusively national interests thereby overlooking the irreplaceable other force supporting its own techno-scientific situation today, the essentially other-directed globalization process.

A fifth implication of the technological conjuncture today for an understanding of normative ethics with respect to eco-ethics is the major importance for normative ethics of the negative effects of such a conjuncture on the structures of human temporality. "If we assume that temporality should be regarded as a venue where human awareness arises," Imamichi argues elliptically, "then the world of machine technology [i. e., the world of GICTs today] has a structure that

compresses temporality and hence awareness and, in turn [compresses] ethical thinking as the core of human awareness” (pp. 8-9).

(E¹) Finally, then, the Japanese government’s decision to re-open some nuclear power plants may be understood from an eco-ethical Japanese standpoint as ethically unacceptable also with respect to essential structures of human temporality. For although human temporality has a dynamic structure of dilation and contraction, this decision overlooks the ethically debilitating presuppositions of its completely static conceptions of human temporality as vanishingly compressible.

So much here then for five implications of eco-ethics with respect to nuclear power-plants today.

VII. Transformations

The cardinal claim of eco-ethics we have noted, is that the technological conjuncture has transformed our times. Leaving almost nothing unchanged, the technological conjuncture has thereby, probably, changed both what the main tasks of ethics in our globalized world today must be and, possibly, even what ethics itself is.¹²

Imamichi is concerned to underline the novel character of his eco-ethics as a new kind not just of ethics but of a principled normative ethics as something other than an exclusively interpersonal ethics. Eco-ethics is indeed a normative and interpersonal ethics. But it is meant to be a global normative ethics of a more than

¹² “The emergence of relationships [understood in the sense of betweenness relations] not found in the animal world or natural life, is, I believe, an issue of our present times in which technology constitutes our environment” (p. 11).

narrowly understood relationality. For eco-ethics concerns not just relations among persons but also relations among persons and things situated in a fundamentally, completely, and recently transformed techno-scientifically mediated milieu.

What makes broad relationality such an issue for eco-ethics as a normative ethics is the salience in our globalized techno-scientific environment today of indirectness. For Imamichi stresses what he calls “relations” and not just “relationships” among individuals where the expression “individuals” is understood to include both persons and objects. And these relations “are no longer limited to natural, accidental directness” (p. 12).

What most characterizes these relations, rather, is a now “technological[ly] inevitable indirectness. . . . These relationships are very different from natural relationships among individual entities in the past. The resulting dimension of human behavior is one of indirectness that differs from the directness among individual entities” (p. 12).

Thus, eco-ethics is a normative ethics of broad relationality and indirectness among individuals largely understood.¹³ Moreover, it is an ethics among such individuals as situated in the novel, globalized, techno-scientific milieu pervasively characterizing the substantively changed world-wide human situation today. Unlike in all previous historical eras, the primary inter-subjective and inter-objective dimension of broad ethical relationalities today is not essentially direct; it is essentially indirect. In that no previous normative ethics was ever so situated and so non-exclusively focused on persons, eco-ethics is a new ethics for our new times.

Before concluding, consider several objections.

¹³ P. F. Strawson, *Individuals* (London: Methuen, 1959), pp. 226-227, and “Individuals,” in *The Routledge Dictionary of Philosophy*.

VIII. Objections

Some may find a major difficulty in eco-ethic's basic claim that the world situation today is to be characterized most fundamentally in terms of the technological conjuncture. They might ask critically, (1) empirically speaking, how satisfactory are the eco-ethical understandings of the planetary interconnections of technology and science as just what basically constitute the human milieu today?

Others may find a major difficulty in the supposition of negative consequences of the technological conjunction on the nature of human temporality. They might ask critically, (2) metaphysically speaking, what would count as sufficiently well-argued eco-ethical ideas specifically about the nature of temporality itself?¹⁴

Still others may have a major difficulty with the eco-ethical understanding of the nature of normative ethics in terms of the relatively obscure notion of "betweenness". They might ask critically, (3) how otherwise can eco-ethics justify its claim to be something more than just another descriptive ethics?

More generally, the contingencies so profoundly marking so many diverse kinds of individuals, not just persons but also material objects and living things generally—the diminishings, the passivities, and the deprivations in all their philosophically unthinkable vastness—these contingencies can no longer be rationally excluded from a more comprehensive idea of normative ethics today.^{xvi} So,

¹⁴ Imamichi's reflections on temporality appear to rely uncritically on Augustine's analyses. They need to be supplemented by recent work on the metaphysics of time such as that to be found in recent articles in both *The Oxford Handbook of the Philosophy of Time*, ed. C. Callender (Oxford: Oxford UP, 2011) and *The Future of the Philosophy of Time*, ed. A. Bardón (New York: Routledge, 2012).

some might ask (4) can any normative philosophical ethics today such as Tomonobu Imamichi's global eco-ethics warrant a claim to be truly comprehensive if it fails to incorporate such elements of the vastness of suffering, broadly understood?

And finally more specifically here in Ukraine, with all the geopolitical tensions that keep recurring concerning the state's capacity to provide normal energy resources, especially in winter for heating vital institutions like hospitals and schools, what exactly are the ethical aspects affecting the building of future nuclear energy plants after Chernobyl, Three Mile Island, and Fukushima? Could pursuing some kinds of philosophical reflection on the ethical dimensions of reopening nuclear power plants or building new ones be an exercise of civic virtue? More simply, how might doing philosophy here in Ukraine today and tomorrow count as exercising some kind of civic virtue?

IX. Envoi

To conclude.

On July 21, 2012, just two days before the release of the two most important independent reports on the Fukushima disaster, new information proved that Tepco's subsidiary, Buildup, had completely insulated with lead the radiation meters that highly exposed clean-up workers were using.¹⁵ These reports demonstrated Tepco's unambiguous intention to falsify all metered, officially recorded radiation readings in view of falsely reassuring the public and helping defend the government, Tepco, and its nuclear industry and regulatory agency supporters from future legal suits.

¹⁵ See the article by P. Mesmer, the other of *Le Monde's* two distinguished resident correspondent journalists in Tokyo, in *Le Monde*, July 25, 2012.

Despite fully available details on the terrible and inexorable progressions of radiation sickness both in the much shortened lives of the Hiroshima and Nagasaki victims and in those of the Chernobyl clean-up workers, Tepco's Buildup made no mention of, nor provisions for the dramatically increased mortal dangers to the Japanese clean-up workers' lives.^{xvii} And as I noted at the outset of this paper, in its final report released on June 20, 2012, Tepco tried to fully exonerate itself from any legal responsibility and/or moral blame whatsoever.^{xviii}

But on July 23, the Japanese government's own independent expert report detailed extensive and actionable collusion between Tepco and private interests, powerful and wealthy nuclear industry lobbies, the official Japanese Nuclear Safety Agency, and some unnamed but very highly placed government offices and officials.

And then many persons came to believe, not unreasonably, that the Japanese government's re-openings of several seriously threatened nuclear energy plants for producing electrical energy, were ethically unacceptable actions on many grounds, including, as I have tried to suggest here, also on some Japanese eco-ethical ones. That is, some reflective persons worked out in study, in discussion, and in collective action ways of exercising their civic responsibilities with respect to the common good of all. This was, I think, a substantial and exemplary civic achievement.

Perhaps then, some further exercises of philosophical reflection, for example in connection with the continuing great problem of providing genuinely reliable sufficient energy resources for Ukraine today and tomorrow that are ethically acceptable, might indeed prove, as in Japan, to be genuine instances of civic virtue.

ENDNOTES

- ⁱ *Asahi Shimbun* can be consulted on line in English at www.asahi.com/english. Widespread controversy in both Western Europe and East Asia has broken out freshly about the ethically proper uses of current nuclear technologies for satisfying the continually expanding energy needs of many post-industrial societies. Social and political conflicts have flared up notably in Japan, Germany, France, and elsewhere in the continuing aftermath of the worst nuclear catastrophe since the Chernobyl disaster in Ukraine on April 26, 1986, the Fukushima Daiichi disaster in Japan on March 11, 2011. After initial worldwide shock and fear following Fukushima (see for example G. Brumfiel and D. Cyranoski, “*Quake Sparks Nuclear Crisis*,” *Nature*, March 17, 2011) national governments in Japan and in some western European countries quickly shut down many nuclear power centers. Japan shut down all of its roughly 45 nuclear power plants, whereas some European countries adopted strict phase-out calendars for all of their own nuclear power plants. In Germany, extensive protests again delayed the rail transport of spent nuclear fuel rods from northern France through Germany to storage sites. And in France, nuclear power plant phase-outs became one of the most inflamed topics of the French 2012 presidential campaign. Cf. S. D. Sagan, “A Call for Nuclear Disarmament,” *Nature*, July 5, 2012, pp. 30-32.
- ⁱⁱ At this date, where exactly Germany and France officially stand regarding future plans and calendars for diversifying their energy sources from their present over-reliance on nuclear power generating facilities remains unclear. One reason for this unclarity is recurrent European pre-occupations with the still intractable over-indebtedness of such European Union (EU) states as Greece, Cyprus, Portugal, Spain, Italy, and perhaps others. Another is the radical decline in the cost-worthiness of non-nuclear energy sources such as solar power, when East Asian economic dumping practices have involved some partially government subsidized Chinese manufacturers flooding EU markets with below-cost solar panels and Vietnamese manufacturers dumping cheap wind turbines in some EU states. The result has been the bankruptcy of many till now rapidly expanding German and French solar panel and alternative energy production companies.
- ⁱⁱⁱ *The Shorter Oxford English Dictionary on Historical Principles* (2 vols, 6th ed., [Oxford: OUP, 2007, cited hereafter as “*SOED*”]) reports that, from the late nineteenth century, the word “ethics” ordinarily designates “a set of moral principles (L19).” For an example we have the citation, “*It is part of the Puritan ethic that any activity so pleasurable must be harmful.*” In the citation the singu-

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lar form “ethic” stands for the plural form, “ethics,” as is now usually the case. In philosophical as contrasted with ordinary English language usage the word “ethics” is used quite variously. For example, ethics is sometimes taken generally to designate “*the study of the concepts involved in practical reasoning; good, right, duty, obligation, virtue, freedom, rationality, choice.*” Also, the citation continues, ethics designates “*the second-order study of the objectivity, subjectivity, relativism, or skepticism that may attend claims made in these terms*” (S. Blackburn, *The Oxford Dictionary of Philosophy*, 2nd ed. [Oxford: OUP, 2005]). Another standard philosophical dictionary divides uses of the word “ethics” into such categories as “descriptive ethics,” “normative ethics,” “metaethics,” “social ethics,” and “religious ethics,” and then tries to distinguish each in turn (T. Mautner, *The Penguin Dictionary of Philosophy*, 2nd ed. [London: Penguin, 2005]).

Here, we may proceed on the idea that when inquiring into our major theme, ethics of technology and civic virtues, the word “ethics” may be understood very generally and in much abbreviated ways as rational inquiry into what makes some human behaviors morally good or morally bad. (Mautner recalls that ever since Cicero first translated the Greek expression for ethics, *êthikos*, as *moralis*, as part of his extraordinarily important invention of a philosophical vocabulary in Latin, later English language usage of the pair, “*ethical*” and “*moral*,” remains “*fluid*.” Some philosophers, he reports, “*use ‘moral’ in relation to conduct and ‘ethics’ in relation to character*” [202]. We should make explicit that other philosophers use this pair to mark quite different distinctions.)

iv Although sorely needed, no complete bibliography yet exists of T. Imamichi’s work so far as I know. Although now needing supplementation, the “Selected Works of Imamichi Tomonobu” in Imamichi 2004 (pp. 275-279 – see below) remains quite helpful. For the record, before the International Eco Ethics Symposia’s *Acta* (the *Revue internationale de philosophie moderne*) that began publication under the editorship of T. Imamichi in 1983, two volumes of Eco-Ethics symposia papers appeared in the University of Tokyo’s *Journal of the Faculty of Letters*. After the appearance of 24 volumes, the *Acta* ceased publication after the appearance of all of the 25th Symposia papers in 2009. Papers from the 2007 26th Symposium papers appeared in the new journal, *Eco-ethica: Re-thinking Ethics Today*, 1 (2011) and 2 (2012) founded and edited by N. Hashimoto and P. Kemp; see especially P. Kemp’s “Preface,” p. iii. All papers from the 27th, 28th, and 29th Symposia have not yet been published. All papers, however, from the 31st Symposium in 2011 anniversary are forthcoming in vol. 3 (2013) of *Eco-Ethica: Rethinking Ethics Today*.

T. Imamichi provided a summary overview of his themes in his 1990 seminal book in Japanese, *An Introduction to Eco-Ethica*, transl. by J. Wakabayashi

(Lanham, MD: University Press of America, 1990) and into German by S. Döll as *Eco-Ethica: Eine Einführung in die Ethik der Lebenssphäre* [München: Iudicium Verlag, 2007]). On the contexts of this notion and its development see, among others, *L'Eco-Ethique de Tomonobu Imamichi*, ed. P.-A. Chardel, B. Reber, and P. Kemp (Paris: Editions du Sandre, 2009), P. McCormick, *Eco-Ethics and Contemporary Philosophical Reflection* (Heidelberg: Universitätsverlag Winter, 2008), especially pp. 32-46, and *Eco-Ethics and an Ethics of Suffering* (Heidelberg: Universitätsverlag Winter, 2008), especially pp. 21-63).

On T. Imamichi's unusual professional career see his autobiography, *In Search of Wisdom: One Philosopher's Journey*, tr. M. E. Foster (Tokyo: LCTB-International House of Japan, 2004), especially the Chronology on pp. 271-273.

v This central expression appears in many places in Imamichi's voluminous writings, in several of his early works written while teaching at the University of Tokyo, and in his many articles in the already published volumes of the *Acta* of the Eco-Ethica International Symposia. More recently he has also used the English-language expression "the technological cohesion." But the sense and significance of this second expression and its relation to the first remain unclear, at least in translation.

vi Note that Imamichi himself does not make this specific historical claim which is my own I hope not implausible speculation. In the light of new information, I would like to correct here some details I first provided in Chapter Two (pp. 43-63) of *Eco-Ethics and an Ethics of Suffering* (2008b) on the key historical moment that marks the beginning of the "digital age," the historical beginning, I think, of T. Imamichi's "technological conjuncture." The first computer properly speaking, that is an "all-purpose technology" digital machine that stores its own instructions in the coded numbers or software of its control logic, was not the University of Pennsylvania "Enniac" machine that J. P. Eckert and J. Mauchly invented in 1946 at the University of Pennsylvania in Philadelphia. Enniac lacked any internally stored control logic. Rather, the first computer properly speaking was the playfully dubbed "Maniac" that J. van Neumann constructed in late 1950 at the Institute for Advanced Studies in Princeton. See the prescient earlier discussion in P. Suppes, *Probabilistic Metaphysics* (Oxford: Blackwell, 1984), pp. 130-134. For the invention of the earlier electronic computer that J. Atanasoff and C. Berry first designed at Iowa State University in 1939 (the Atanasoff-Berry-Computer or ABC Computer that Mauchly had seen and whose description he had read) see J. Smiley, *The Man Who Invented the Computer: The Biography of John Atanasoff, Digital Pioneer* (New York: Doubleday, 2010).

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- vii *The Oxford Dictionary of Science* (6th ed. [Oxford: OUP, 2010]) reports that a computer is “an electronic device that processes information according to a set of instructions called the program. The most versatile type of computer [what I refer to above as a ‘universal computer’] is the digital computer in which the input is in the form of characters, represented within the machine in binary notation [that is, ‘a number system using only two different digits, 0 and 1’].” An “all-purpose technology” is a technology that can be applied not just to one specific use (a so-called “one-off technology” such as the first Newcomen steam engines in 1712 that were useful solely for draining water from mineshafts), but one that can be applied to many uses (R. C. Allen, *Global Economic History* [Oxford: OUP, 2011], pp. 35-39).
- viii Turing himself went on to apply his particular idea of a stored-program computer during the Second World War in England at Bletchley Park to the immensely difficult task of breaking the all-important German Enigma-machine military codes, a prodigious feat that contributed substantially to shortening the war. See J. Poskett’s review of London’s Science Museum’s Summer 2012 exhibit, “Codebreaker – Alan Turing’s Life and Legacy,” *Nature*, June 21, 2012, p. 321.
- ix J. Holt, “How the Computers Exploded,” *The New York Review of Books*, June 7, 2012, p. 32. Holt’s article is a review of G. Dyson’s authoritative book, *Turing’s Cathedral: The Origins of the Digital Universe* (NY: Pantheon, 2012). S. B. McGrayne provided an important element for Dyson’s account in her earlier published book, *The Theory That Would Not Die* (New Haven: Yale UP, 2011) and in her research into the still obscure role in Turing’s own ideas of his crucial insights into Bayesian probability theory. (The English mathematician, Thomas Bayes, first invented Bayesian theory in the 1740s which the French mathematician, Pierre Simon Laplace, rediscovered in the 1770s, and which the Cambridge geophysicist, H. Jeffreys, expounded in 1939 in his book *Theory of Probability* (Cambridge: CUP, 1939). Some first-hand evidence has now become available to show that Turing knew the Jeffreys book well and acknowledged his debts to Bayesian theories (see A. Robinson, “Known Unknowns,” *Nature*, 473 [July 28, 2011], pp. 450-451).
- x We need to note critically, however, that neither in the historical nor in the interpretive respect has eco-ethical reflection provided suitably detailed, critical, and protracted discussion. Quite importantly, ongoing eco-ethical critical discussion so far has yet to examine philosophically the salient economic elements of the technological revolution. Yet critically appropriating these elements is essential for understanding the ethical aspects of the origins and progression

of the successive crises still affecting many societies in both East Asia and Western Europe. For example, since the powers that be, for reasons including unethical ones that allegedly remain obscure, allowed the New York banking conglomerates, Bear Stearns and Lehman Brothers, to collapse in Fall 2008, successive housing, banking, financing, and now political crises have each exhibited unprecedented informational technological components. Although part of the technological conjuncture that T. Imamichi would have us explore, these economic crises await any sustained eco-ethical examination.

- xⁱ The *SOED* defines “globalization” as “*the process by which businesses etc. develop international influence or start operating on an international scale.*” However, since the literature on globalization continues to increase exponentially, eco-ethical reflection needs to describe its own preferred usage more fully. Discussions in such well-received and widely inclusive recent books as M. Steger’s *Globalization*, 2nd ed. (Oxford: OUP, 2009) may prove especially helpful. See also P. McCormick, “Globalization and Cosmopolitanism: Claims, Attitudes, and Experiences of Friendship,” *Journal of Global Studies*, 2 (2009), pp. 61-70 (in Russian).
- xⁱⁱ For eco-ethical reflection, further critical philosophical inquiry into the nature and roles of ethical values in the centrifugal force of the technological conjuncture is required now that, in the shadows of the bloodiest of centuries, the era of the nation states appears to have compromised itself ethically forever. Ethics is not a national but a supra-national matter.
- xⁱⁱⁱ This element of the technological conjuncture seems at first counter-intuitive. After all, the techno-sciences are very widely noted for, and quite often seriously discussed in terms of just how much time they enable human beings to save in their activities and thereby how much efficiency they introduce especially into the manifold activities of the workplace. Hence, far from adversely affecting human temporality negatively, the techno-sciences would seem to affect temporality positively.
- x^{iv} See the discussions in D. Parfit, *On What Matters*, ed. S. Scheffler (Oxford: OUP, 2011), vol. 1, pp. 31-42 on normative concepts and pp. 150-174 on normative moral concepts; vol. 2, pp. 290-294 on normative beliefs, pp. 384-389 on normative disagreements, and pp. 401-410 on A. Gibbard’s highly nuanced expressivist views. S. Scheffler provides a general overview of this huge work in his “Introduction” (vol. 1, pp. xix-xxxii), and S. Freeman offers a critical appreciation in his “Why Be Good?” *The New York Review of Books*, April 26, 2012, pp. 52-54. In his *Meaning and Normativity* (NY: OUP, 2012), Gibbard replies in part to Parfit’s criticisms.

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- ^{xv} Note that Watsuji talks of “betweenness” (*aidagara*) not as a relation but as an “interrelation,” that is what he calls expressly a “relationship” between people, between “more strictly,” he writes obscurely, “I when I am ‘we’ and we when we are each an ‘I’” (see his 1935 work, *A Phenomenology of the Cold*, excerpted in *Japanese Philosophy: A Sourcebook*, ed. J. W. Heisig, T. P. Kasulis, and J. C. Maraldo (Honolulu: University of Hawaii Press, 2011), pp. 858-859). See also his 1931 major work on ethics, *Rinrigaku*, tr. Y. Seisaku and R. E. Carter as Watsuji Tetsurō’s “*Rinrigaku*”: *Ethics in Japan* (Albany: State University of New York Press, 1996) in the SUNY series, *Modern Japanese Philosophy*, ed. P. McCormick.
- ^{xvi} In an eco-ethical spirit, perhaps we may call these basic elements of an ethics of suffering “the resonances of contingency” (inter-objectivities), “the war-rants of suffering” (inter-subjectivities), and “the muteness of the disappearings” (species-extinctions). Cf. P. McCormick, *Eco-Ethics and an Ethics of Suffering* (Heidelberg: Universitätsverlag Winter, 2008), pp. 148-153.
- ^{xvii} Details on radiation sickness and images may be found at www.health-res.com/radiation-sickness-from-hiroshima and www.disease-pictures.com/radiation-sickness-from-hiroshima. See also the Editorial in the March 31, 2011 issue of *Nature* (p. 547), “Lessons From the Past,” on the still pressing need for further follow-up studies on the long-term risks of low-level radiation, and the alarming new scientific reports in *Nature*’s on-line journal, *Scientific Reports*, of multiple malformations and mutations in the most recent generations of butterflies in sites as far away as 200 kilometers from Fukushima catastrophe (P. Pons, “Les papillons mutants...” *Le Monde*, August 16, 2012). Similarly, the BBC in February 2013 reported on the equally alarming results of long-term field biology studies on small animals and birds in the immediate environs of Chornobyl.
- ^{xviii} Despite Tepco’s ongoing denials and reluctant acceptances of factual corrections, very serious problems with Fukushima continue to this day, such as ocean pollution and growing and much higher numbers of cancers in cleanup workers than those Tepco has reported. Compare to Tepco’s consistently and still continuing distorted and mendacious reporting a current external scientific critical assessment of the Fukushima situation in the summer of 2013, the detailed interview with N. Foray, a French radiobiologist of the *Institut national de la santé et de la recherche médicale* (Paris) and medical researcher at the *Centre de recherché en cancérologie* (Lyon) in *Le Monde*, July 26, 2013.