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Geothics and geological culture. Reflections from the Geotalia Conference 2011

Edited by Silvia Peppoloni and Giuseppe Di Capua. Prefaces by Stefano Gresta and Silvio Seno.



Istituto Nazionale di Geofisica e Vulcanologia

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[55_3_2012] Geoethics and geological culture. Reflections from the Geoitalia Conference 2011

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PREFACE

The Italian territory is vulnerable and is often affected by important natural phenomena. These are not always predictable, and we must learn to defend ourselves from them.

In these days of 2012, the seismic events in northern Italy have severely stretched the social and industrial structure of one of the most productive areas of Europe, the richness of which derives from a special combination of natural, cultural, social and economic factors, which need to be carefully preserved and valued.

Even the scientific community of the Earth sciences is called upon to take on this difficult task. Careful reflection of the ethical value and social impact of our studies can no longer be postponed, if we, as geoscientists, want to have an active role in society.

The population wishes for answers that are scientifically valid, and asks for rational support, instead of the instinctual irrationality that characterizes the fear of natural disasters. They also demand reliable solutions for managing our land and natural resources, from a sustainability perspective.

It is duty of the scientific community to provide the appropriate technical and cultural tools through information and education campaigns, so that society can become more aware and more prepared to participate in the debate on the best strategies to be adopted for the planning of our future development, while respecting the cultural and natural vocation of the territories.

This commitment and this responsibility of the scholars of the Earth sciences provides the term 'geoethics'.

This special volume of the Annals of Geophysics, the journal of the *Istituto Nazionale di Geofisica e Vulcanologia* (National Institute of Geophysics and Volcanology), represents a turning point in this regard. Thanks to the efforts of the two Editors, Silvia Peppoloni and Giuseppe Di Capua, the themes of geoethics can finally find the space and attention they deserve in a special issue entirely devoted to them by a JCR journal.

This volume will help to raise new questions and will provide new points for reflection. We believe that it will be helpful to foster the cultural change that is necessary to give a new perspective to the Earth sciences, as a group of disciplines that are serving the common good.

Stefano Gresta,
President, Istituto Nazionale di Geofisica e Vulcanologia

PREFACE

It is my distinguished pleasure to introduce this volume devoted to geoethics and edited by Silvia Peppoloni and Giuseppe Di Capua, for two main reasons.

First and foremost, the volume is a collection of papers presented during the 'Geoethics' scientific session at the 8th Italian Forum of Earth Sciences that was held in September 2011, in Turin, Italy. The Forum singled out sustainability – “Earth Sciences for sustainable development” – as its main theme, thus highlighting the key role of the geosciences with respect to important issues for the present, and in particular, for the future of our society. Resources and energy, climate, water, impact reduction of natural hazards, new materials, and protection and conservation of cultural heritage are all aspects of interest where a (geo)ethical approach is strongly needed.

Public opinion is growing more aware of the critical issues that our society will have to face in the environmental field. Unfortunately, neither the perception of virtuous behavior, nor its adoption appear to be keeping pace with this increasing awareness. This gap is common at various levels, from politicians to ordinary citizens, and it has multiple and complex reasons that are sometimes dramatically highlighted by the effects of improper use of the land. Admittedly, it is necessary to provide better information about the role that geosciences can have in offering most of the answers to critical questions, providing decision makers not only with the tools they need to face the most daunting challenges – infrastructure safety, water and energy supplies, environmental protection – but also with new cultural and ethical values.

The second reason has to do with the careful attention that the *Federazione Italiana di Scienze della Terra* (Italian Federation of Earth Sciences) is paying to the sharing and spreading of ethical values, which resulted in the establishment of its own Geoethical Commission in January 2011. This commission is primarily entrusted with the task of drawing up a list of ethical behavior and commitments that will be submitted for approval by everyone active in the field of the geosciences.

We and all those working in the field of environment and natural resources management know only too well that any decisions taken in this context can result in significant, and potentially irreversible, consequences. We therefore have a responsibility to correctly inform the public of any risks involved in excessive and irrational exploitation of our natural resources, and to raise the awareness in each and every one of us, from the early years of public education, that the environment is worth protecting and preserving for future generations.

Silvio Seno,
President, Federazione Italiana di Scienze della Terra

FOREWORD

This is the first volume of an international scientific journal that is dedicated to issues of geoethics and geological culture. Its goal is to inform the Italian and international scientific communities about what emerged at the Geoitalia 2011 conference, attended by not only Italian geoscientists. At this conference, the geoscientists questioned their role in society and the responsibilities that they have to assume as scholars of the planet Earth and experts of the territory. They highlighted the need for rediscovery of the cultural values of geology as a science that can contribute to the construction of correct social knowledge, and the need to be aware that geoethics cannot exist without a real awareness among geoscientists of the cultural value of the Earth sciences.

The papers collected here offer many reflective cues across many themes. These include the philosophy of science, sociology, information and education about natural phenomena in both developing and developed countries, scientific communication and the relationships between science, the media and policy makers, environmental sustainability and geodiversity, recovery of historical memory as a factor to prevent natural disasters, and the contribution of geological culture to the strengthening of the link between the identity of populations and their territories.

This volume aims to contribute to the international debate on geoethics through articles that show not only activities and practical experiences, but also that provide more general reflections. This allows us to recover the true meaning of being geoscientists and to highlight the active roles we can have in promoting new cultural values in modern society, on which to build a more conscious relationship between man and Nature.

Silvia Peppoloni,
Giuseppe Di Capua,
Istituto Nazionale di Geofisica e Vulcanologia, Rome, Italy

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