OTHER CONCEPTS OF GEOETHICS

Technical introductory remark: Because of using various quotations from other authors - as published on internet - I present my own text in a larger size of letters to make the real authorship more apparent. In the texts of other authors - if useful - I have only emphasised the names of authors and separating some parts of the text in new paragraphs.

The term "geoethics" has been used in the course of last years by several authors and by their followers in various concepts differing from those as developed in Příbram and described in my contribution sub GD 1.

Thanks to the article of Jamais Cascio (January 2007) I started to register those streams and movements. Let me introduce this article from: http://openthefuture.com/2007/01/off_core_geoethical_principles.html.

Geoethical Principles

(Jon Lebkowsky, over in the conversation with Bruce Sterling at the Well, reminded me of one of my favorite and most difficult posts over at WorldChanging, one that's worth bringing over here. It's an exploration of "geoethical principles" -- the values we'd need to hold, and to hold tightly, should we ever be faced with the need to engage in geoengineering. Originally written in July of 2005, here it is in its entirety:)

The pace and course of global warming-induced climate disruption is such that, even with an aggressive global effort to cut greenhouse gas output starting today, temperatures will continue to rise for two or three decades. If the effect of rising temperatures hits a "tipping point" resulting in far-more-radical changes to the Earth's ecosystems than one might otherwise expect, we may be forced into using riskier, planetary-scale engineering projects to mitigate the changes and return us to "Earth-like" conditions. In Terraforming Earth, I looked at some of the proposals for large-scale reversals of temperature increases and CO2 buildup; In Terraforming Earth, Part II, I looked at the complexities of bioengineered adjustment instead of geoengineered mitigation. But whether we end up taking the mitigation or the adjustment course, we will want -- need -- clear guidelines to help us make the right choices. Such guidelines would, for some, seem like common sense; indeed, their use would not be to tell us what to do, but as a consistent metric against which to test proposals. These principles would not tell us whether a given strategy would succeed or fail, but whether the strategy would be the right course of action. As an explicit parallel to bioethics, these guidelines would be known as "geoethics."

Bioethics are the guidelines against which biomedical researchers and practitioners measure their own difficult decisions. While the concept is by no means new, it was first formalized in 1979, in a book entitled Principles of Biomedical Ethics by Tom Beuchamp and J. Childress. Beuchamp and Childress conceived four core principles: autonomy, the personal responsibility over our own lives, and the ability to make decisions for ourselves; non-maleficence, essentially "first of all, do no harm" (a notion derived from Hippocrates, but not actually part of the Hippocratic Oath); beneficence, a positive obligation to advance the welfare of others; and justice, the allocation of healthcare resources according to a just standard. These have become widely-accepted core principles for many working in the medical practice and medical research fields.
Like bioethics, the term "geoethics" is not new; unlike its biological cousin, there is no consistent definition of what geoethics covers, let alone its core principles. The closest I've found comes, not altogether surprisingly, from a WorldChanging ally. Mike Treder at the Center for Responsible Nanotechnology posted recently about the 1st Annual Workshop on Geoethical Nanotechnology. Treder defined geoethics thusly:

"Geoethical" means widely agreed-upon principles for guiding the application of technologies that can have a general environmental (including people) impact, much like bioethical principles (autonomy, beneficence, nonfeasance, justice) guide the application of curative technologies that specifically impact one or more patients.

Suggestive, but still vague. How is "technology" defined -- would cars be included? Highways? Cities? Fire? What about practices that are not explicitly technological, but demonstrate an observable environmental impact (such as deforestation, agriculture, and mining)? How much of an environmental impact is enough to be covered? Subsequent literature searches (detailed below*) only muddied the waters further.

The upside of this lack of consistency is that we can define geoethics and geoethical principles for ourselves without too much worry about disagreement with an established definition.

I will propose a draft definition of geoethics, along with some suggested principles, but I'm looking for input (in the comments, preferably, but in email, too) from the larger WorldChanging community as to the phrasing and value of the concept.

**Proposed phrasing:**

Geoethics is the set of guidelines pertaining to human behaviors that can affect larger planetary geophysical systems, including atmospheric, oceanic, geological, and plant/animal ecosystems. These guidelines are most relevant when the behaviors can result in long-term, widespread and/or hard-to-reverse changes in planetary systems, although even transient, local and superficial alterations can be considered through the prism of geoethics. Geoethical principles do not forbid long-term, widespread and/or hard-to-reverse changes, but require a consideration of repercussions and so-called "second-order effects" (that is, the usually-unintended consequences arising from the interaction of the changed system and other connected systems).

**Proposed core principles:**

**Interconnectedness** -- planetary systems do not exist in isolation, and changes made to one system will have implications for other systems.

**Diversity** -- on balance, a diverse ecosystem is more resilient and flexible, better able to adapt to natural changes.

**Foresight** -- consideration of effects of changes should embrace the planetary pace, not the human pace.

**Integration** -- as human societies are part of the Earth's systems, changes made should take into consideration effects on human communities, and the needs of human communities should not be discounted or dismissed when considering overall impacts.

**Expansion of Options** -- on balance, choices made should increase the number of options and opportunities for future generations, not reduce them.

**Reversibility** -- changes made to planetary systems should be done in a way that allows for reconsideration if unintended and unexpected consequences arise.
Going into a bit more detail:

**Interconnectedness** is a recognition that the various planetary systems have deep and sometimes subtle cross-dependencies. Changes directly affecting a given system cannot be assumed to be neutral with regards to other systems; changes to (say) surface reflectivity, such as in the urban heat island effect, can in turn result in changes to rainfall patterns, influence the level of atmospheric ozone and particulate matter, and help determine the degree to which light from the Sun is absorbed.

**Diversity** is an argument against monocultures arising directly from and as an unintended consequence of human activity. Direct monocultures include commercial forest stands; unintended monocultures include the proliferation of aggressive invasive organisms (e.g., "weeds") after environmental shifts open up new niches. Monocultures make ecosystems less able to survive shocks.

**Foresight** is not a new concept at WorldChanging, even if expressed in somewhat different language. Ecological and geophysical changes tend to be slow, in human terms, and it's important when considering the implications of proposed actions to think in terms of the planet's pace, not just society's pace. An example would be the (as of now uncommon) recognition that global warming involves slow but relentless changes, such that quick shifts in human behavior will have no noticeable immediate effect.

**Integration** is an explicit counter to the "die-off" line of thinking that places the needs of human societies below all other systems on the planet. Not only does the "die-off" argument result in ecological disaster as desperate societies try to grab remaining resources, its logic leads to the argument that (a) since human society is inherently unsustainable, and (b) since the planet, given sufficient time, can recover from any environmental burden we place on it before we die, there's no reason to be cautious, and we should do as we like with no concern for the future. Seeing human societies as part of the planet's systems, and as worthy of preservation and protection as any other part, allows for a longer-term perspective.

**Expansion of Options** encompasses "sustainability," but is a larger concept. This means more than simply finding a sustainable balance of use and preservation; expansion of options means actively seeking behaviors that return more resources to the planet than they take, that emphasize renewal and reuse, and that provide a growing, diverse basis for future innovation.

**Reversibility** is an attempt to capture the idea that, where possible, we should bias towards those choices that allow for reconsideration if unanticipated and undesirable consequences arise. Reversibility will not always be an option -- indeed, when matched with the Foresight principle, we may not recognize a problem until well after the option of reversal has passed. But when reversible options are available, they should be given special consideration.

These principles and the statement of geoethics are obviously works-in-progress, and need greater refinement, elaboration and vision. I welcome and encourage suggestions and argument.

*(Jamais Cascio, July 26, 2005)*

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* It turns out that a clear and consistent statement of geoethics is difficult to find.

A USC seminar on Environment and Ethics defines it as "the idea of applying a range of moral principles according to the context of a given situation."

In *Peripheral Visions: Towards a Geoethics of Citizenship*, authors Eve Walsh Stoddard and Grant H. Cornwell assert that "[by] a geoethics of citizenship we are suggesting a project of seeking understanding quite literally through the triangulation of different points of view."
Ethicist Martine Rothblatt, in *Your life or mine: how geoethics can resolve the conflict between public and private interests in xenotransplantation*, looks at geoethics as a global set of rules to balance private and public interests in issues such as cross-species transplantation of tissues.

Czech economists Vaclav Nemec and Lidmila Nemcová (DOC) propose geoethics as a new discipline (in both Earth sciences and applied ethics) in order to help in decision making whenever ethical dilemmas occur in problems connected with the sustainable use of non-renewable mineral resources (mainly in the fields of geology, mining activities and energy resources).

As this variety suggests, although the term "geoethics" has been floating around for well over a decade (Nemec and Nemcová claim to have used it since 1991), there is no agreement as to what it means.

*Posted by Jamais Cascio on January 6, 2007 2:43 PM*

In a comment to the previous text Roger Thomas (January 12, 2007 12:14 PM) writes (excerpt):

There is no real boundary between bio and geo systems, so why impose one? They are the same system. I would recommend producing planetary ethics instead of bio and geo ethics.

As to Martine Rothblatt, she work as Editor-in-chief of the "Journal of Geoethical Nanotechnology".

As to the quoted proposition of V. Němec and L. Němcová, it was taken from the paper GEOETHICS AS A NEW DISCIPLINE FOR SUSTAINABLE USE OF MINERAL RESOURCES presented at the 2-nd World Congress on Business Ethics in Sao Paulo (July 2000); it corresponds with the original idea where the priority of geoethics was seen mainly in the use of mineral resources; later events - as expressed in the paper GD 1 - have enlarged the concept to another field of natural hazards.

Another use of the term geoethics has been made by William S. Lynn in his Ph.D. dissertation (Department of Geography, University of Minnesota, Minneapolis,1999): *Geoethics: Ethics, Geography and Moral Understanding*. In his concept geoethics = geographical ethics. In the Guide to Philosophy on the Internet (Suber), Bibliographies (edition stopped in 2003) William S. Lynn has published GeoEthics, A Bibliography.

In Italy another testimony on geoethics has been found by means of internet: *Le Industrie Invisibili* (The Invisible Industries) - a cooperative project that provides art for the community. It was founded by the artist Stefano Cossu and it often involves artists and professionals of all kinds. Among the LII's branch firms there is the Institute of GeoEthics which is creating a "meta-architecture" in progress, a building made of many "rooms", installations scattered around the world.
Attempt to contact the authors

On May 14, 2007 I send to those authors an e-mail (the complete text published in GEOETHICS NEWS - June 2007) - let me quote some excerpts from it:

Dear Colleagues,

I take the liberty to inform you about the historical roots of the discipline as well as of the term GEOETHICS I had the pleasure to introduce to the Earth sciences community. Let me go back to the very beginning steps: ......

Regular meetings on GEOETHICS have been organized in the frame of the Mining Pribram symposium since 1994(actually in preparation the meeting for October 2007) as well as - since 1996 - a part of the International Geological Congresses (presently in preparation for Oslo - 2008) and elsewhere (regularly in Moscow, ad hoc in many other places). The institutionalisation of geoethics has been completed by forming a working group for geoethics under the umbrella of the Association of Geoscientists for International Development (AGID).

Some more detailed information and references are given in the two enclosed documents*:
1) Geoethics - excerpt from the International Encyclopedic Dictionary GLOBAL STUDIES ....
2) Geoethics News (March 2007): also reporting access to several appropriate web pages.

Recently - thanks to the article of J. Cascio (January 2007) I started to register various streams and movements using the same term “geoethics” for different purposes. Without any doubt many new ideas have to be promoted - on the other hand it should be useful to find an appropriate ethical issue for clearly delimiting the areas of different interest and excluding any confusion. In my opinion a good solution can be found in a scientific discourse as part of the meeting on Geoethics at Pribram (Czech Republic, 60 km SW from Prague) in October 2007 (see Geoethics News).

I am convinced that you belong to the most qualified specialists whose presence would be very useful for the suggested discourse. You are free to address this invitation to other colleagues who might be interested. I shall be pleased to receive from you or from your colleagues (who might be able to present your ideas) preliminary registration forms and abstracts of potential presentations for the Pribram meeting as well as any other suggestions - if possible prior to May 31. If any special question, do not hesitate to contact me.

Best regards from Prague,
Vaclav Nemec,
Vice President, AGID ; convenor of the international section “Geoethics”, the Mining Pribram Symposium ; convenor of the general symposium “Geoethics”, the 33rd International Geological Congress

This e-mail was sent to J. Cascio, M. Treder, Eve Walsh Stoddard & G.H.Cornwall, William S. Lynn, Martine Rothblatt, Stefano Cossu (Le Industrie Invisibili). Not all of them sent the automated verification of reading the e-mail, real replies came only from Stefano Cossu and Martine Rothblatt (unfortunately both unable to attend our meeting). Therefore I have decided to prepare at least this short informative review of other concepts.

Conclusion

Without any doubt many new ideas have to be promoted - on the other hand it should be useful to find an appropriate ethical issue for clearly delimiting the areas of different interest and excluding any confusion.

Many similar terms exist and other can be found and introduced. Also this meeting with the following discussion may open a constructive way to the final solution.

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