

GEOMORPHOSITES AND GEOTOURISM

GEOMORFOSSÍTIOS E GEOTURISMO

GEOMORFOSSÍTIOS Y GEOTURISMO

Mario Panizza

Dipartimento di Scienze della Terra, Università di Modena e Reggio Emilia, Italy
pit@unimore.it

Sandra Piacente

Dipartimento di Scienze della Terra, Università di Modena e Reggio Emilia, Italy

ABSTRACT

With reference to the definition of Cultural Geomorphology, a Geomorphosite is defined as a landform with particular and significant geomorphological attributions, which qualify it as a component of a territory's cultural heritage. This definition is illustrated with some examples. Concerning geotourism, some activities of the Italian association "Geologia e Turismo" are presented.

Keywords: Geomorphology, Culture, Geomorphosites, Geotourism.

RESUMO

Com referência à definição de Geomorfologia Cultural, um Geomorfossítio é definido como um relevo com atribuições geomorfológicas particulares e significativas, que o qualificam como componente do território herança cultural. Esta definição é ilustrada com alguns exemplos. No que se refere ao geoturismo, algumas atividades da associação italiana "Geologia e Turismo".

Palavras-chave: Geomorfologia; Cultura; Geomorfossítio; Geoturismo.

RESUMEN

Con referencia a la definición de Geomorfología Cultural, un Geomorfosito se define como una forma de relieve con atribuciones geomorfológicas particulares y significativas, que lo califican como componente de un territorio patrimonio cultural. Esta definición se ilustra con algunos ejemplos. En cuanto al geoturismo, algunas actividades de la asociación italiana "Geologia e Turismo" se presentan.

Palabras clave: Geomorfología; Cultura; Geomorfossítio; Geoturismo.

1. INTRODUCTION

1.1. CULTURAL GEOMORPHOLOGY AND GEOMORPHOSITES

The relationships between geomorphology and the cultural elements of a specific territory can be considered schematically according to two reciprocally-integrated viewpoints (Panizza and Piacente, 2003):

- *geomorphology* is meant as a *component of a territory's cultural heritage* (in a broad sense), like works of art, historical monuments, scientific assets etc.

- the *relationships between some cultural components* (in a strict sense) of a territory (archaeological, historical, architectonic heritage etc.) and the *geomorphological context* in which they are inserted.

As a result of these statements, a need was felt to propose a definition of *Cultural Geomorphology* (Panizza and Piacente, 2003): *the discipline that studies the geomorphological component of a territory which embodies both a cultural feature of the landscape and its interactions with cultural heritage of the archaeological, historical, architectonic etc. type.*

The *landscape* is a cultural component of a territory with all the “natural” and “anthropogenic” factors it contains. In addition, it is a cultural element, which has been perceived also through specific artistic expressions such as painting, music, poetry etc. Various meanings have been attributed to it: from aesthetic-literary ones to scientific-ecological ones, with a nearly constant ambiguity between the designation of an object and its image. It is not our intention to present a retrospective and comparative analysis of the manifold definitions of *landscape*, since this subject lies outside the goals of this paper. Rather, we want to point out that the aesthetic and the neopositivist approaches, which opposes the “natural” to the “human”, have both recently been abandoned. Unfortunately, however, the latter is still well rooted in common thinking. On the contrary, the concept that also culture, in all its forms and displays – including spiritual manifestations – is one of the elements that may condition the look of a landscape, has been introduced.

Today the concept of landscape is related to the various fields and aspects of cultural assets. It is, in fact, a sort of fundamental notion, which confers new value and character on the relationships between nature and history, Man and territory. In these terms a *landscape* can be considered as the most complex and morphologically most extended and continuous *cultural asset*, since it contains and communicates messages and values with which everybody can identify. The observation phase is the first step in understanding a landscape. Therefore, the concept of landscape takes on a social dimension and can be proposed as an object of study with strong educational implications, especially for constructing a new relationship between Man and Nature.

Geomorphological features are among the most widespread and spectacular physical aspects of a landscape: a gorge, a mountain peak, a sea cliff and many more have always exerted high interest and appeal on account of their scenic component. Nevertheless, these are not the only attributes, which should confer value on landscape elements, but also other less subjective and more lasting merits linked to the more general meaning of cultural heritage.

During the past ten years these landscape aspects have been differently described and defined (Reynard, 2004). The definition of here adopted is as follows (Panizza, 1996 and 2001; Panizza and Piacente, 2003): “A *geomorphosite* is a *landform with particular and significant geomorphological*

attributions, which qualify it as a component of a territory's cultural heritage (in a broad sense)".

The *attributes* that can confer value on a landform, making it an actual geomorphological asset, are: *scientific, cultural, socioeconomic, scenic*. Their characteristics are better defined below.

From a *scientific* standpoint, in the geomorphological field a natural asset can have a certain amount of importance, conferred by various *scientific values* (Panizza and Piacente, 1989): as a model of geomorphological evolution, e.g., a river meander in an alluvial plain (figure 1); as an object of educational exemplarity, such as a littoral tombolo (figure 2); as paleogeomorphological evidence, such as a river terrace or a glacial cirque. A landform can also possess an ecological value, e.g., an exclusive habitat of certain vegetal or animal species such as lagoon or tidal marsh. In other cases, Prehistory can provide a particular morphological feature with scientific value, such as a cave or a marine terrace which were the site of ancient human settlements.



Figure 1 - River meander in the Po Plain (Italy).



Figure 2 – Series of tombolos at Seal Rock, near Newport (Oregon, USA).

From a *cultural* standpoint, a geomorphological asset can be part of or bear witness to an artistic event or a cultural tradition, as some landscapes depicted by painters or described by poets. Others are part of religious iconography, such as Mount Olympus, considered as the abode of the Greek Gods.

A geomorphological asset can also have a *socioeconomic* value if it can be used for tourism or sport purposes, as, for example, an alpine valley or a cliff equipped for rock climbing (figure 3).



Figure 3 – Cliff equipped for rock climbing at Masua (Sardinia, Italy).

Finally, geomorphological assets are evaluated also on the basis of their *scenic* component, both for their intrinsic spectacularity and as a source of appeal and interest, thus favouring environmental awareness and sensitivity.

The duties of Geomorphology in assessing the various attributes previously mentioned should be connected mainly to the scientific aspects.

The first practice of research on a geomorphosite usually aims to create a *geomorphological map* which is obtained by means of field surveys and aerial photo-interpretation. From this first map a new *map of geomorphological units* will be derived, in which the units are grouped according to their morphogenetic characteristics (e.g., marine, fluvial, karst, structural). Finally, a selection of geomorphological elements will have to be carried out in order to make a *geomorphosite map*.

Within the framework of a correct of knowledge and management policy for the landscape that surrounds us, a need is felt to provide all people involved with criteria and tools for assessing landforms in the most objective way possible. Indeed, a quantitative assessment of geomorphological assets is necessary both for comparing the various sites investigated and other environmental and non-environmental assets, in order to rank and select them according to their level of importance and, above all, within the field of Territorial Planning or Environmental Impact Assessment (EIA) procedures. In these particular applications adequate strategies should be chosen and evaluation priorities decided.

This *cultural approach* of Geomorphology (in a broad sense) concerns the dialogue and cultural integration between humanistic and scientific disciplines. Generally speaking, an effort should be made to give an answer to the ever-felt need for “neo-humanistic” culture, that is for the integration of culture. For example, one could refer to an integrated research over a given territory with the purpose of analysing the various relationships concerning environmental context, evolution of anthropic activities, technological and socioeconomic problems and sustainable development. Another example can be related to the problems concerning the building, deterioration and restoration of an architectonic site and provenance, characteristics and durability of the materials used for its construction, also in terms of upgrading cultural policies.

2 . THE ITALIAN ASSOCIATION “GEOLOGIA E TURISMO”

In most countries, there as been during the last decade a new interest for geological heritage, that is geological structure, landforms and soils, worth to be protected and promoted. The activities deal with some field of research, concerning also a development of specific educative tools for improving the popular knowledge on geoheritage and geodiversity, especially in natural parks and geoparks. The activities concern also specific tourist actions.

The development of a project on geological heritage, and particularly on geomorphosites, may be realized through forms of tourism that include various geomorphological aspects in their itineraries (*geotourism*), from the most outstanging and visible ones to those apparently hidden or less significant.

With these purposes, some years ago was established the italian Association “*Geologia e Turismo*”. This Association pursues the following goals:

- appraisal of the Italian geological heritage to achieve qualified cultural tourism;
- specialisation of geologists and naturalists on specific tourism issues concerning the identification of geological itineraries also integrated with other cultural components;
- training of tourist operators, specialised in the integration of geological components with other

traditional ones;

- proposals of new tourism appraisal opportunities in geological sites and in periods of the year neglected so far;
- organisation of meetings for spreading geological culture at all levels of society, particularly local administrations and agencies.

This Association aims to present a more attractive aspect of Geology, not the “severe” one linked to geological hazards and risks, but rather the “mild” aspect, made up of various attractions, history and — why not? — visual and emotional enjoyment. In this way there is a return to “natural civilisation”, where Man identifies his with Nature, recognising her symbolic values that touch the complete range of his senses. The activities of the Association are coordinated through the following Working Groups.

Publication of Geotourism Guides: to stimulate and co-ordinate the implementation of geological Tourist Guides on a sub-regional level.

Regional Geotourism Mapping: to define the standardisation of symbols, legends and definitions for Geotourism maps at a small and medium scale.

Popularisation and Education: to propose and co-ordinate initiatives popularising Earth Sciences, the activation of schools and intensive courses on Geotourism and the implementation of geological exhibitions (even travelling ones) ecc.

Geology and Wine: to study in depth the geological knowledge of wine-producing areas, provide an extra dimension to the so-called “wine-roads”, (figure 4) and find new links for oenogastronomic publishing initiatives.



Figure 4 – Landslide affecting Champagne “terroir”, near Reims (France).

Geology for Everybody: to set up strategies and provide material for the support of various kinds of tourists (children, elderly people, the disabled ecc.), in order to allow the direct and indirect fruition of geological sites which are of high scientific relevance or particularly evocative.

Geoarchaeology: to promote cultural tourism so as to appraise the links between geo-environmental contexts and archaeological sites.

On the 26th November 2007, during a Workshop “Geomorphosites, Geoparks and Geotourism” (Lesvos, 30/9 - 3/10/’07), The participants suggested to activate the procedures for establishing an *International Association of Geology and Tourism*.

The proposal to appoint the Italian G&T Association for establishing the International Association was also accepted. This new initiative will also be announced in Oslo, during the International Geological Congress in August 2008.

REFERENCES

Panizza, M. 1996. Environmental Geomorphology. Elsevier, Amsterdam, 268 pp.

Panizza, M. 2001. Geomorphosites: Concepts, methods and examples of geomorphological survey. Chinese Science Bulletin, 46, 4-6.

Panizza M. e Piacente, S. 1989. Geomorphological Assets Evaluation. Z. Geomorph. N. F., Suppl. Bd. 87, 13-18.

Panizza M. e Piacente, S. 2003. Geomorfologia Culturale. Pitagora Editrice, Bologna, 350 pp.

Reynard, E. 2004. Géotopes, géo(morpho)sites et paysages géomorphologiques. In: «Paysages géomorphologiques», Compe.rendu Semin. 3ème cycle CUSO, Travaux et Recherches, Lausanne, 9-20.