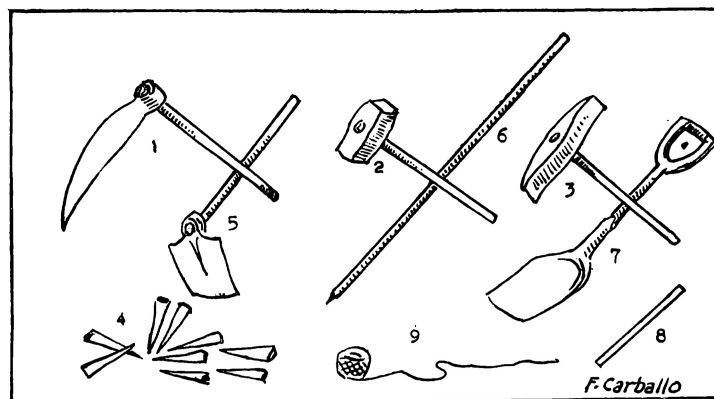


## Quarrying Stones for Building

By FRANCISCO CARBALLO

With illustration by the author



STONECUTTER'S TOOLS

- |                                |  |
|--------------------------------|--|
| 1. Pick— <i>kwatsoy</i>        | 6. Bar— <i>bareta</i>                          |
| 2. Sledge-hammer— <i>maso</i>  | 7. Shovel— <i>pala</i>                         |
| 3. Ax-hammer— <i>panglabra</i> | 8. Measure stick— <i>panukat</i>               |
| 4. Wedges— <i>unyas</i>        | 9. String for measuring— <i>pising panukat</i> |
| 5. Hoe— <i>asarol</i>          |  |

ONE of the oldest occupations of man is quarrying stones for building purposes. Even before the time of Christ, nations of Asia, Africa, and southern Europe used stone for building houses, temples, walls to ward off enemies, and tombs for the dead. In Egypt, the Holy Land, China, India, Greece, Central and South America, and elsewhere, stone edifices now in ruins still stand as reminders of the patience and skill of the ancient quarry-

men and masons who built them.

With the coming of the Spaniards in our country, stone cutting was boosted and greatly developed along with various industries needed for the foundation of cities, construction of more substantial houses, churches, bridges, and fortifications. Quarries were opened in the suburbs of Manila and in the provinces and thousands of stonecutters were employed. In places where good building stones were not available, coral

stones and small rocks were used for walls and these were held together with plaster of sand and lime. Where stones could not be secured, bricks were used, and when neither stones nor bricks were obtainable in the locality, these were imported from other provinces. More expensive stones, however, were purchased from other countries.

Most of the stones used in the construction of houses, churches, walls, and bridges in Manila and its suburbs were quarried at Maykawayan, Bulacan, and at Guadalupe, Makati, Mandaluyon, San Juan del Monte, in Rizal province.

Let us visit a stone quarry in Guadalupe and watch the stone-cutters at work. As the men are not paid by the day but by the hundred of stones they cut, some of them start as early as six o'clock in the morning and dismiss at eleven. After brief lunch and rest they return at one or two in the afternoon and work till sundown. During summer months some stone-cutters prefer to work early in the morning and late afternoon, or during moonlit nights to avoid the exhausting heat during the day time. Some men are working on a ledge above us for they have just opened a new yard or *patio* on the hillside of this *tibagan* (quarry). In a month or so as they dig downward, their *patio* will be fifty or sixty below the surface. We are now visiting a yard of this kind.

On a leveled surface men usually work in pairs and divide their earnings on the fifty-fifty basis. One digs the groove of a big rectangular slice of stone 18 cm. by 50 cm. and about 4 or 5 meters long. His partner, using the steel wedges, drives six of these in one end

of the slice, and with a few well aimed strikes, he cuts off a block of stone. From each block he knocks off with his hammer all protruding irregularities. When this is done, the other man smooths the surface of each block by using his sharp two-edged ax-hammer. Then the finished blocks are piled up in one corner of the quarry where the overseer will count them at the close of day.

A stonecutter usually cuts from 50 to 100 stones a day for which he is paid from three to eight pesos a hundred, depending upon the size of stone he is cutting. On a Saturday afternoon he will go to the *cabecilla's* or manager's office to receive his week's salary. Deductions are made for money advanced to him for food, clothing, refreshment, and the like.

The *ordinario* size, 18 by 18 by 50 cm. being in general demand, is usually quarried. Other sizes for various uses, however, are also quarried according to orders.

In the course of his diggings the stonecutter sometimes finds plant fossils and petrified trees which must have been imbedded in the stone by floods thousands of years ago. Where fossils are found, cracks and faults usually appear and these cause many blocks to be cast aside as waste. These together with chips and loose soil are sold for filling purposes.

The stonecutter's work is not an easy one, and nowadays is not a regular occupation. In past years before the advent of concrete constructions, many quarries employing hundreds of men, were in full operation, and then building stones of different sizes commanded

(Please turn to page 223)

ANSWERS TO THE QUESTIONS ON PAGE 210

GRADE I		GRADE III		3. whiskers
<i>Short words</i>	<i>Long words</i>	1. horns	4. comb	
to	brother	2. tail	5. snout	
in	father	-----		
my	pencil	GRADE IV		
at	mother	neat	honest	
for	angry	young	sunshine	
	think	thoughtful		
	brought	-----		
GRADE II		INTERMEDIATE GRADES		
4	1	1. False	3. True	5. True 7. False
2	3	2. True	4. False	6. True 8. False
		9. False	10. False	

QUARRYING STONES

(Continued from page 209)

high prizes. At present, however, due to cutthroat competition, stonecutters' wages are the minimum and their work is often held up for days and even weeks for lack of orders from contractors and builders. When stonecutters are not busy at quarrying, some find work on farms or do odd jobs for a living.

The stonecutter's life, however, is not always one of drudgery and monotony. When he is in need of extra money to build or repair his house, to christen a child, or celebrate a fiesta, he holds a *pabayani* day. During this particular day, all his fellow-quarrymen, thirty or fifty, depending upon the size of the *tibagan*, quarry for him, and all the stones cut by them during the day are credited to the host or organizer of the *pabayani*. The host provides his *bayanis* with luncheon and refreshments, and he is assisted by

young ladies invited to the occasion. Much jesting and merrymaking are indulged in by everybody, and the merrier the day the faster the stonecutters work, particularly the young men whose sweethearts are among those serving the refreshments. Some day one of these workers will hold a *pabayani* too, and the host whom he has helped will work for him gratis in return for his past services. The *pabayani* is a traditional system among quarrymen and in other rural activities and keeps the spirit of mutual helpfulness alive among them.

Yes, the stonecutter's work is not an easy one, but it is not devoid of happiness also. His is usually a family calling. His father and grandfather were stonecutters and he is in the work by family inclination. Stonecutting to the patient and hard working individual is still a paying business. His calling has contributed in no small degree to the construction of homes and cities of civilized

THIS EARTH OF OURS

(Continued from page 218)

plants, animals and men. The process of erosion carries away the soil formed with the help of rain, rivers, the winds, waves, and tides.

These changes occur all over the globe and the results are not at once noticed except when there is a volcanic eruption. Man is today the most active agent in changing the earth's surface. He makes dams across rivers, drains marshes and lakes, clears away forests and tills the land.

As you go from your home to your school and back again, try to find out what changes you think have taken place or are taking place along your way. Only by thus observing for yourself can you really know and understand what makes up this earth you live in.

man. As long as modern machinery has not invaded his field, the community will still need his valuable services.