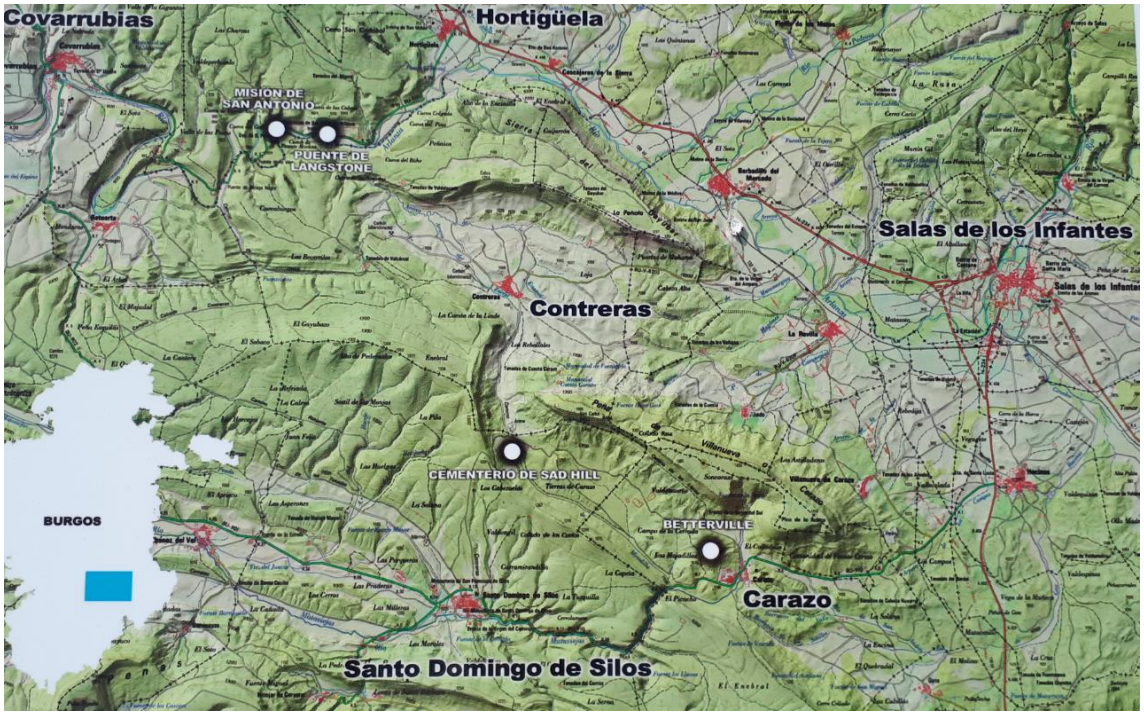
ROCK AROUND SAD HILL CEMETERY*

The Good, The Bad, and The Ugly in Burgos

Wes Gibbons 2018

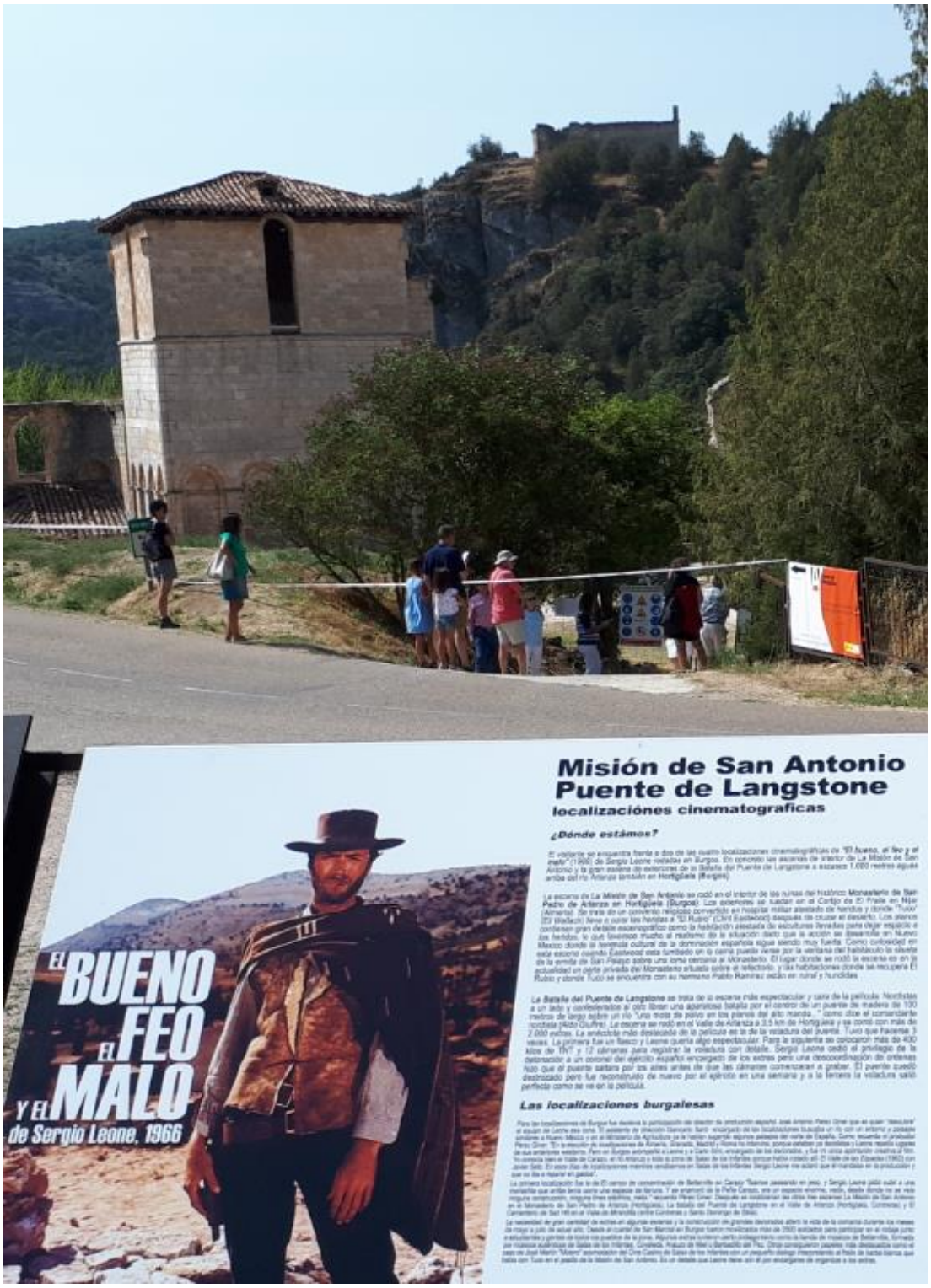
Sergio Leone's classic "Spaghetti Western" film *The Good, The Bad, and The Ugly* was shot in 1966 on location in Spain, mostly in the Tabernas Desert and other nearby places in the province of Almeria. However Leone also used a few other locations in Spain, notably in the province of Burgos where two of the most memorable scenes in the film were staged: the Civil War Battle of Langstone Bridge, and the climactic gunfight in Sad Hill Cemetery. Leone needed an area resembling New Mexico, complete with river, a requirement clearly unsuited to the desert lands of Almeria. It was the Spanish producer Josep Antón Pérez Giner who suggested using the area drained by the River Arlanza in Burgos province. Pérez Giner had worked in the Arlanza River area with director Xavier Seto as a production manager in the 1962 film *The Castilian* (*El Valle de las Espadas*), and later worked with Leone as line producer in *The Good, The Bad, and The Ugly*.

In this Holiday Geology Guide we take The Traveller 560km west from Barcelona to visit the scenic and remote countryside around Leone's film locations in southeast Burgos province. These days, over 50 years since the shooting of *The Good, The Bad, and The Ugly*, very little remains of the film sets, with the notable exception of Sad Hill Cemetery which has been rescued from oblivion by volunteers dedicated to recreate the original. Their work has been rewarded by a steady flow of visitors from all over the world who enjoy paying homage to the late, great Leone. We describe a scenic drive that starts from the attractive medieval village of Covarrubias (see map below) and finishes at Sad Hill Cemetery. The interest of the route is enhanced by the fact that the local geology is very clearly expressed in the scenery, creating a distinctive landscape that blended perfectly with Leone's project.



*Cite as: Gibbons, W. 2018. Holiday Geology Guide to Sad Hill Cemetery. http://barcelonatimetraveller.com/wp-content/uploads/2018/09/Sad-Hill-Cemetery-Holiday-Geology.pdf

Leave Covarrubias on the BU905 which runs southeast, crossing the meandering River Arlanza twice to arrive at the Monastery of San Pedro de Arlanza (car park on the left). Founded in the 10th century and once one of the most famous monasteries in Spain (prized as "The Cradle of Castile"), the monastery never recovered from the ruination that followed the 1836 Ecclesiastical Confiscation of Juan Álvarez Mendizábal. The monastery, which is in the process of partial restoration, includes remains of the church and cloisters and was used in the filming of *The Good, The Bad and The Ugly.*



Information board placed in the car park across from the tower and cloisters of what remains of the San Pedro de Arlanza Monastery, with the San Pelayo Hermitage standing on the limestone ridge behind.

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In the film the monastery was recreated as a military hospital inside the San Antonio Mission where Blondie (Clint Eastwood) recovered from his desert sunburn, and where Tuco (Eli Wallach) converses with his brother Pablo Ramírez. The outside of the mission building depicted in the film was actually the Cortijo del Fraile near Rodalquilar in Almería, with Leone using his artistic license to mix the two quite unrelated localities. The rooms used for the filming have since fallen into disrepair and no longer exist, although the San Pelayo Hermitage still rises from the limestone ridge 90m above the river. The scene shot inside the Mission with Tuco at Blondie's bedside includes a view of the hermitage through the window (on the left of the photo below).

Tuco to Blondie: "*I have you, you have me. Only for a little while I mean.*"

Continue on the BU105 which curves east past the Monastery, following the sweep of the Arlanza River which has eroded a valley between limestone ridges that rise to over 1,000m a.s.l. to north and south (blue on geological map below). The film set for the Battle of Langstone Bridge across the Rio Grande was staged here, but disappointingly little remains today, and there is nowhere to park. Two kilometres from the monastery the road turns north (left) and in a further 1km passes the picnic site of El Torcón (left) where there is track access (right) to the Arlanza River.

Langstone Bridge film set crossing the Arlanza River (Rio Grande) upstream from the San Pedro de Arlanza monastery. The white cliffs behind (top left) are formed from massive limestones of Late Cretaceous age (80-85 million years) and provided a suitably dramatic setting for the battle where Blondie comments acidly: "I've never seen so many men wasted so badly". Spanish soldiers were mobilised from Burgos to build the bridge, which was blown up three times: the first time was too unimpressive; the second time, using much more dynamite, it was exploded prematurely before the cameras had started filming.

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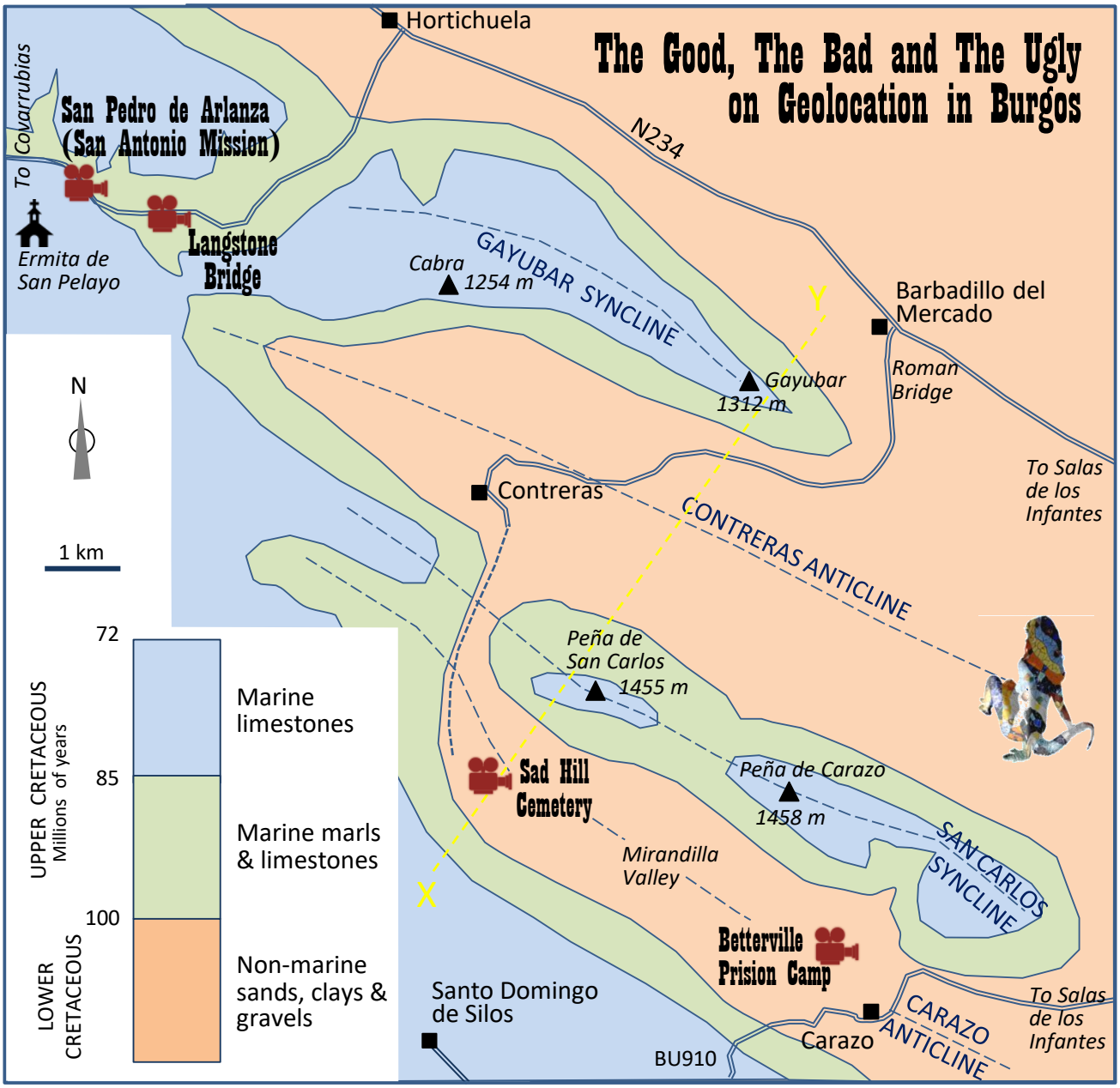

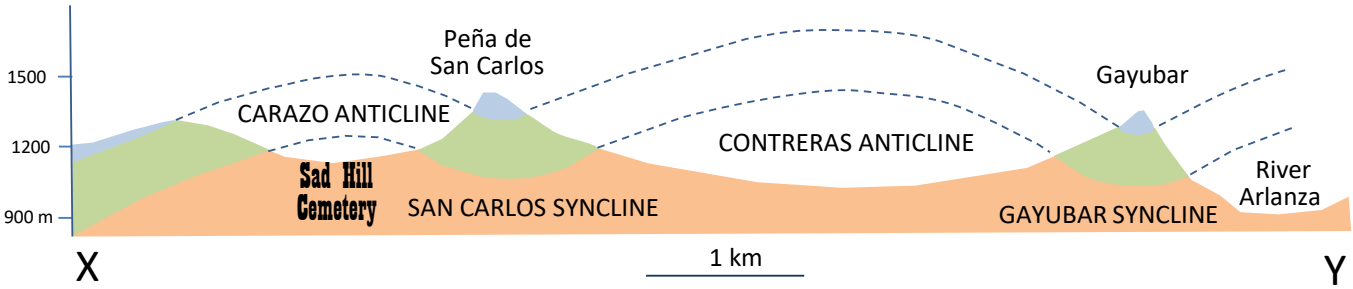

The BU905 continues towards Hortigüela, the road emerging from the valley to enter a wide expanse of flat, cultivated land beneath which are soft, sandy Lower Cretaceous sediments (orange on geological map below). The ridge capped by massive Upper Cretaceous white limestone rises to the right as we reach Hortigüela and turn right into the N234. Follow the N234 for 7km to Barbadillo del Mercado then turn right onto the road to Contreras (7km).

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Just outside Barbadillo the road crosses the Arlanza River, with a Roman bridge splendidly preserved to the left. To the right rises the ridge capped by hard, white limestone, and one can see exposures of the softer, less massive limestones and marls that lie below them in the cliffline (green on the geological map). The road now bears south before curving west (right) around the sharp end of the limestone ridge, the highest point of which at its tip forms the peak of Monte Gayubar (1,312m: see map). Ahead and to the left rises another ridge exposing the same limestone sequence, this one reaching a height of 1,455m at the Peña de San Carlos (right) and 1,458 at the Peña de Carazo (left). In between the two ridges erosion has removed the upper limestone and cut down into the softer limestone-marl sequence (note the green in between the two blue ridges on the map).

The wide, wooded valley between Monte Gayubar and Peña de San Carlos is underlain by soft, sandy Lower Cretaceous sediments. As the road continues beneath the limestone ridge of Gayubar there are several exposures of these reddish and white sandy sediments to the right. As the road continues east approaching the village of Contreras the low hills exposing Upper Cretaceous rocks can be seen to curve around in an arc from the north to west and south, as shown on the map. This pattern is due to the excavation by erosion of a geological structure that forms a broad arch called an “anticline” (the Contreras Anticline on the geological map). As a result of this broad arching of the strata the successive layers (or “beds”) of rock slope down to the northeast in the north, and to the southwest in the south, as graphically shown on the X-Y cross section below the map. The soft Lower Cretaceous rocks in the core of this anticline have been more easily eroded by the Arlanza River and its tributaries, leaving the hard limestones above to form more resistant ridges that preserve where the rocks have been folded into broad open “U” shapes (“synclines”) that are complimentary to the anticlines (compare, for example, the Gayubar Syncline and Contreras Anticline on the geological cross section).

Geological exposures on the approach to Sad Hill Cemetery. Pale sandy non-marine (desert) sediments deposited in Early Cretaceous times (quarried here on the right) are overlain by Late Cretaceous marine limestones and marls capped by massive white limestones forming the Peña de San Carlos cliffs rising to the left. At the end of Early Cretaceous times there was an important global sea level rise which flooded huge land areas to create extensive shallow seas. This flooding of the continents is known as the Cenomanian Transgression and was produced under an exceptionally warm greenhouse climate and at a time when tremendous volcanicity in the oceans was displacing water to flood the continents. The combined effect of this was to raise sea levels to something like 150 metres above the present world shorelines: the highest for at least 500 million years.

The entrance to Sad Hill Cemetery

Drive through the village of Contreras and either park at the football field to walk the 3km south to Sad Hill Cemetery, or drive carefully along the gravel track. After passing through a gate and over a cattle grid there are quarried exposures of Lower Cretaceous sands on the left side of the road (photo above). These sands form part of widespread desert and semi-desert environment that in the later part of Early Cretaceous time (around 110-100 million years ago) is thought to have covered at least 160,000 km^2 across what are now the Spanish provinces of Soria, Zaragoza and Teruel.

The filming of *The Good, The Bad and The* Ugly is still remembered with affection in surrounding villages and towns such as Carazo, Contreras, Covarrubias, Hontoria del Pinar, Hortigüela, Salas de los Infantes and Santo Domingo de Silos. Many people from these villages were employed as movie extras. The death of Eli Wallach on 24 June 2014 galvanised a group of enthusiasts belonging to the local Cultural Association of Sad Hill to restore the site (https://asociacionculturalsadhillen.wordpress.com/). Work started in October 2015 and was partly funded by the brilliant idea of offering people the opportunity to sponsor a tomb for 15 euros: the reward being your name on a reconstructed grave. For more, see the film "Sad Hill Unearthed" (2017), directed by Guillermo de Oliveira.

A sponsored grave at Sad Hill.

The reborn central stage for the shootout between Tuco, Blondie, and Angel Eyes (Lee Van Cleef) after the Cultural Association of Sad Hill aficionados got to work in 2015.

Freshly sponsored grave crosses rising from the dead in the restored Sad Hill Cemetery. The fictitious military cemetery is underlain by real Lower Cretaceous sands which are overlain by Upper Cretaceous marine muds (marls) and limestones that form the hillslope behind.

The twin peaks of El Enebral and Cerro Mirandilla form a backdrop to Blondie's chosen position in the final shootout. Both peaks are made from Upper Cretaceous marls and limestone, packed as full of marine fossils as the bullets in Blondie's Colt 1851 Navy revolver.

Angel Eyes chooses a view looking southwest, with the Upper Cretaceous sedimentary succession rising behind him to form the ridge and peak of Peña de San Carlos. The more resistant massive limestones at the top of the marine sequence form prominent cliffs capping the ridge. The graveyard lies on Lower Cretaceous sands in the core of the Carazo Anticline.

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Tuco is positioned looking southeast down the axis of the Carazo Anticline, with Upper Cretaceous marl and limestone hills behind him rising sharply from the Lower Cretaceous sands to form the distinct break of slope that records the great Cenomanian Transgression.

The End

Background to Holiday Geology Guides

The author and geologist Wes Gibbons has always had an interest in writing short geoguides aimed at inquisitive tourists, offering them the opportunity to learn about the landscapes and rocks of scenically attractive places. His argument is that there is so much more to know about rocks and Earth history than the superficial descriptions offered by tourist guidebooks, which rarely even scratch the surface of Deep Time.

His first attempt in this direction produced *The Rocks of Sark* (1975), published jointly with John Renouf of Manche Technical Supplies in Jersey, a venture that taught a youthful Wes to always be the one responsible for the final proof reading. In 1976 Wes moved from Sark to begin a PhD supervised by Greg Power (Portsmouth University) and Tony Reedman (British Geological Survey). Living in a former Post Office in the village of Greatham on the Hampshire-West Sussex border, Wes decided to pass his spare time preparing a guide to the geology of the Weald in southeast England. He sold the idea to the publishers Allen and Unwin who commissioned other authors to develop a mini-series: *The Weald* (1981), *Snowdonia* (1981), *Lake District* (1982), and *Peak District* (1982).

His next field-based guidebook surfaced in 1985, fruit of several years research work in Corsica (*Corsican Geology: a field guidebook* by Gibbons and Horák). Two years later Wes launched the Holiday Geology series, using a simple, inexpensive format later described as "a single A3 laminated sheet …. folded into three and (with).. six portrait panels … filled with a lively mix of colour photos, maps, sections and text" (review by Nigel Woodcock in Geological Magazine, 2000). The first two Holiday Geology guides were *Scenery and Geology around Beer and Seaton* (1987) and *Rocks and Fossils around Lyme Regis* (1988). The Holiday Geology concept attracted the attention of the British Geological Survey who went on to expand the series to over 20 titles.

Following his retirement in 2004 to live in Barcelona with Teresa Moreno, Wes maintained his interest in publishing field guides by writing the text to *Field Excursion from Central Chile to the Atacama Desert* (Gibbons and Moreno 2007), *The Geology of Barcelona: an Urban Excursion Guide* (Gibbons and Moreno 2012), and *Field Geotraverse, Geoparks and Geomuseums* (in central and southwest Japan: Gibbons, Moreno and Kojima 2016). His most recent publishing project, the most ambitious so far aimed at a general readership, has produced the book *Barcelona Time Traveller: Twelve Tales* (2016, Spanish translation 2017: Bimón Press Barcelona) and the resurgence of the Holiday Geology concept, although this time in virtual format linked to the *Barcelona Time Traveller* webpage.

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http://barcelonatimetraveller.com/