



Heritage Stones and Geoheritage

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In 2016, at the International Geological Congress that took place in Cape Town, South Africa, the IUGS Council ratified the creation of a new IUGS Commission: the International Commission for Geoheritage. In this commission, both heritage sites and heritage stones working groups will collaborate to disseminate the importance of Geoheritage for the general public and for the scientific community. Since then, a great effort has been made to join both subjects in meetings and in publications. Heritage Stones and Geoheritage is a special issue dedicated to spread news on some natural stones with implications on heritage around the world, and also on mines and quarries that are part of our Geoheritage and industrial heritage. It is a contribution of the IUGS Heritage Stones Subcommission. Our aim is to make as public as possible the importance of natural stones in the architectural heritage in particular and in the geoheritage context in general. In fact, one of the papers deals with the importance of outreach through museums (Pereira and Pérez-Castro, 2017), where part of the sculptures, or the full sculptures, is made on stone. Those stones are related many times to the cultural heritage of societies. It is therefore important to emphasize the need to preserve the historical quarries that once upon a time were the source for all these stones linked to the culture and local society, and nowadays, because the change in transportation, infrastructures, or even globalization related to imports and exports of exotic dimension stones, are not quarried anymore. But because the specific technical and aesthetical characteristics of the heritage stones, these historical quarries should be preserved and used, sometimes with restrictions, in case of restoration of monuments and historical buildings to avoid

the disastrous actions that have been observed in restoration even in World Heritage Cities.

This special issue is made up of 12 papers that have been sourced from contributions to sessions on Heritage Stones that were held as part of the European Geosciences Union General Assembly in 2016 and 2017, supplemented with contributions from other international meetings, like the International Geological Congress that took place in Cape Town in 2016.

The selection of papers includes the study by Cardenes et al. (2017) presenting the history of the slates industry in Spain and its relationship with Geoheritage and industrial heritage. Careddu and Grillo (2017) explain how an ancient resource, such as basalts in Sardinia, is still in use and should be preserved. Costa et al. (2017) describe a mining site, the Traversella site, as a geosite. It is an iron deposit that was exploited from Medieval age up to the middle of the twentieth century, when most mining activities in Europe were reduced or ceased because of the drop in price of the metallic resources. Now, the site is appreciated for educational and touristic reasons. Gambino et al. (2017) offer a mobile application to follow the Geology of Torino streets through the natural stones used in the construction of the city and its buildings. Kullberg and Prego (2017) describe the fascinating Arrábida breccia. This stone is part of many historical buildings in Portugal that are considered world architectural heritage by the UNESCO. This paper is accompanied by some entertaining videos, with aerial views of those buildings, but also the extracting sites of the stone. Navarro et al. (2017) describe the importance of a white marble extracted in Andalusia since ancient times: White Macael. This marble is part of many historical buildings in Spain and has been presented as a candidate for recognition as Global Heritage Stone Resource (Cooper et al. 2013). Pereira and Pérez-Castro (2017) show how art museums can be used as geoscience outreach if the stones used in sculptures, pedestals for sculptures, and the ornaments of the buildings are explained and characterized properly, and not only as “stones” or “marbles”, when most of the times are not. Semeniuk and Brocx (2017)

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lead us through some building stones to convince the reader on their importance in Geoheritage. Here, the authors explain how some natural stones have been recognized by heritage features such as cultural, historical, archeological, and architectural. Now, natural stones can be identified also by their importance to geoheritage. Zenaide Silva, Brazilian by birth, but living and working in Lisbon for a great part of her life, makes a connection between both countries through the limestone from Lioz, extracted in Portugal, but also used in the building of colonial Brazil (Silva 2017b). Carlos Silva (2017a) describes how stones serve as decorative elements in the streets of Lisbon, helping also to explain geodiversity. Emanuel Costa (2017) describes the potential of an abandoned quarry to enhance local cultural heritage. Freire-Lista (2017) describes the Barrio de las Letras, in Madrid, Spain, as an example of the importance of natural stones in the preservation of historical city centers.

This volume is an additional contribution to studies on the currently important issue of natural stone use in architectural heritage and complements other special issues published by the Geological Society of London as Geological Society Special Publications (e.g., Pereira et al. 2015a), a special issue on Heritage Stones published in Episodes (Pereira et al. 2015b) and another one published by Geoscience Canada (Pereira and Pratt, 2016). It is our hope to keep contributing with future issues on the same subject.

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