"Stone in Egypt, Greece, & Italy"

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"Egypt abounds with rocks of calcareous stone, sandstone and granite, and all these materials have been employed in the formation of the massive works which yet remain to attest the magnificence of the ancient people of that country. The walls of most of the temples were constructed of sandstone, which appears to have been chiefly obtained from the quarries stretching along the banks of the Nile, in the mountains of Silsileh; but the obelisks and statues which adorned these temples are formed of syenite or Oriental granite, drawn from the quarries in the islands of Philæ and Elephantine, and particularly from those vast excavations in the mountain terraces about Syene. The stone which has served for the pyramid Cheops is a carbonate of lime, of a light grey color, and the same kind of stone forms the interior mass of the pyramid of Mycerinus, but the latter is covered with red granite. The monolith at Sais, was floated down the Nile on a raft, from the quarry in Elephantine. The masterpieces of Grecian sculpture were executed in the rich white marbles of Attica and the islands of the Archipelago. The quarries of Mount Pentelicus, near Athens, supplied the materials for the Parthenon and the Temple of Theseus in that city and for the Temple of Ceres and Proserpine at Eleusis, and both in Greece and Asia Minor an abundance of stone of a greenish white was dug from the earth for the ordinary purposes of architecture. The marble of Pentelicus, which lies on the surface of the rocky mountain, was obtained by cutting the side of the hill into vertical cliffs, and about the foot of the escarpment there still remains some of the blocks of marble partly cut in forms for the shafts of columns. The quarries at Ephesus are said to have constituted an immense labyrinth, and that in the hill Epipolæ, with the stone from which the edifices of Syracuse were constructed, appears to have been of vast extent, since it was capacious enough to contain the 7,000 Greek soldiers who had been taken prisoners when the army of Nicias retreated from that city. The quarries of the Greeks and Romans were worked by slaves, and as the labor was of a severe kind We find frequent allusions to the practice of sending unruly slaves to work in the quarries as a punishment. We learn from Vitruvius that the buildings of ancient Italy were constructed with stones of several different kinds. This writer states that the quarries of Alba and Fidenæ (Albano and Castel Jubileo) produced a red and soft stone which soon decayed, and that the stone obtained from those of Tibur (Tivoli), Amiternum (Vitorino) and Mount Soracte was moderately hard. The Tiburtine or Travertine stone is a calcareous rock, and it appears that it was employed in constructing most of the buildings of ancient Rome. The quarries in Umbria and Picenum furnished a white stone which could be cut with a saw, and would stand well in situations where it was sheltered from the weather, but was liable to be destroyed by rain or frost. On the other hand, the red stone obtained from the quarries about the Vulsinian Lake (Bolsena) on the borders of Tarquinii, would stand both frost and fire, that would last for ages, on which account it was generally employed for sculptured works. After the destruction of Rome by fire, in the time of Nero, the houses are said to have been rebuilt of the Alban and Gabian stone, which has the property of resisting the action of that element. – *The Architect (London).*

(See the next page for online links that relate to the quarries in the above article.)

Visit the following online links for more information about the quarries described in the preceding article. (Please note: Some of the links below go to commercial web sites. Their inclusion is not meant as a recommendation. Peggy B. Perazzo)

Stone quarries of ancient Egypt (on Wikipedia)
http://en.wikipedia.org/wiki/Stone_quarries_of_ancient_Egypt

The geography of Egypt through the eyes of Herodotus, presented by André Dollinger
http://www.reshafim.org.il/ad/egypt/geography/

Ancient Egyptian resources: Stone
http://www.reshafim.org.il/ad/egypt/timelines/topics/stonework.htm

Mines and Quarries of Ancient Egypt, An Introduction by Jimmy Dunn writing as Virginia Davis
http://www.touregypt.net/featurestories/minesandquarries1.htm

Building and Ornamental Stones of Egypt, by Ayman Fadl
http://www.aldokkan.com/art/stone.htm

Building the Great Pyramid: Quarries in Ancient Egypt, Franz Löhner and Teresa (Zubi) Zuberbühler
http://www.cheops-pyramide.ch/khufu-pyramid/stone-quarries.html

Ancient Egyptian Quarries and Mines
http://www.eeescience.utoledo.edu/Faculty/Harrell/Egypt/Quarries/Quarries_Menu.html

Survey of ancient Egyptian stone quarries (rock varieties and images, locations, and ages), Dr. James A. Harrell, Professor Emeritus of Archaeological Geology, Department of Environmental Sciences, The University of Toledo
http://www.eeescience.utoledo.edu/Faculty/Harrell/Egypt/AGRG_Home.html

Greek Marbles and Ancient Quarries
http://stoneandporcelain.blogspot.com/2008/08/greek-marbles-and-ancient-quarries.html

Penteliko Mountain, Greece (on Wikipedia)
http://en.wikipedia.org/wiki/Penteliko_Mountain

Ancient Greek Marbles – some still used today, Litos S.L., Spain
http://www.litosonline.com/en/articles/en/60/ancient-greek-marbles-some-still-used-today

Scenes From an Ancient Quarry, by Susan K. Lewis, on Nova
http://www.pbs.org/wgbh/nova/ancient/parthenon-quarry.html

Paros Ancient Marble Quarries (in Greece), on greeka.com
http://www.greeka.com/cyclades/paros/paros-excursions/marathi-quarries.htm

Syracuse: Quarries (in Greece), on Livius.Org
http://www.livius.org/su-sz/syracuse/syracuse_photos_quarries.html

Greece, by Jeffrey Matthews, Trade International, Inc. (**ancient Greek marble quarries**)
http://jbmatthews.home.mindspring.com/articles_greekspeech.html

The Ancient Quarries on Mount Pendeli: The identification of the Parthenon (Elgin) Marbles Quarry, Dr. Scott Pike
http://www.athens123.com/Main_HTML/Ancient%20Marble%20Quarries/ancient-marble-quarries_main-page.htm

The ancient quarries of Paros, Greece, on Paros Vacations web site
http://paros-vacations.com/en/where-to-go/paros-ancient-quarries.html

Significance of ancient quarries, on Quarry Scapes, Conservation of ancient stone quarry landscapes in eastern Mediterranean (includes a photo of an ancient Roman quarry)
http://www.quarryscapes.no/ancient_sign.php

The Quarries and Bricks of The Ancient City (Rome), on the Old and Sold web site
http://www.oldandsold.com/articles13/travel-193.shtml

Roman Quarry Wins Prize (the **remains of the Roman tuff stone quarry at the 'Vulkanpark' at the 'Römerbergwerk Meurin) Bulgaria**, World Archeology
http://www.world-archaeology.com/news/roman-quarry-wins-prize/

The Evolution of Marble Extraction Techniques: The Example of The Carrara Marble (Italy & the Roman quarries), from Philippe Dozolme
http://mining.about.com/od/Quarrying/a/The-Evolution-Of-Marble-Extraction-Techniques.htm

Gazetteer of Stone Quarries in the Roman World, Hosted by Oxford Roman Economy Project, Ben Russell
http://oxrep.classics.ox.ac.uk/docs/Stone_Quarries_Database.pdf