

THE MEANING OF GEOPARK NATURTEJO MESETA MERIDIONAL: THE FIRST PORTUGUESE GEOPARK IN THE EUROPEAN AND GLOBAL GEOPARKS NETWORK UNDER THE AUSPICES OF UNESCO

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1. INTRODUCTION: NATURTEJO AND GEOTOURISM

Naturtejo is an intermunicipal major state-owned company, including also 13 associated private companies, established in 2004 aiming to create conditions to the economic development relying upon tourism. The municipalities forming Naturtejo Geopark, namely Castelo Branco, Idanha-a-Nova, Nisa, Oleiros, Proença-a-Nova and Vila Velha de Ródão, have a total area of 4617km². In this wide region ruled by a cultural heterogeneity based on historical and even ecological criteria, Geology appears as a levelling element, since the geological evolution of this region was ruled, *grosso modo*, by the same fundamental stages which, through millions of years, have moulded the landscape. The elements that have built landscape are ubiquitous, although creators of diversity: wide areas flattened with mesocenoic polygenic evolution over a major Proterozoic basement (Beiras Group); numerous residual relieves, which *ex-libris* are the Ordovician quartzite ridges and the late-Variscan granite *inselberge*; intramountain basins with alluvial to fluvial coarse sediments deposited during the Alpine Orogeny paroxysms; hydrographical nets deeply carved during the climate crisis of the Pleistocene and induced by important neotectonics, which broke the landscape in a succession of blocks and motivates some of the thermal richness of the region.

It is due to a need of territorial levelling that Geology is applauded – i.e. without precedents nationwide – as the fundamental thematic to this region in a large scale economic strategy, already in an implementation phase, but planned in medium/long term and interacting with other numerous projects of cultural nature. As an area with low historical level of economic development, the Naturtejo region is seen nowadays as one of the most genuine - from their cultural traditions and their historic-archaeological point of view. The much low impact of Man upon the nature of this region is enhanced by the existence of the Tejo Internacional Natural Park, one of the most important sanctuaries of avifauna from Europe. This way Geology appears as a strong bet from Naturtejo - and from the municipalities that form it – in the increment of ecotourism that allows the visitor to get an idea of the landscape at all levels he/she wishes.

In 2004 proposals and projects brought up, promoting Geotourism in Naturtejo region, as a strong and attractive tourist product, a different way of thinking and doing tourism in Portugal. In that sense, this is the originality Naturtejo searches to a sustainable tourism in this central area of Iberian Peninsula: Geology brings the explanation for many of the natural phenomena that enrich municipalities, neglected until now (such as the granite morphologies or the ancient mining areas) or solely admired by specialists (the case of ichnofossils of Penha Garcia and of Portas do Ródão epigenic valley), allowing economically profitable preservation and usufruct measures. On the other hand, regional Geology interacts with several other cultural aspects: constructions and their implementation were conditioned since Pre-history by basic needs intimately related with the geological

substrate; tending the sheep and agriculture - traditional activities – are conditioned by the morphology of the ground, soil types and water availability; the millenary mining activity took roots and left traces in an mainly agro-pastoral culture; The abundance of etiological legends and of reference to the “cult of stones” and “cult of waters” in popular Christian religion, still so much patent in the countryman. This application from Naturtejo to *European Geoparks Network* results from the almost perfect chaining between a diversified Geology and geosites (from regional to international value) with the remaining multidisciplinary elements that form the cultural patrimony.

The scientific tourism embodies a work of reflection, information and divulgation, about materials that belong to the domains of science. It is this multidisciplinary vision that allows knowledge and usufruct of the landscape in its whole, teaches to see and take advantage of the journey and tends to extend it, creating the need for infra-structures of interpretation, guiding, restoration and lodging.

Naturtejo region is one destiny of excellence for tourism of quality, complementing the traditional products from our country with its natural and cultural patrimony. But in a world that is full of information and extreme competition it is necessary to create image benchmarks - universal icons which could attract the tourist flows. The concept of icon must be understood as an identity trademark - of unique and diverse nature – able to mobilize the new travellers to a non-repeatable and exclusive goal.

In the project that is intended to be drafted iconography will remain in ichnofossils from quartzite rocks with 480 million years old which rise in the regional landscape and in the geological elements that set up the landscape. We must underline that it is this later icon that grounds the choice of the name for the first Portuguese Geopark. **The Meseta areas correspond to regions of “stable platform”, once the Iberian Massif should have suffered few tectonic deformation during the last orogeny, the Alpine Orogeny.** In the scope of Iberian Plateau, Naturtejo region is comprised in its major part by the Meridional Meseta, tacked in its Northern limit by the Central Cordillera. It is this type of landscape – planed – only having residual relieves of hardness or fault scarps breaking into homogeneity - that preponderates in the whole area of future geopark and that stays (and will stay) in the memory of those who visit it.

Also fossils and ichnofossils are trademarks, either by its aesthetical quality, scientific importance or because they belong even more to the collective imaginary. The most ancient fossils from Portugal may be found in this region; ichnofossils of Vale do Ponsul (Ponsul Valley) - with its surprising preservation quality – open our eyes to the complexity from the behaviour of some organisms which are already extinct for a long time and help us understand the evolution of sedimentary environments in the stratigraphic sequences, where they are found. It was in these metasedimentary beds that Man, thousands years ago, rehearsed his first ways of expressiveness, so exuberantly portrayed in the highly important Rock Art of the Tejo Valley.

An important geological feature to explore is the mining activity which, through the last millenniums has been having a substantial socio-economic weight in this region. Still today the granite quarrying shows as an economic resort. The Alpalhão granites (Nisa) are exported for several countries. The mining museums are places of excellence to the study and divulgation of local history, namely in its social and economic contexts. From the pedagogical point of view they are important tools in the education for citizenship, either regarding its environmental aspect (geomining resources), industry environmental impact, or in its aspect regarding understanding and safeguard of our cultural heritage and

citizenship right (Brandão, 1998).

In the Naturtejo region, there are several museological poles and environmental-archaeological parks with geological basis being implemented. The exponents are in the exomuseums of Roman gold exploration, the *conheiras*, from which we underline the Conhal do Arneiro (Nisa), Sobral Fernando (Proença-a-Nova) and Monfortinho Thermal Waters (Idanha-a-Nova), by the abundance of findings in this region and by its historical richness.

The Mining “museums” project gathers all potentialities to become a real dynamic pole divided in three areas: the Cultural one, including preservation and rehabilitation of the mining patrimony (in its components of archaeology and mining history, geologic history and industrial archaeology); the Scientific one, thanks to the study and divulgation that can be made from such patrimony; The Pedagogical and Amusement one, allowing all people to contact *in situ* with the universe of mines, mining and miners and its contribution to the historical evolution of the region (Brandão, 1998).

2. GEOGRAPHIC AND GEOLOGICAL DESCRIPTION OF THE NATURTEJO TERRITORY

Naturtejo Geopark matches with the area of Castelo Branco, Idanha-a-Nova, Nisa, Oleiros, Proença-a-Nova and Vila Velha de Ródão municipalities (Portugal), with a total of 4617km² (data from 2001-2002). Geographic coordinates are: latitude between 39°20’N and 40°5’N; longitude, between 6°50’W and 8°10’W.

The area is composed, in an orographic point of view, by vast planes organized in demihorsts bordered by active faults, with altitudes such as 250-300m, 400-450m and 900-1000m, with an altimetry increasing to North and culminating in Gardunha (transitional between Castelo Branco and Fundão municipalities, with 1227m in the summit) and Cabeço da Rainha (in Oleiros, with 1084m) mountains. The topographical monotony is cut by local residual relieves with a sedimentary (such as Magarefa, Castelo Branco, or Murracha, Idanha-a-Nova) and igneous (as granite *inselberge*, such as Monsanto, Idanha-a-Nova) genesis and by tectonic-derived alignments like fault escarpments (which is a fine example the Ponsul scarp) and quartzite ridges found all over the region (Penha Garcia, Monforte da Beira, Castelo Branco, Serra da Pedraqueira, Serra do Muradal and Serra do Ródão). Flat areas are also cut by the Lower Tejo deep fluvial network incision, the most important river in the Iberian Peninsula. Naturtejo is limited at Northwest by the the deep valley of the meandering Zêzere river, the Tejo biggest tributary in Portugal. Other important rivers that cross and help to limit the territory are the Ponsul, the Ocreza, the Erges (in Tejo right bank), the Sever and the Ribeira de Nisa (left bank).

The weather is deeply influenced by orography, being typically Mediterranean, with no influences from the Atlantic humidity, characterized by long and hot summers almost without rain and mild winters with strong downpour. In the mountains, the winter temperatures rarely go under -5°C; In summer, the general temperatures exceed 30°C frequently, not being rare the days with temperatures beyond 40°C.

The population in Naturtejo municipalities sums 96307 habitantes (data from 2001-2002; Fig. 1) and a population density of 23,1 inhab./km² (with a highest number of 40,7 inhab./km² Castelo Branco municipality and a minimum of 9,1 inhab./km² in Idanha-a-Nova municipality). The region is composed by one city capital of district (Castelo Branco), 5 towns capital of municipalities (Idanha-a-Nova, Nisa, Oleiros, Proença-a-Nova and Vila Velha de Ródão), 74 parish villages and more than four hundred small localities.

The main economical activities in the region are the agriculture and the commerce. Tourism started recently, clustered in urban areas (municipalities) and in towns with the national

status of Historical Villages (Monsanto and Idanha-a-Velha), as well as in Penha Garcia, Amieira do Tejo, etc. Stands out the thermal tourism, with the existence of Monfortinho Thermal Complex (Idanha-a-Nova), very well known in Portugal and one of the most technological advanced in Europe and the brand new Fadagosa Thermal Complex in Nisa.

Nevertheless the pioneering works for geological cartography dated from the middle of the XIX century (Ribeiro, 1859), in this region detailed geological maps are scarce (8 published 1/50000 maps in 17 possible). It remains the Geological Map of Portugal 1:500000, published research works, some Ms.D.'s and Ph.D.'s and a lot of fieldwork to show the main geosites of Naturtejo (Fig. 1).

The most ancient sediments found in Portugal were described between Termas de Monfortinho and Salvaterra do Extremo and dated from more than 600 million years (Sequeira, 1993a). These sediments correspond to Beiras Group deposits and accumulated as turbidite fans along a continental border of a vast and deep ocean. They most ancient fossil record found in Portugal were discovered in slaty formations of this Group and belong to microscopic cyanobacteria which lived in the water column. Turbite deposits passes vertically to platform sediments with possible glacioderived origin (Sequeira *et al.* 1999) which are testimonies of a global icehouse event that affected forever all life concept, in the end of Precambrian .

During Cambrian occurs the important Cadomian Orogeny inducing deformation and uplift of Beiras Group from deep sea realm. The Sardic event generated vertical folding with axial planes $45^{\circ} \pm 15^{\circ}$ and prevailing vergence to SE and, less common, to NW, still visible today in the Vilas Ruivas to Vila Velha de Ródão roadcut, for instance. This area is partially weathered and fractured in the beginning of the Ordovician, depositing along fault scarps gravity-style conglomerate deposits, the Serra Gorda Formation (Sequeira, 1993b), that crops out near Vaca (Penha Garcia). The Ordovician transgression lead to the invasion of this more or less flatted area by a big vast epicontinental shallow ocean, where life proliferated and evolved.

This ocean spread during the Ordovician, the Silurian and the Devonian, accumulating several sediment facies in different kind of marine environments as result of regional geodynamics and global water level variations. It was in the end of Devonian that tectonic plates had a reversal of their movements towards continental collision and folding of the Paleozoic sediments. The Monfortinho-Idanha-a-Velha area is a big anticline fold extending from the Cañaverel-Penha Garcia Ordovician-Silurian syncline, at North, to Monforte da Beira-Castelo Branco Ordovician syncline, at South. The Paleozoic marine sediments were exposed to surface and partially weathered by the erosion agents.

Vulcanic activity increased by the tectonic compressive stage, as we can see by numerous granite plutonites, basic and acid veins found everywhere (Ribeiro *et al.* 1993; Ribeiro and Palácios, 1998). Variscan Orogeny started in the Iberia during Middle Devonian and extended with several paroxysms during Late Paleozoic, being identified two main orogenic stages – one from Middle Devonian to Visean and the other in Westphalian (Upper Carboniferous). With the oceans closure, it was erected the Hercynian belt. Deeply deformed rocks were carried to the surface and important tardi-variscan faults were formed cutting all overthicked crust, such as the Ponsul Fault, the Segura Fault or the Sobreira Formosa-Sobral do Campo Fault (in the North part of the region). Precambrian and Paleozoic rocks constitute by this way a very thick craton.

Morphological evolution of Iberian Massif since the end of Varscan Orogeny until now was controlled by two main and determinant factors: climate and tectonics. The paleoclimates

were mainly dependent of the paleolatitudes crossed by Iberia drift in the last 250 Ma, firstly as part of Supercontinent Pangaea and then as drift microplate started in Upper Triassic. Climate in Iberia kept tropical humid characteristics to the end of Mesozoic and beginning of Cenozoic, progressively changed to tropical seasonal, savannah-type climate, in Paleogene and beginning of Neogene. In this Period remained savannah conditions, with progressive tendency to aridity, occurring changes by the end of Pliocene, for a more humid climate, with Mediterranean conditions. This climate evolution was responsible for Iberian Massif suffered deep tropical style chemical weathering. Subsequent erosion of alterites developed landscapes of inter-tropical morphology (with *inselberg*).



FIG. 1 – Location map and main georesources of the Naturtejo Geopark within the scope of geotourist use. 1: Ichnological Park of Penha Garcia, Fossils Trail and geomorphological viewpoint of the Penha Garcia Castle; 2: Quartzites of Fonte do Cuco; 3: Gold mine and Thermal Waters of Monfortinho; 4: Geomorphological Park of the Inselberg of Monsanto, Boulders Trail and geomorphological viewpoint of the Castle of Monsanto; 5: Ponsul Fault, geomorphological viewpoint of the Castle of Idanha-a-Nova and the Granite Route; 6: Geomining Museum of Idanha and the Mining Trail; 7: Tejo Internacional Natural Park; 8: Geomorphological viewpoint of the Castle of Monforte da Beira and proto-historical mines; 9: Geomorphological viewpoint of the Castle of Castelo Branco; 10: Stonemason Museum of Alcains; 11: Wolfram Route in Sarzedas; 12: Granite landforms of the Serra da Gardunha, in Louriçal do Campo; 13: Portas de Ródão Natural Monument; 14: Gold mine of the Conhal do Arneiro; 15: Route of Urban Geology of Vila Velha de Ródão and geomorphological

viewpoint of Penedo Gordo; 16: Copper Mines of Ingadanais; 17: Fossil Trunk of Perais; 18: Portas de Vale Mourão; 19: Geomorphological viewpoint of S. Miguel; 20: Penduculate Blocks of Arez and Thermal waters of Fadagosa; 21: Sculpture Park of Alpalhão; 22: Geomorphological viewpoint of Galego, in Montes da Senhora; 23: Geomorphological viewpoint of Cabeço da Rainha; 24: Cavalo wolfram mines; 25: Route of the meanders of Zêzere (Fresumeda-Sobral); 26: Geomorphological viewpoptint of Mosqueiro and Fragas da Água d'Alta lithological scarp, in Orvalho.

From Triassic to Upper Cretaceous the Hercynian orogenic belt erosion is completed and vast smooth surfaces were developed from which starts the Cenozoic morphological evolution. “Meseta Fundamental Surface” was formed during Upper Cretaceous-Palaeocene. Alpine Orogeny developed since Upper Cretaceous until today, being fractured the Iberian Massif by tardi-variscan fault reactivations, segmenting the old flatted morphology and lead to the development of poligenetic surfaces modelled by several erosive events (Cabral, 1995).

The flattening of quartzite ridge summits is result of Fundamental Surface unfolding in two levels. Relief with *etchplain* ou carved surface features, showing the geometric irregularities of a basal weathering front related with a thick weathering section developed during Mesozoic and under tropical humid conditions, affecting the Variscan rocks. Reological heterogeneities of basement rocks induced conspicuous differential weathering, more intense and deeper in shales and plutonic areas, weaker and only superficial in quartzite formations and fine grained granite facies.

A climate change would have triggered the evacuation of a thick alterites mantle towards subsiding areas. The “carved surface” was subsequently modified with more or less intensity, fractured by tectonics, retouched by erosion and partial or totally fossilized by sedimentary deposition. Exhumation started in pre-Albian, not ending before Late Eocene.

Collision of African plate with the Eurasian one, in the end of the Miocene, results the uplift of Alpine and Pyrenean belts. Tardi-Variscan faults were then reactivated, segmenting all Iberian Massif in blocks. Low blocks are represented by the intermountain basins Sarzedas and Moraleja-Ródão (Cunha, 1992). Lifted blocks have the best example in the Cordilheira Central horst. In dependence of fault scarps, subsidence basins were filled by alluvial fan deposits typical of sub-arid environments.

Late Pliocene sees the development of important climate changes that would lead to the last glaciation's stages. The Eocene surface was carved by drainage networks during gliptogenesis (Cunha *et al.* 2005). The increase of the rain and the presence of mountain glaciers are responsible for the fast incision of the valleys, with several fluvial terraces, and deposition of *rañas* with very coarse sediments along the footwall of active faults such as Ponsul and Sobreira Formosa. These faults have seismic activity even today. Climate halted in the last interglacial with Mediterranean features. Relieves are partially eroded by fluvial incision (Fig. 2). River systems are now typified by the lost of erosive efficiency during summer, but frequently flooded in the winter, carrying important amounts of sediments.



FIG. 2 – Epigenesis on quartzite relieves by the Tejo river in Portas de Ródão Natural Monument (source: Jorge Gouveia).

3. MOSAIC OF THE GEOPARK NATURTEJO DA MESETA MERIDIONAL: PROTECTION MEASURES AND POTENTIAL THREATS

The Geopark Naturtejo da Meseta Meridional has the double goal of valorising the places that act as key-testimonies from the History of Earth, generating employment and promoting the economical regional development. It is considered that the wide geomorphological, geological, palaeontological and geomining heritage, with geosites of national and supranational relevance, among which are examples the ichnofossils of Penha Garcia (Idanha-a-Nova; Neto de Carvalho, 2005a), the fluvial canyons of Portas de Ródão (Vila Velha de Ródão/Nisa) and of Vale Mourão (Vila Velha de Ródão/Proença-a-Nova), the Conhal do Arneiro (Nisa) or the *inselberg* of Monsanto (Idanha-a-Nova; Neto de Carvalho, 2005b) are fundamental elements for the building of the *Geopark Naturtejo da Meseta Meridional* (Fig. 1). Beyond the geological resources the municipalities also count with the Tejo International Natural Park (Idanha-a-Nova/Castelo Branco/Vila Velha de Ródão) and with areas protected by European Protocols (Penha Garcia – Idanha-a-Nova; quartzite ridges of Ródão – Nisa/Vila Velha de Ródão/Proença-a-Nova), which testimony the ecological richness within the national scope. The Roman ruins of Idanha-a-Velha (Idanha-a-Nova), the Pleistocene fluvial terraces of the Tejo and the Neolithic art of the Tejo (Vila Velha do Ródão/Nisa) form poles of relevant archaeological interest nationwide and the megalithic region of Rosmanihal (Idanha-a-Nova) and Nisa must be emphasized. It is worth to mention the important contribute of the Associação de Estudos do Alto Tejo local association to the archeological inventory and cultural dynamics of the territory, specially among younger citizens. The millenary history of this region has given it monuments of military, religious and civil source, reaching a rare diversity in the country, from which the strong presence of castles, insignia and places founded by the Templar is underlined. The innumerable ethnographic works developed in several villages of the municipality, testimonies of multiple singularities from local culture, many times with strong roots in the landscape – the status of “the most

Portuguese village of Portugal” reached by Monsanto (Idanha-a-Nova; Fig. 3) is a symbol of this ethnographic richness, still very well preserved; the programme Schist Villages has the goal to recover the traditional houses in villages of strong traditions, such as Álvaro (Oleiros), Sarzedas (Castelo Branco), Figueira and Oliveiras (Proença-a-Nova) and Foz do Cobrão (Vila Velha de Ródão). The pedestrian itineraries of small and big distance being implemented in all municipalities correspond to the unifying mesh of the multiple poles of attraction to a nature tourism. To be outstanding is the GR12/E7 route, which goes from Monfortinho in the borderland to Lisbon, whose project “Fátima Sanctuary Route” is being implemented by Naturtejo and by the municipalities from there to Fátima and Madrid.



FIG. 3 – The outstanding Monsanto village on top of the Monsanto Inselberg, ancient buildings mimicking the granite blocks (source: Centro Cultural Raiano).

The Naturtejo region presents a geological, archaeological, historical, ethnographical and environmental richness of recognized value, by the numerous actions that municipalities have been developing or supporting. The wide geographic area that it contains allows a multidisciplinary mosaic that is apt to the development of several strategies within the scope of tourism in a natural space, basic condition for the implementation of a Geopark. However and since this region works for a long time for the regional involvement in the combat to the problems that are inherent to the fact of being close to the border condition, it is considered that the conjugation between natural and cultural patrimony of the intermunicipal company Naturtejo will bring added value aspects to the application process of the *European Geopark Network* and to the success of the implementation of a Geopark in the region. The application from Naturtejo to national and European development projects, using the Geopark as an anchor element, may economically support the preservation of the geological heritage and divulge it as a benchmark of this whole wide region.

In Portugal, there were no specific laws concerning protection of the Geological Heritage until the implementation of the Decree-Law of July 2008 for protection of natural areas. However, one of the most practical ways to protect geosites is its classification as Municipal Interest by the Law 107/2001, applicable to any Cultural Heritage. One other hand, this classification is one of the most effective because brings the geosites under local administration (municipalities) which, by this way, keep responsible for protection and tourism dynamics. In Naturtejo region were already protected two geosites (**Penha**

Garcia River Gorge, in Idanha-a-Nova, Fig. 4, and **two granite morphologies** in Louriçal do Campo, Castelo Branco). Being protected under this law there were three geosites, the **Perais Fossil Trunk**, in Vila Velha de Ródão, **Portas de Vale Mourão River Gorge**, between Proença-a-Nova/Vila Velha de Ródão, **EN354, km25, Roadcut showing the Ponsul Fault**, in Idanha-a-Nova.

With proper rules and national importance is the protection as Natural Monument, managed by the governmental Institute for Conservation of Nature. **Portas do Ródão** was recently protected as Natural Monument, by its geological, geomorphological, archaeological and biological importance. The Tejo Internacional Natural Park is protected by a specific Decree no. 9/2000 from August 18, due to its most zoological (avifauna) and botanic importance. This park shows international relevance as biological sanctuary, being a Corine Biotope and a Special Protection Zone (Directive Birds – 79/409/CEE).



FIG. 4 – The Ichnological Park of Penha Garcia: Quartzites and ichnofossils contributing for an important cultural heritage.

The biggest threat for geological heritage in the Naturtejo territory is the lack of knowledge of Geology and geological processes and their profit abilities. In a country that the Geological Survey become extinct as independent institution, in a country where Geology never were promoted to the publics and in a country where people knows almost nothing about Geology and their specialists, geomonuments inventorying and promotion in Naturtejo may contribute to justify teaching Geological heritage and Geoconservation in school and universities. On other hand, will be an important tool to valuation of local phenomena beloved by populations, which may see their goods highlighted and used as way of profit, in a context of present fight against village’s abandonment. Teaching how to understand the geological heritage is easier to stop vandalism or destructive actions because populations protect all that consider their own legacy. In more urgent cases, Naturtejo in partnership with municipalities, national and regional governmental institutions, local associations and organisms that promote Geological Heritage, find in geosites protection the key for their management and promotion.

4. EPILOGUE

The Geopark Naturtejo da Meseta Meridional in the widest sense, including the six municipalities of the Naturtejo network, shows four components that allow to explore and dynamize all georesources from the region, included in the territorial action plan for the coming years:

- The **Museums** (with information available to all) – Stonemason Museum (Castelo Branco): finished; Geomining Museum of Idanha (Idanha-a-Nova): in implementation stage; Palaeozoic Museum (Idanha-a-Nova): in implementation stage; Interpretation Centre of the Ichnological Park of Penha Garcia (Idanha-a-Nova): in project discussion stage; the Tejo Internacional Natural Park Interpretive Centre: done.

- The **Exomuseums** (musealization in the place) – Ichnological Park of Penha Garcia (Idanha-a-Nova): first stage of the project concluded; Natural Monument of Portas do Ródão (Vila Velha de Ródão and Nisa): classification concluded; Monsanto inselberg: Boulders trail concluded; Segura mines: Mining Trail concluded; Portas de Almourão: 4 trails concluded, application for protection being developed by Quercus-Castelo Branco, the municipalities and Naturtejo Geopark; Gardunha landforms: Gardunha Trail concluded; Orvalho geosites: Orvalho Geotrail concluded, interpretive centre in project; Conhal do Arneiro: protected under Portas de Ródão Natural Monument, Cobble Trails concluded.

- Compilation of important geological aspects – chaining of geological monuments in multidisciplinary interpretative georoutes, through small route pedestrian itineraries and trans-municipalities' itineraries (Route of Fossils, Route of Mines, Route of Granite of Idanha, Route of the Barrocais of Monsanto and Route of Water, in Idanha-a-Nova; Route of Urban Geology, in Vila Velha de Ródão; Route of Conhal, in Nisa; Route of Geological Landscapes, in all municipalities): in several stages of development.

- External projection of geological resources: Raiano Cultural Centre – Head-office proposed to the Geopark (with the realization of conferences, congresses, projection of movies and thematic exhibitions); Realization and support of scientific works, with the publication of the main results, under the form of leaflets, guides, books, divulging and scientific articles.

Since Naturtejo Geopark was founded its policy of action is based in three main premises: inventory, conservation and promotion of the patrimony. Only a complete and deep knowledge of the wide patrimony of Naturtejo region will allow the establishment of plans for the protection of the endangered elements and the elaboration of strategies of tourist promotion, with the creation of tourist packages, routes,... Geology does not stay away from this rule and this has been a good epoch for inventory, classifying and development of projects to the gain of geosites from Naturtejo municipalities. But from the already existing knowledge and from current knowledge many remains to be done. It is in this optic that Naturtejo is creating conditions for the promotion of partnerships with academic institutions and specialized scientific entities and enterprises, in order to promote the existence of scientific knowledge deepening about this region. The originality and amusement of geotourism must be constantly fed by new and alluring discoveries!

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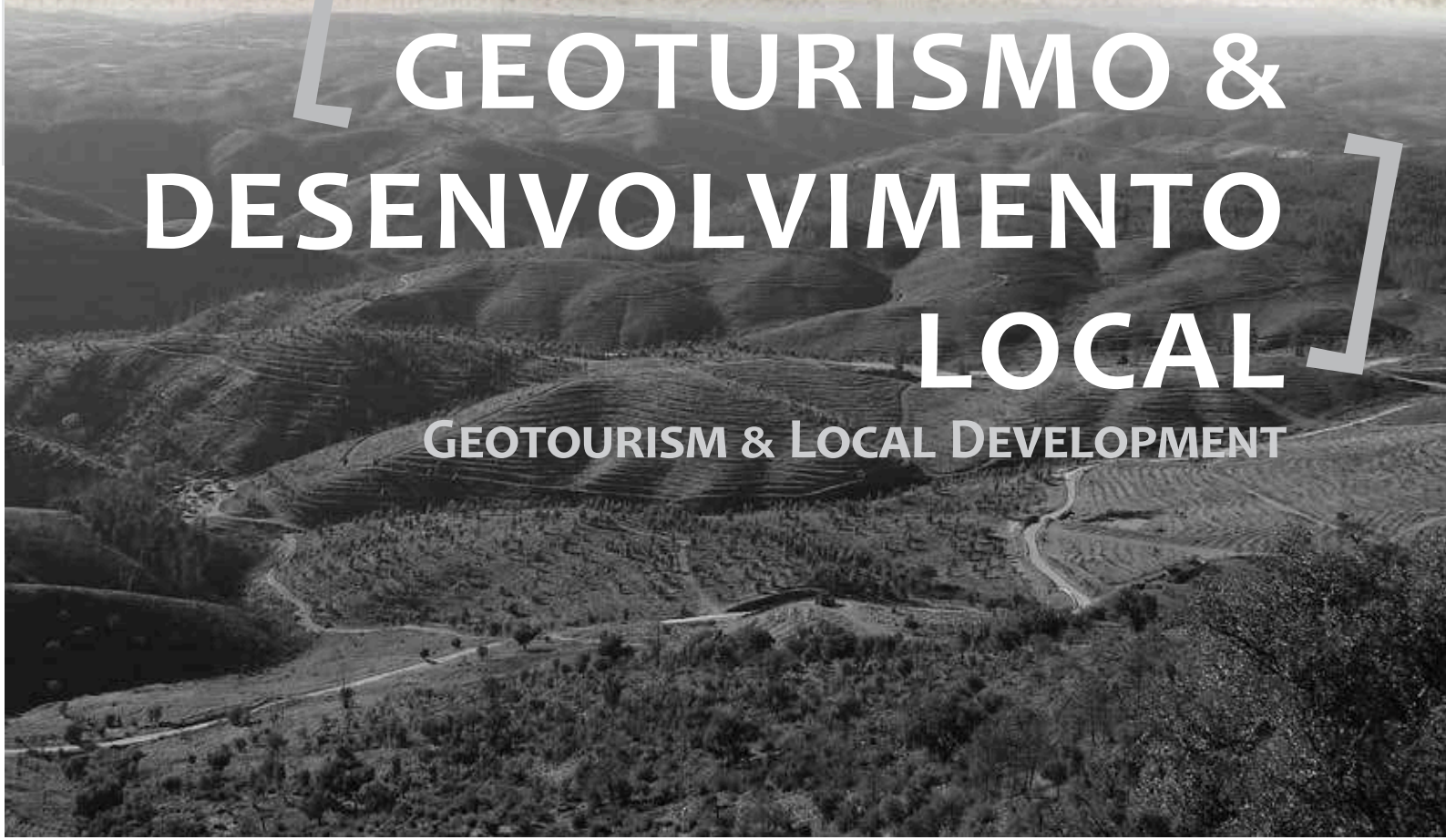
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**[GEOTURISMO &
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GEOTOURISM & LOCAL DEVELOPMENT



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