



Asteroceras from the Jurassic coast. Photo: Richard Edmonds



The Jurassic Coast

The Dorset and East Devon Coast, England's first natural World Heritage Site

The coast between Exmouth in East Devon and Studland Bay in Dorset has gained World Heritage Site status because the cliffs and foreshore display 185 million years of the Earth's history in just 95 miles of coast. The rocks are from the Triassic, Jurassic and Cretaceous periods of geological time

and although there are thousands of places around the globe where such rocks are found, this is the best place to see them exposed in a near complete and accessible sequence. There are also nine internationally important fossil sites including the Lower Jurassic rocks around Lyme Regis and the Fossil Forest near Lulworth. Furthermore, the coast contains superb examples of coastal processes including the landslides of East Devon and West Dorset, Chesil Beach and the Fleet and the 'classic' Lulworth coast.

The completeness of the geology, the fossil sites and the geomorphology fulfil the UNESCO criteria for designation as a natural World Heritage Site but



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*Chesil beach
Photo: Richard Edmonds*

there are other unique and important aspects to the case. This coast has, and continues to provide vital evidence for the development of the Earth sciences. The history reads like a 'who's who' of geological science while today, important research and fossil discoveries continue to be made. Finally, the coast is clearly of huge educational importance and lies within a landscape that owes its great beauty and diversity to the underlying geology.



Dorset and Devon County Councils and the Dorset Coast Forum developed the case for the World Heritage Site. World Heritage will support the existing conservation designations through a Scientific Advisory Group made up of organisations responsible for, or with an interest in the Site and supported by a network of experts. The designation will also be used to help people to further enjoy the coast and promote out of season and special interest tourism.

To find out more, visit the web site at www.jurassiccoast.com, which includes sections on the case, exploring the interests, events and educational resources about modern coastal management. If you would like to receive regular updates on developments, events and special interest breaks, please supply your name and address to: Sally King, Visitor Manager, Environmental Services Directorate, Dorset County Council, County Hall, Dorchester DT1 1XJ or e-mail s.a.king@dorset-cc.gov.uk. In West Dorset, the Charmouth Heritage Coast Centre maintains the Record of Key Scientifically Important Fossils collected under the West Dorset Fossil Collecting Code of Conduct. To find out more about the Code visit the Centre's web site at www.charmouth.org where there is a facility to receive regular e-mails on new fossil records.

Richard Edmonds

*High Cliff
Photo: Richard Edmonds*



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Gerard

I met Gerard for the first time in Sofia in 1995, when the ProGEO WG1 was founded. Actually this was my first contact with ProGEO and geoconservationists, really another world. As I wrote later on to Gerard "if this world didn't exist I would have created it". I was impressed from his contributions, his way of presentation, his friendly and cheerful way to all.

We had a lot of discussions in the meetings there, as well as in the bus that was transporting us in the beautiful Bulgarian country. As I was not experienced in geoconservation and at the same time very enthusiastic in geological heritage concept, I had a lot of questions, and Gerard was indefatigable, happy to explain. These discussions in a foreign language sometimes lead to difficult communication. I remember Bill, who was sitting near, in the same bus, to suffer of course from our (especially mine) English and sometimes to laugh to tears.

Geoconservation discussions lead in philosophical paths sometimes, and with this opportunity many times Gerard said that, since his studies in Gymnasium, when for the first time heard from his history professor about Stoical theory and the philosopher Zeno, he was convinced that Zeno ideas fitted exactly with his attitudes. As he said in another occasion, the affection for Zeno philosophy was not just something he adapted but it was there in himself and lighted. And he tried to follow this theory and stoical attitude in all his life.

But who is Zeno, what is Stoicism? By the cause of Gerard's repetitive references, I read a little about that and I recognized many times Gerard and his qualities in it.

This theory appeared in the Hellenistic age, in a period where circumstances and political conditions of the world were analogous to the period we live now and the basic man ethics needed reorientations and answers. Zeno is the founder of Stoicism. He was born in Kition in Cyprus island (Zeno the Kitiefs, Zeno from Kition) in 336 B.C. and died in Athens in 264 B.C. He used to teach his theories in Poikili Stoa (decorated Gallery) in Athens, this is the reason his students and his theory took this name: Stoics and Stoicism respectively. According to Zeno



*Gerard on the first ProGEO meeting in the Netherlands in 1988 (see Gerards article: **The early years of ProGEO** in ProGEO NEWS 3-2000, <http://www.sgu.se/hotell/progeo/news>)
Photo: Jon Markussen*

every knowledge, science, experience are exercises to reach the virtue and his starting point is the impetus, the movement of the soul, the basic motive of every being.

The followers of Zeno are Cleanthe and Chrysippos while he affected philosophy for 5 centuries and the roman philosophers and writers Markus Aurelius, Cicero, Senekas were affected by this theory. In this philosophical system the distinction between man and the universe is rounded. Every man is a whole



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world in miniature. The central concept is the Reason, Logos, which is the basis of the 3 branches of this system: **Logic, Nature, cosmic Reason, Ethics.**

Logic is everything that exists; it is the concrete material that becomes conceivable (idea, notion). Everything being perceivable exists and becomes concept (idea). Nature is not only the total of the beings but also basic principles of moral behavior. Consequently metaphysics coincide with physics (empeirism).

So nature shows us the way for our moral behavior, our ethics. The basic attitude for the Stoics is to live according to the nature (omologoumenos ti fysei zein) that is synonymous with: to live according to virtue (kat' aretin zein); because nature lead us to this, to the virtue ("agei gar pros taftin ymas I fysis"). That is, if everything obeys to the cosmic law everything is virtue. And thus the interior harmony, happiness is born.

The top-ranking virtues of the Stoical system are 4:

Bravery that corresponds with tolerance (to be able to tolerate something), **Prudence** corresponding with abstinence (the decision to keep distances of what is harmful), **Discretion** corresponding with selection (to choose, to conclude the proper), **Justice** that corresponds with offering (to regulate the offering to others).

These are the virtues of the wise man culminating with non-chalance (a-patheia= freedom from passions). Thus, apatheia is placed to the very opposite, to the antipods of passion (passion is condemned). (From there the difference for example, between Medea of Seneka and Medea of Euripide). The four basic passions are: **Sadness** (sorrow), **fear, desire, hedonism** (it is rejected totally the voluptuous pleasure of Epicures). Eudemonism of Epicures and Epicureans is the pleasure, while for the Stoics is the virtue (live admittedly to the nature). No fear, no sorrow, no desire, no hedonism = Freedom.

Nature gives to animals the way to be auto protected and to human being the Reason of Nature.





Photo_ Vladimir Makarikhin

Stoics formulate the concept and the theory of Duty. Stoics are ready to override everything not only material goods but also their life for the Duty (Xreos).

It is a system in relation with the individual moral, a teleological materialism with aim, end, plan (distinction with nihilistic materialism).

Everything that happens in the world is in accordance with the Natural Law; consequently man should conciliate with good and evil things and face everything (happiness or misfortune) in moderation and calmness. This is the concept of Stoicism.

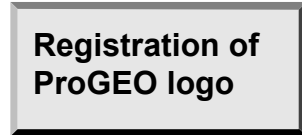
Man becomes sacred for man (Senekas humanism); this is the humanism of Stoics. Stoicism affected the Roman law, familial law, and also it was the zero point for Christianity.

I recognize, and I think you do, a lot of Gerard's attitudes in this theory. He was brave, prudent, with discretion and justice. Free of fear, without depression, no passions.

He concerned with a lot of dedication for his mother, his wife, his daughters, all his family and his friends. He was always happy, he wanted others to be happy, and he continued being so till the last time, always with excellent spirit. Even when he felt he was not immortal physically anymore, he continued to enjoy life. He had a good life he was saying, with his wife Hetty, his children, their good friends, his work, his colleagues. He was supporting us, me, Afat, Dusan, Branka to mention some of them with good advise, support and material. We all were thinking of Gerard, as a tree that nothing could really make him fall, as Margarete said.

We miss him. I think of him in the place – Nässmälningen – that he designed, and sent us his drawing with his wishes – once.

Irini Theodossiou-Drandaki

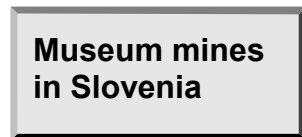


At last, after more than a year of paper shovelling, the registration of the ProGEO logo is accepted. We have not yet received the formal decision and definitions, but some facts are known to us.

We will not have the exclusive right to the name ProGEO, but we can use it freely. The "roof" and the "spiral" are exclusive, and can be used in different colour combination as long as it is the same throughout the set, and executive committee or its subsidiary accepts selection of colour.

Formally the final approval will be handed over after two month of official period of probation.

Gunnel Ransed & Lars Karis



The fate of Slovenian mines and collieries is similar to that elsewhere in the developed world. They are being gradually closed down, mostly for economic reasons. In this process the directions of mines often want to preserve parts of the mines as underground museums. Such museums exist now in Slovenia at the Idrija mercury mine in closing, at the Velenje colliery, at the Mežica lead and zinc mine in closing, and in part in the long abandoned St. Anne mercury mine near Tržič. Museum mines are of interest on one side to the ordinary touristic visitor, and on the other side they are valuable for preserving the old mining workings, excavation systems, tools and the like. This is a way of conservation of natural, technologic and cultural heritage.

Idrija. The mercury mine started its operation in 1500. It was closed a few years ago. Idrija was the second largest mercury mine in the world. Close to 150,000 tons of mercury were extracted, and more than 700 km of drifts to the depth of 400 meters excavated. The Antoni adit was used for 200 years as the main entrance to the mine. In 1994 in it the museum mine was installed. It is run by the Idrija



Entrance to the Antoni adit in Idrija. Photo archives of Town Museum in Idrija.

mercury mine. To the visitors a multivision presentation of ancient miners' work and life in Idrija is shown. In the mine itself various methods of mining ore can be seen. The ore is cinnabar and in part native quicksilver the droplets of which can be observed in the rock. Underground there is also the chapel of Holy Trinity that was built in 18th century, during the large expansion of mining.

Velenje. The Velenje colliery is the largest in Slovenia. The coal seam has a thickness of up to 160 m. Production started in the second part of 19th century. In a hundred years or so about 160 millions tons of lignite were produced with a record of 5.1 million tons in 1985. In a part of the colliery the Museum of coal mining in Slovenia has been installed. In the mine part of the museum old and modern methods of coal mining can be seen, machines and supports, and the visitors experience an earthquake and the blasting operation in the mine.

The visit has a literary note, it is being guided by the voice of the poet Anton Aškerc who during his service as the local priest became familiar with miners and their work. The visitors are also given a proper miner's meal. In addition to the underground workings there are also permanent exhibitions on miners' living culture at the beginning of 20th century, and on the history of coal extraction in Slovenia.

Mežica. The first written records of mining date back to mid-17th century, although ore was known already by the Romans. The total length of mine drifts is more than 800 km. About 19 millions tons of lead-zinc ore were produced, in total around one million tons of lead and half a million tons of zinc metal. In the deposit occur various minerals, several in well developed crystal shapes. The best known is the yellow to orange wulfenite ($PbMoO_4$).

The visitors of the museum that was opened as the Touristic mine and museum in 1997, are taken underground by a mine train. In the mine various mining methods and equipment are shown. Worth visiting is also a rich museum at the mine entrance with beautiful samples of ores, minerals and fossils.

St. Anne mine near Tržič. In the abandoned mercury mine at Podljubelj, not far from the Ljubelj international passage, the museal mine was arranged in 1955. It is being operated by the Tržič touristic society. The mining started in the middle of 19th century, and lasted to 1901. Mined was the cinnabar ore. There are about 5000 meters of drifts. The excavations were made in solid rocks and are therefore well preserved.

Rajko Pavlovec



The annual ProGEO WG1 meeting, organised by the Turkish Association for the conservation of geological heritage (Jemirko), took place in Turkey, between 26. May and 2. June 2002.

The first two days were devoted in presentations and discussions in Ankara, in the premises of the Turkish Geological Survey that was the generous sponsor of the meeting, while the next three days we travelled in Central Turkey, in the areas around Konya, Aksaray and Kapadoce. Here we had the opportunity to be guided in amazing volcanic, karstic and erosional landforms and landscapes. On the fourth day of the excursion, we visited the landforms, formations and features in relation to the famous Anatolian fault system NW of Asian Turkey. In the next News Letter issue we'll have more details, photos, evidences of these marvellous days, as well as future plans of ProGEO WG1.

The organisation of the meeting, as well the programme and the field tours were excellent. I would like to refer also to the hospitality, the kindness, and the concern our Turkish colleagues gave lavishly upon us.

I take the opportunity on behalf of ProGEO WG1 colleagues to thank deeply the president of Jemirko group, Professor Kazanci, and also the Turkish members of the group, for their big efforts to promote geological heritage conservation ideals and to organise an interesting meeting.

What is also important to mention is that the fruitful co-operation in promotion of geological heritage issues, becomes more and more a reality in our region.

Other news from Greece:

- 1. GRECEL annual international course for teachers took place from 16 to 22 May 2002 in Nafplion, on geological heritage conservation issues. All these teachers from all over Europe need our support to be really involved in geoconservation issues. So it is important for all of us to prepare, between others, a common guide with all relevant bibliography and references in national languages.

- 2. A very important event is that geological heritage conservation has been introduced as independent course in the curriculum of the University of Athens, Department of Geology: compulsory for the orientation "research and management of natural resources" and as an option in all orientations (Geology, Geography, Environment). Also, it is to be introduced as a course in postgraduate studies in the Aegean University. The first, thanks to professor An. Diakantoni of the University of Athens, the second thanks to professor N. Zouros of the Aegean University.
- 3. Another significant event is that geotopes will be included in the themes of geological mapping, and relevant symbols will appear in the 1:50.000 geological maps of IGME (Institute of Geology and Mineral Exploration of Greece). This is the reason I have launched an email inventory internationally for the standardization of these symbols and I am asking from ProGEO a session to be organized in Dublin for this issue. I take the opportunity to thank all colleagues who responded in this inventory.
- 4. ProGEO, Greek Committee meeting: 11th of July, in Athens, IGME premises, from 10.30 to 15.00.

Attention: telephone codes changed recently in Greece. To call from abroad should dial: 1. for Athens 003010 and then the number you already have. For out of Athens 0030, then the code of the place, then 0 again, and the personal number you already know

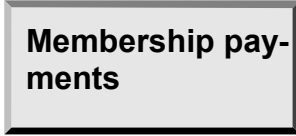
Irini Theodossiou-Drandaki



This is a small request from the editor to all contributors to ProGEO NEWS.

The time for editing is limited and the amount of mails pouring in to my computer is rising. Therefore, please, do mark your mail to me with the label: ProGEO NEWS.

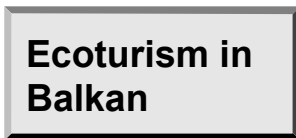
The editor



Last season's experience

Most likely, all paying ProGEO members made their utmost to meet the deadline for 2002 membership payments. This is most appreciated. However, almost all European banks are working in the opposite direction, trying to keep money within their systems as long as possible. Money sent from one bank somewhere in Europe may turn up four to six weeks later. Subsequently, treasurer can not report an updated list of paying members to Secretary, Chairman and Editor until confirmation from our Swedish bank arrives. All these factors force us to stick to the original last day for payment, January 31st. If this goal can be reached, Treasurer can provide an accurate membership list at the end of April. This is, of course, most important during election years, but also saves a lot of frustration to the Treasurer's life during non-election years.

Gunnel Ransed,
Treasurer



International conference, December 2002.

The Geographic Institute "Jovan Cvijic" of Serbian Academy of Sciences and Arts, (Belgrade, Serbia, Yugoslavia), Geographical Institute of Bulgarian Academy of Sciences, (Sophia, Bulgaria) and Faculty of Tourism and Hospitality, (Ohrid, Macedonia) will organize an International Scientific Conference "The development and potentials of Eco-tourism on Balkan Peninsula" (as a part of international year of Eco-tourism and international year of mountains) in December 2002. The meeting will consist of seven sections:

- Situation and perspective of Eco-tourism,
- Tourism in protected natural properties,
- Management in Eco-tourism,
- Tourism of high mountains,
- Potentials of geographic resources as elements of Eco-tourism,

- Tourism and geo-heritage.
- Ecotourism and Regional development

The place of maintaining would be the Zlatar mountain (The Panorama hotel).

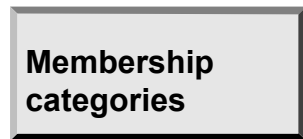
Information: Geographical Institute „Jovan Cvijic,, of Serbian Academy of Sciences and Arts, Djure Jak-sica 9, street, 11000 Belgrade , Serbia, Yugoslavia

The confirmation of participation will be made through the filling in of the form of the first circular and sending it together with the abstract of the contributions to the above address before 20. 07 2002.

For request of the first circular:

miyo@eunet.yu

Dusan Mijovic



National representatives, and related implications

ProGEO membership is of two types: **Individual** and **Institutional**.

Individual membership is a category open to all with an interest in geo-conservation, regardless of whether they are professional or amateur, their status as a member is in no way dependent on any affiliation to an organisation. Their rights are stated in the Articles.

Institutional membership is a category chosen by organisations and other bodies involved in research, administration and surveys in the field of geological sciences and engaged in the conservation of geological features in their country. Typically, several such memberships are found in one given country. **Institutional membership** is embodied in a single person, i.e. a person chosen by an **Institutional member** to represent them in ProGEO activities and at meetings.

Several such **Institutional memberships** might be found in a given country. Each **Institutional member**



elects its representative for a period defined by the Member. For the sake of continuity and stability, it is best if representation does not change frequently. All other persons in the same organisation may join the Association as *Individual Members* besides the one officially appointed.

Therefore, any number of ProGEO *Individual members* and *Institutional members* may come from one country, and both types of member may be present in any national organisation. *Institutional* and *Individual members* both have the right to vote in matters defined in the ProGEO Articles, and each vote has the same weight.

Explanatory notes

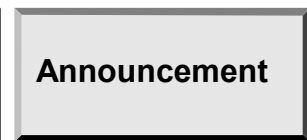
Membership in ProGEO is valid only when an annual fee is paid, and recorded by the Treasurer. As a token of received payment an annual membership card will automatically be distributed.

The name of the *Institutional representative* is printed on the *Institutional membership card*. The Treasurer will inform the Secretary of all membership payments. This information alone guarantees a member's eligibility to receive voting papers and to vote in elections. Non-payment disqualifies any member or applicant member from voting, and she or he will not be sent voting papers.

One *National representative*, a member of ProGEO elected by the *National ProGEO group* or equivalent body, represents each member nation in ProGEO. The *National representative* may be either an *Institu-*

tional or Individual member: this is entirely a matter for nationals to decide. The *National representative* is the spokesman of the nation at regional and Association meetings. In other matters, the *National representative* has the same status and voting rights as all other members, *Institutional or Individual*.

Lars Karis, *Financial comm.*
Gunnel Ransed, *Treasurer*
W.A.P. Wimbledon, *Exec. Secr.*



Presently some changes in the ProGEO web status are planned. We have applied for a web domain of our own: **progeo.org.se**. In two or three week's time we will know if it is accepted. The physical handling of the homepage will not change, it will still be run by an Survey server, but with this new address instead of /hotell /progeo.

At the same time we will introduce a new e-mail address for official messages to ProGEO: **progeo@squ.se**. It will run under our Lotus server and operate exactly as an ordinary e-mail, except that selected addressee can reach it simultaneously.

More information about the changes will follow before the new system is launched.

Lars Karis

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Deadline for contributions to next issue of ProGEO NEWS: 30.09.2002

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A PRIORITAIRE
PAR AVION



NINA•NIKU
STIFTELSEN FOR NATURFORSKNING
OG KULTURMINNEFORSKNING