


# Geoethics

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Manifesto for an Ethics of Responsibility  
Towards the Earth

 Springer

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ISBN 978-3-030-98043-6      ISBN 978-3-030-98044-3 (eBook)  
<https://doi.org/10.1007/978-3-030-98044-3>

Translation from the Italian language edition: *Geoetica Manifesto per un'etica della responsabilità verso la Terra* by Giuseppe Di Capua, and Silvia Peppoloni, © Donzelli Editore 2021. Published by Donzelli Editore. All Rights Reserved.

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*There are no privileges of peoples  
but common duties of coexistence ...  
and no one is saved alone.*

*Giovanni Semerano (1911–2005)*

# Foreword

For a long time, humans and their ancestors have had to adapt to the whims of the environment. For millions of years, they suffered heat and cold, chased prey and resources as they moved, followed tracks, rivers and coastlines in search of a place to stop, before leaving again. Then something changed. After several tens of millennia in their continent of origin, Africa, tribes of hunters and gatherers of the species *Homo sapiens* began to colonise the world more rapidly and to exploit its riches with a systematic approach never seen before in a large size primate. Around 60,000 years ago, an African mammal became planetary. Shortly after, it was on the shores of the Arctic Sea, 45,000 years ago, at twenty degrees below zero, hunting and slaughtering woolly mammoths. Wherever it passed, ecosystems disintegrated and biodiversity decreased. The large Australian and American herbivores, which had never known such a skilful, armed and organised predator, disappeared. The domestication of plants and animals would follow the end of the last ice age. Thus, the evolutionary arrow was reversed: humans were forced to adapt to the environment for millions of years, and now it is the environment that must laboriously adapt to us, to our intensive livestock farming, industries, metropolises, dams and mines.

What makes us human? This is the great question of philosophy but also of evolution. The answer lies not only in our invasiveness. Those same dark-skinned African hunter-gatherers who hunted mammoths at the North Pole, a few millennia later, in a completely different ecological context, namely in the humid heat of the tropical Indonesian island of Sulawesi, produced refined and delightful rock art. Long before Chauvet and Lascaux caves in Europe, these humans, like us, devoted time and resources to a symbolic and aesthetic activity that served no purpose for survival. They could afford it. That is what makes us human. We are not only invasive; we are also creative. We imagine worlds in our head. We are an ambivalent species, creator and destroyer, from the very beginning.

Geoethics, so well outlined by Silvia Peppoloni and Giuseppe Di Capua in the following pages, has its roots in this peculiar natural history of humanity. As other species do, but with a unique pervasiveness, we change the world around us to make it more comfortable for our survival. The strategy has worked and has given us increasing prosperity (though never for everyone), social and economic development,

scientific and technological progress, as well as a great Darwinian demographic success. We are almost eight billion and have occupied every corner of the planet. But the strategy is ambivalent, like almost everything that is human, because we then have to adapt to a world that we ourselves have modified, impoverished and often distorted. For example, it is now written in all international documents that we must 'adapt' to anthropogenic global warming.

Technically, *Homo sapiens* is a 'niche builder', in the sense that it actively contributes to the alteration of its own ecological, social, cultural and technological niche. Like all niche builders, human beings pass on to the next generation not only genes and ideas, i.e., the mixture of biological and cultural evolution, but also the ecological changes introduced. Our children are natives of global warming and the environmental crisis: it is the evolutionary legacy we have transferred to them. As this is a costly legacy, an environmental debt, young people rightly protest. Therefore, our ecological hereditariness as niche builders generates a problem of generational justice, as well as distributive justice, since those who suffer most from the environmental crisis are those peoples who have contributed least to its recent deterioration.

If nature hands us an ambivalent legacy, then our choices greatly depend on ethical maturity. The monumental niche construction in which we plunge is indeed a dangerous game, requiring responsibility and wisdom, requiring precisely *ethics of the earth*, ethics of the Anthropocene, which is also *ethics for Earth* that coincide with human ethics as part of the history of Earth. For some years now, in the most accredited scientific journals, we have been finding data and appeals on the environment and on the social and health costs of its degradation, that are so heartfelt that they resemble those of the most militant and radical ecological movements. These appeals have largely gone unheeded, because they are uncomfortable and perhaps difficult to grasp, even on a cognitive and emotional level, by *Homo* self-called *sapiens*, whose collective mind prefers the here and now, crushed on the present, unable to make ethical commitments that are not close and tangible but concern subjects far away in space and time. Scientists and humanists agree on this: we are blind to what is happening, numbers and data are not enough to make us really identify with the process, and we have a problem of imagination.

That is why it is so important to build, as it is done in this book, an ethics of human responsibility towards the earth that is transcultural and rational, scientifically based, intrinsically interdisciplinary and multidimensional, an ethics of justice towards the poor of the earth and towards future generations, against all localism, sovereignty and selfish populism. Scientific and technological solutions are, and will be, essential to get out of the blind alley we have got ourselves into, but they will not be enough. Social, economic and behavioural changes are needed; hence, the need for ethical reflection on the values that will have to mark and direct these deeper changes.

Geoethics rightly emphasises responsibility, both individual and collective, against any alibi. There have always been violent atmospheric phenomena, of course: we inhabit an active, unpredictable, living planet, which is not made in our image and likeness. But these phenomena are becoming increasingly extreme and frequent and, therefore, more difficult to contain and manage. In such a situation (generated

by us), the lack of land maintenance and of fight against hydrogeological instability, building speculation and criminal irresponsibility will have only one obvious result: almost every rainfall will become a flood, a ‘disaster’ on the evening news. But what kind of disaster? Not a natural disaster but an entirely human disaster: a disaster of poor foresight, of failure to understand and embrace risk, to prevent uncertain outcomes, to adapt to ongoing climate change. Ultimately, it is an ethical disaster, if our children are in those houses swept away by the current, and then we mourn them by invoking divine punishment or nature as evil stepmother.

The environmental crisis is showing its worst side, and it is presenting us with the bill. Even the Covid-19 pandemic is a terrible cost that we are paying for ecological degradation, deforestation and the shortsighted exploitation of animals. We know this, but we have stopped saying it. So even science, not just nature, can become an alibi. Geoscientists are publicly and sometimes peremptorily asked for certainties, forecasts, and quantifications. The political classes, by now incapable of any farsightedness, are looking for footholds, pursuing deresponsibilizing narratives or even comforting fake news. Geoscientists rightly respond with probabilities, uncertainties, risks, projections, scenarios, protection of geodiversity and prevention. They remind us that Earth sciences are, by their very nature, sciences of interdependencies, dilemmas, complex and non-linear relationships, ambivalences (one of which is highlighted in the book—the market for rare-earth elements to fuel not only our addiction to smartphones but also the most sustainable technologies). Thus, geoethics—as Peppoloni and Di Capua explain so well here—does indeed concern geoscientists and their professional ethics but also political decision-makers, media actors and public opinion.

Technologies can also become an alibi. Appropriately, the authors are perplexed by certain feared interventions of climate and environmental geoengineering because they denote a salvific and instrumental vision of technologies, a deresponsibilising vision that ignores the problems of redistribution of effects and the management of possible unintentional consequences on the Earth system. There is no more time for such diversions. If we spend billions of public money and waste decades to build an embankment to protect a lagoon, by the time it starts to work it will be too late, with respect to the progressive rise of sea level.

Individual and collective responsibility means being accountable for one’s actions and their effects. A further element of value and originality of geoethics is its realism. As builders of our planetary niche, cognitively and emotionally we cannot help but be a little anthropocentric, i.e., we cannot leave our point of view, and we retain the right to defend our survival, like any species, and to guarantee its continuity in future generations. But anthropocentrism becomes responsible when it realises that human interests now coincide with those of nature, of which we are a part. It follows that geoethics and ecology are today two great and compelling humanist undertakings.

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