

Chapter 23

Geoethics, Environmental Law and the Necessary Dialogue Between Knowledges



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Abstract Can geoethics and, more generally, the activity of geoscientists contribute to the development of environmental law? First of all, the author reflects on geoethics and identifies its definition. He investigates the relation between geoethics, morality and environmental law. Later, he observes that the current era is called the Anthropocene. The behaviours of human beings affect the world in which we live. A new current of thought, which can be called Ecological Humanism, preaches a harmonious relation between man and nature. Attention is then focused on the contribution that geoethics can make. Geoscientists, due to their activity, are the first to observe the consequences of human activity on the environment and can suggest which are the virtuous behaviours. The author notes that in order to address complex problems, such as environmental issues, a dialogue between disciplines is needed. Finally, the author analyses how an interaction between geoethics and, more generally, geosciences and the legal world can take place. Complex questions require answers that go beyond the boundaries of the disciplines, and, for this reason, an adequate solution requires a joint effort of different disciplines. A possible solution to environmental problems may derive from the collaboration between geoethics, geosciences and law.

Keywords Geoethics · Environmental law · Dialogue between knowledges · Morality · Anthropocene · Ecological humanism

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23.1 Introduction

Our world is affected by climate change and an environmental degradation that progressively advances. All governments are constantly looking for solutions to curb these phenomena. Geoethics, a recently born discipline, focuses on the enhancement and protection of the planet. It is a science of morality and studies the behaviours and good practices that govern the relationship between man and nature. It is not merely a sectoral discipline, but can provide an important contribution to other disciplines that have as their object the regulation of human behaviour. In particular, the author evaluates what advantages emerge from a connection between geoethics and environmental law. The main function of law is to regulate life in society and, specifically, human behaviour. Faced with the environmental problem, an effort by various disciplines is needed to understand the extent of the phenomenon and design effective solutions. The author's goal is to demonstrate how an interaction between disciplines is essential in environmental matters. In particular, he examines the possible connection between geoethics and environmental law, evaluating the advantages that environmental protection could bring.

Geoethics is a science of morality, and for this reason, attention must be paid to the relationship between geoethics, morality and law. Everything fits into a new phase that humanity is going through. The current era is defined as Anthropocene, and there is a current of thought that, aware of the effect of human actions on the environment, preaches a new relationship between man and nature and a harmony between all the entities that make up the planet. It can be called Ecological Humanism. Geoethics and, more generally, the activity of geoscientists can contribute to a new environmental law that manifests itself in different phases. When phenomena are analysed to obtain full knowledge, the contribution of all professionals who carry out their activities in close contact with nature is undoubtedly important. Law should consider in the production phase the norms of good practices and behaviours suggested by experts as environmentally friendly. In the phase of interpretation and application of the norms, it is important to use concepts that derive from the natural sciences and geoethics to give a reading that is oriented towards respect for the environment. In an era where every discipline is increasingly sectoral and perfects its knowledge, a connection of disciplinary knowledge is necessary. In order to give an effective response to environmental issues, one of the possible paths is the one that passes through the contribution of all the disciplines that deal with the various aspects connected to them. Collaboration between the different types of knowledge will help to understand the phenomena that threaten the existence of the planet and lead to the discovery of appropriate strategies and solutions to counter them.

The author analyses the relationship between geoethics and environmental law. He investigates whether geoethics and, more generally, the activity of geoscientists can contribute to the development of environmental law. The first step is to identify the definition of geoethics. Later, he examines the relation between geoethics, morality and environmental law. This relation takes place in the current era, defined

as Anthropocene. In this era, a new current of thought focused on the harmony of human beings with nature, called Ecological Humanism, develops. In order to devise solutions to environmental problems, it is necessary to make use of the knowledge from different disciplines. For this reason, it is useful to observe what are the degrees of connection between the different disciplines. Finally, the relation between geoethics and law and, in particular, in which phases a connection between them could take place are examined.

23.2 Towards a Definition of Geoethics

The term “geoethics” identifies a recent discipline. Francesco De Pascale, Valeria Dattilo, Francesco Nebbia and Alessandro Agus say: “[it] was founded in 1991 with the main objective of focusing on the enhancement and protection of the geosphere” (De Pascale et al. 2016, 277).

It should be noted that: “the mission of Geoethics is in implementation of the values approach, values criteria in practice of geological exploration and mining activities, use of mineral resources and preservation of objects of inorganic nature (geo-heritage) as opposed to self-interest and (individual, corporate, state) mercantilism” (Nwankwoala 2019, 3).

Geoethics is a science of morality that deals with regulating the relationships between human beings and inanimate nature (e.g. the exploitation of mineral resources) and can come to regulate human behaviour in such contexts (see Nwankwoala 2019, 3). It is a science in the making, and its subject has been extended in recent years to the “protection of the environment and the climate” (De Pascale et al. 2016, 277).

Therefore, geoethics must be understood as the one who directs behaviour and, more generally, regulates the action of society in the face of environmental problems, contributing to the formulation of solutions that are compatible with the conservation of the territory (see Peppoloni 2011, 1; De Pascale et al. 2016, 277). The solutions to geoethical problems presuppose ethical choices, and with regard to the content of such solutions, it is necessary “to have time and collective common sense to determine the best option out of all available decisions for all interested parties” (Nwankwoala 2019, 4).

Although geoethics can be considered a “challenge for professional deontology” (González and Martínez-Frías 2011, 10), it embraces a wider dimension and is not an exclusive prerogative of geoscientists. In particular, professional deontology is the ethics applied by a professional group (see González and Martínez-Frías 2011, 11), while geoethics, as moral science, characterizes a universal context.

Borrowing the terminological choice of Francesco Viola (see Viola 1990, 75), which is inspired by the words of Hans Kelsen (see Kelsen 1982, 71), the term “moral” can be used to designate the object and the word “ethics” to designate the science that studies it. Geoethics can be defined as the science that studies the moral values underlying the geosphere and, more generally, respect for the environment.

23.3 Geoethics, Morality and Environmental Law

One of the most important functions of law is to “influence the behavior of its recipients; law serves (and seeks to ensure that) the subjects to which it applies do or do not do something” (Pino 2013, 145). It therefore guides human behaviour. Legal norms, understood as essential elements of law, perform this task.

Could geoethics contribute to the process of creating legal norms?

In order to answer this question, it is necessary to analyse the relationship between morality and the creation of norms, since geoethics is the science that deals with the ethics of the earth, or better the morality applied to issues concerning the earth.

There is a series of relations between the creation of law and morality, which Giorgio Pino names “causal relations” (Pino 2016, 19). With this expression he wants to indicate: “the circumstance that moral considerations can influence the production of law, understood as the production of general and abstract norms, for example of legislative nature [...]” (Pino 2016, 19). This circumstance is explained in light of the fact that the law created by the Legislator, being created by individuals, becomes a vehicle of moral values and needs expressed by society (see Pino 2016, 19). Moral considerations are not the only element that comes into play. The Legislator’s activity is characterized by other factors, such as: “more strictly political considerations, negotiations and compromises between the groups that manage the production of legislation, vested interests” (Pino 2016, 20). The connection between morality and normative production raises some questions. The affirmation of moral values of the majority of the population in the law production, although widely shared by individuals, could lead to the detriment of the values and lifestyles of other individuals to whom they do not belong. This problem is obviated by applying the principle of damage, or offensiveness, and this occurs especially in criminal matters. In particular, some behaviours are not only sanctioned as they are contrary to morality, but also because they cause harm to other people (see Pino 2016, 20–21).

In this sense, geoethics can make its contribution to the production of environmental legislation, bringing its moral values and contributing to the reflection that leads to the genesis of the norms that protect the environment. It is not just about moral values, but indications that trace the path to avoid the negative consequences to which the planet Earth is subjected and preventing possible environmental damage.

23.4 Anthropocene and Ecological Humanism

The current era is defined Anthropocene to indicate the era in which human activity affects the planet and its existence (see Crutzen 2006, 13–18). Human beings become aware of the impact of their actions on the environment and the possible damage that their conducts can cause. Governments are constantly looking for new

solutions to protect nature. Some people change their lifestyles and habits in the name of eco-sustainability or to have with their actions a lower environmental impact. In particular, a new trend is growing and can be defined as Ecological Humanism.

The Ecological Humanism was theorized by Henryk Skolimowski (see Skolimowski 1975, 1981, 53–89). It is a current of thought that redesigns the relationship between man and nature and conceives the world as the home of the human being, abandoning the idea of antagonism between man and nature and its submission to human needs. The world is seen in a new light: “it seems that we can now look at the whole evolutionary development of the Cosmos in a new way” (Skolimowski 1975, 4). This new way of thinking places nature on the same level with the human being and emphasizes the reciprocal balances that exist between the health of the planet and individuals’ life (see Skolimowski 1981, 54; Perra 2020, 229).

In order to trace a phenomenon back to this current of thought, it is necessary to identify the characteristics of Ecological Humanism.

Skolimowski (see Skolimowski 1981, 54–55) identifies three essential elements that characterize Ecological Humanism. These are: “the coming age is to be seen as the age of stewardship” (Skolimowski 1981, 54); “the world is to be conceived of as a sanctuary” (Skolimowski 1981, 54); “knowledge is to be conceived of as an intermediary between us and the creative forces of evolution” (Skolimowski 1981, 55).

Various phenomena observed in different places can be traced back to this current of thought. An example comes from Andean neo-constitutionalism and the importance that is given to nature in the legal systems of Ecuador and Bolivia (see Perra 2020, 230). The indigenous movements have brought a different conception of the relationship between man and nature into political and legal debates which have resulted in an unprecedented production of environmental legislation, which could be defined as ecological. Nature is considered a subject by the legal system and its rights are affirmed (see Perra 2021, 27–28). Another phenomenon is the new category of biocultural rights. These rights are based on the traditional land administration of indigenous and tribal peoples. They are made up of lifestyles and the management of territories based on millenary practices, characterized by the cosmovision of indigenous peoples and the harmonious relationship between man and nature (see Perra 2021, 125).

In a different way, there are various signs that suggest that there is a new phase, which can be defined Ecological Humanism, where *Homo Ecologicus* chooses to implement behaviours that have the least environmental impact, aware of the fact that the connection between human beings and nature depends on global health, the well-being of nature and all the beings that compose it, including the human species.

23.5 The Contribution of Geoethics

Geoethics was born in the arms of geoscientists. This aspect should not be underestimated. Due to their scientific and professional activity, they are the first to observe the environmental impact exerted by human activities and the consequences they bring to territories. This direct contact creates a particular awareness of the situation in which the geosphere is and of environmental damages, including those that develop silently diluted over time. By constantly observing this situation, geoscientists can identify trends and, in some cases, predict future developments in advance. Geoethics was born initially as a discipline of morality of the category of scientists who study the earth in its various forms and from different sector perspectives. The need that emerges, however, is not only and exclusively that of regulating one's own conduct in carrying out one's duties or in warning the general population about possible environmental drift. Geoethics loses the strictly sectoral connotation, to embrace the role of formulating moral values that can be applied to every sphere of interaction between man and nature. The values and principles enucleated can indicate the way forward to stem environmental problems. The study of the moral values underlying relations with the environment and the suggestion of virtuous conducts that reduce the environmental impact of human activities could contribute to legislative choices aimed at responding to the environmental emergency, which is growing exponentially day after day. Specifically, they are not mere conducts based on moral principles, based on some kind of theoretical speculation, but originate from empirical observation and reflection on the appropriate ways of interfacing with the world around us. Geoethics is not an end in itself, but becomes an additional tool for other disciplines that deal with environmental protection. The political and legal world can, through the contribution of the new geoethical discipline, enrich its decisions with contents and reflections, have a more complete cognitive framework, and design and devise new solutions on it.

23.6 The Necessary Interaction Between Disciplines

The term "discipline" identifies "an organizational category within scientific knowledge; it institutes the division and specialization of labor and responds to the diversity of fields covered by the sciences" (Morin 1994). In particular, as Angelo Vescovi points out: "discipline derives from the Latin *discere* with the meaning of learning. [. . .] It indicates a relationship, a negotiation, between the learner and the experience that surrounds him, the others" (Vescovi 2011, 1).

Each discipline in dealing with a given phenomenon finds points of contact with other disciplines, which sometimes observe the same object from a different perspective. Nowadays, according to what Philip Langbroek, Kees van den Bos, Marc Simon Thomas, Michael Milo and Wibo van Rossum underline, it can be assumed that: "the position of legal studies has increasingly become part of a debate

among legal scholars and their university colleagues in disciplines like economics, sociology, political sciences, psychology, history and linguistics” (Langbroek et al. 2017, 1).

Each discipline abandons the position of sectoral autonomy to prefer an exchange with the others. Specifically, a single discipline is no longer to be understood as an island, but the exchanges of knowledge, methods and concepts go to fit into a design that sees disciplines as part of an archipelago.

The relations between the disciplines can be traced back to four different categories (Rossi and Biondi 2014, 148–149): “multidisciplinary”, “pluridisciplinary”, “interdisciplinary” and “transdisciplinary”.

In multidisciplinary there is a path that is not always participatory between the disciplines, but at the same time a common goal is reached, thanks to the union of the single contribution of each discipline (see Rossi and Biondi 2014, 148; Rossi 2011, 44).

In pluridisciplinary, the disciplines cooperate. Although they pursue different ends, this relation underlines the connections that exist between them (see Rossi and Biondi 2014, 148).

In interdisciplinarity there is not only a juxtaposition of different disciplines, but they interact and there are exchanges of ideas, contents, definitions and methods (see Rossi and Biondi 2014, 148). In this regard Sergio Rondinara states that: “interdisciplinarity is commonly understood as a “horizontal” approach between disciplines that allows a more adequate understanding of a given object whose study, due to its complexity, could hardly be grasped with a single disciplinary method” (Rondinara 2008, 63).

The highest level of connection between disciplines is in transdisciplinarity. The reflections concerning the object of study go beyond the boundaries of each discipline involved. Disciplines are integrated, methods and knowledge are enriched by this interaction and, sometimes, new disciplines are born. The connections between disciplines are in such moments aimed at the pursuit of a common goal (see Marra Barone 2006; Rossi and Biondi 2014, 149).

The connection between disciplines becomes necessary facing phenomena that require specific knowledge that go beyond the individual disciplinary fields to understand, study and make decisions to solve problems. The degree of connection between disciplines can be of a mere conceptual nature, but can also become deeper to the point of intersecting knowledges in order to have a complete picture of a phenomenon. The situation itself to be faced will bring the degree of union, cooperation and interaction between the disciplines. There are some issues, such as environmental ones, that require a broad-spectrum approach in order to lay the necessary knowledge bases and evaluate the feasibility and practicability of possible solutions.

23.7 Geoethics and Law

Taking into consideration geoethics and law, it is necessary to verify which interactions can be useful and to what extent. The relation between the two disciplines can be expressed on various levels: the level of understanding, the level of planning, the level of normative production and the level of interpretation and application. Law governs society, life in society, relationships between people and the environment where society is inserted.

The level of understanding is the first essential phase for the law. In order to understand a phenomenon, it is necessary an analysis that includes aspects that are not always and only belonging to the legal world. In particular, there are phenomena, such as the Covid-19 pandemic or environmental issues, where to be aware of the extent of the phenomenon, its causes, possible remedies and actions to be taken, it is also necessary to rely on different scientific disciplines such as medicine, natural, economic and social sciences.

Specifically in environmental matters, and in particular in cases in which environmental damage occurs or in the degradation of the planet, geoscientists' knowledge can help to understand the phenomena, their genesis, their dangerousness, virtuous behaviours aimed at avoiding them, the possible remedies and their effectiveness. The union of concepts brought by the different disciplines, therefore, is useful for fully understanding some phenomena.

The level of planning is essential to understand which public policies should be designed and which solutions are preferable to stem the problems that emerge over time. For example, during the Covid-19 pandemic, it has been necessary for politicians and jurists to evaluate the range of possible solutions to face the emergency with the help of a technical-scientific committee. Similarly, as regards the environmental problem, in order to devise the solutions and understand which is the most suitable one in terms of cost-benefit, it is necessary that jurists and politicians collaborate with geoscientists, who have the appropriate skills to understand which behaviours should be avoided, which solutions can be chosen and what could be the advantages.

The level of normative production is the phase in which norms are produced. Often, it happens that in writing the norms it is necessary to resort to other knowledge, to other disciplines to incorporate the concepts. There are scientific concepts of other disciplines that are useful to integrate into normative texts. In environmental matters, it may be necessary to resort to the concepts enucleated by geoethics or other natural sciences in order to give consistency to the definitions and parts of them.

The level of interpretation and application concerns a phase subsequent to the production of the norms. It consists of the moment in which the law is interpreted and applied to concrete cases.

At this stage, the judges must use the legal norms present in the legal system to decide on the cases that are brought to their knowledge. When it is necessary to analyse the facts and there are technical-scientific issues to be understood to make

decisions, technical advice is used. The judges make use of the activity of consultants, who, through the knowledge of their discipline, contribute to the explanation of the phenomena and help to create a full and complete knowledge of what happened. In environmental matters, geoethics and natural sciences can give their contribution to provide a correct reading of the facts, forming an adequate knowledge of phenomena, which may be useful for the subsequent and consequent decision of the judges.

A connection between the various disciplines is necessary, as some situations are complex in themselves to the point of not being assimilable or manageable using only one of them as a reference. The more complex the situation becomes, the more there is a need for a higher interaction between disciplines. Human knowledge is not the prerogative of a single discipline, but it is distributed in the various disciplines. The collaboration between expert scholars in different sectors and disciplines help to have a complete view of the phenomena and observing them from different perspectives. The solutions to environmental problems, due to the complexity of the issues that are expressed on different levels, require a necessary integration between legal, economic, social and natural disciplines. It is useful in order to understand phenomena, the ways in which they could be contrasted and the decisions to make. Only a joint effort by all can lead to stemming the phenomena that threaten the health of the human species and the environment in which we live.

23.8 Conclusions

Geoethics, born as ethics of geosciences, extends its object over time to environmental issues and climate change. We live in an era that has been called Anthropocene. It means that we are in an era in which human action can influence the fate of the planet. Various countries are looking for solutions to put a stop to the environmental drift that inexorably threatens the health of the Earth and the existence of the human species and all the living beings that make up the planet.

Environmental problems are complex. For this reason, it is necessary to devise solutions with the help of the knowledge of different disciplines. A viable path can be a connection between disciplines that allows a dialogue between knowledge.

In this chapter, the author investigates whether geoethics and, more generally, the activity of geoscientists can contribute to the development of environmental law.

Geoethics is a science of morality, and in this sense it can help identify virtuous behaviours. Law plays the important role of regulating life in society, and geoethics can help identify good practices and behaviours that need to be encouraged. Law-makers can find inspiration from the broadening of the application of geoethics to all relations between man and nature. The connection between law and geoethics and, more generally, geosciences can contribute to understand phenomena, design effective environmental protection systems, produce and apply legal norms. In order to understand and contrast complex phenomena, a dialogue between disciplines is

needed. The knowledge from various disciplines can help to have a complete picture of the phenomena and to prepare suitable solutions.

References

- Crutzen PJ (2006) The “anthropocene”. In: Ehlers E, Krafft T (eds) *Earth system science in the anthropocene*. Springer, Berlin, pp 13–18
- De Pascale F, Dattilo V, Nebbia F, Agus A (2016) Geoetica e bene comune nell’era dell’Anropocene. In: *Commons/Comune: geografie, luoghi, spazi, città*, AA. VV.; Società di Studi Geografici: Firenze, Italia. *Memorie Geografiche*, nuova serie 14, pp 277–286. Società di Studi Geografici. Society for Geographical Studies. *Memorie Geografiche ed altre Pubblicazioni*. The *Memorie Geografiche and other Publications*. Available online <http://www.societastudigeografici.it/memorie-geografiche/>. Accessed 29/11/2021
- González JL, Martínez-Frías J (2011) Geoética: un reto para la deontología profesional. *Tierra y tecnología* 40:10–14
- Kelsen H (1982) *Teoría pura del derecho*, traducción de la segunda edición en alemán por Roberto J. Vernengo. Universidad Nacional Autónoma de México, México, D.F.
- Langbroek P, van den Bos K, Simon Thomas M, Milo M, van Rossum W (2017) Editorial methodology of legal research: challenges and opportunities. *Utrecht Law Rev* 13(3):1–8. Available online <https://www.utrechtlawreview.org/articles/abstract/10.18352/ulr.411/>. Accessed 29/11/2021
- Marra Barone A (2006) Interdisciplinarietà. Convergenza dei saperi sull’uomo e per l’uomo. *Rivista digitale della didattica*. Available online <http://www.rivistadidattica.com/fondamenti/fondamenti2.htm>. Accessed 29/11/2021
- Morin E (1994) Sur l’interdisciplinarité. Bulletin interactif du Centre International de Recherches et Études Transdisciplinaires (CIRET) (2). CIRET Centre International de Recherches et Études Transdisciplinaires. Available online <https://ciret-transdisciplinarity.org/bulletin/b2c2.php>. Accessed 29/11/2021
- Nwankwoala HO (2019) Geoethics as an emerging discipline: perspectives, ethical challenges and prospects. *Earth Sci Malays (ESMY)* 3(1):1–8. Available online <https://earthsciencemalaysia.com/esmy-01-2019-01-08/>. Accessed 29/11/2021
- Peppoloni S (2011) Che cosa significa “Geoetica”? Dentro le parole, il senso dell’attività del geologo. *Geoitalia* 34:1–3
- Perra L (2020) Le nuove sfide della democrazia: i diritti della natura nell’Umanesimo Ecologico. *Polifonia—Revista Internacional da Academia Paulista de Direito* (6):211–236. *Academia Paulista de Direito*. Sumário. *Polifonia—Revista Internacional da Academia Paulista de Direito*. Available online <https://apd.org.br/sumario-6/>. Accessed 29/11/2021
- Perra L (2021) I sistemi di protezione ambientale di Ecuador e Bolivia e l’affermazione dei diritti della natura. *Il Sileno Edizioni*, Lago (CS), Italia. Volumi. Available online <https://www.ilsileno.it/edizioni/ebooks/>. Accessed 29/11/2021
- Pino G (2013) Norma giuridica. In: Pino G, Schiavello A, Villa V (eds) *Filosofia del diritto*. *Introduzione critica al pensiero giuridico e al diritto positivo*. Giappichelli, Torino, Italia, pp 144–183
- Pino G (2016) Diritto e morale. In: Bongiovanni G, Pino G, Roversi C (eds) *Che cosa è il diritto*. *Ontologie e concezioni del giuridico*. Giappichelli, Torino, Italia, pp 3–30
- Rondinara S (2008) Dalla interdisciplinarietà alla transdisciplinarietà. Una prospettiva epistemologica. *Sophia: Ricerche su i fondamenti e la correlazione dei saperi* 61–70. *Città nuova*. *Cultura e informazione*. Available online <https://www.cittanuova.it/dallinterdisciplinaria-alla-transdisciplinaria-2/?ms=006&se=007>. Accessed 29/11/2021

- Rossi PG (2011) *Didattica enattiva. Complessità, teorie dell'azione, professionalità docente*. Franco Angeli, Milano, Italia
- Rossi PG, Biondi S (2014) Interdisciplinarietà. *Educ Sci Soc (ESS)* 5(1):147–153. *Educational Sciences & Society*. Available online https://riviste.unimc.it/index.php/es_s/article/view/934. Accessed 29/11/2021
- Skolimowski H (1975) *Ecological humanism*. Gryphon, Lewes, Sussex, UK
- Skolimowski H (1981) *Eco-philosophy: designing new tactics for living*. Boston, MA, M. Boyars
- Vescovi A (2011) Cultura e interdisciplinarietà: quali legami e quali opportunità. *Formazione, lavoro, persona* 1:1–6. *Rivista Formazione, lavoro, persona. Cultura e interdisciplinarietà: quali legami e quali opportunità*. Available online <https://forperlav.unibg.it/index.php/fpl/article/view/17>. Accessed 29/11/2021
- Viola F (1990) *Il diritto come pratica sociale*. Editoriale Jaca Book, Milano, Italia