

The principal of these woods are the following. The *sunglé* is a yellowish-brown wood, which gets darker with time. It is a rare and very dear wood, not decaying under water, very heavy, and susceptible of a good polish. It is frequently employed in the construction of the better class of junks, and is sold in the markets in logs sawn through the middle. This is done because the purchaser, paying a high price for this particular description of wood, insists upon seeing the condition of it throughout. This wood has no sap, and it frequently attains a height of 18 metres. The *yé* is a rose-colored wood, scented, and capable of a good polish. It is light, and is not attacked by ants. There are two varieties of this wood,—the *yé-bai*, or white; and the *ye van*, or yellow. The *ven* is a dark-yellow wood, becoming brown with age. It is light, and is fit for ordinary carpenters' work. The *gavé* is a yellowish-white wood, heavy, and with long fibres. It is sold in planks from 12 to 15 metres long, and is used for framework and in the construction of junks. The *tio* is a red, hard, and heavy wood, with a coarse grain; and the *tine* is a purple-colored wood, tender, and with very fine grain. The latter, says M. Thomé, might well be used for cabinet-making. The *gôl* is a red colored wood, and the tree attains a height of from 10 to 13 metres. It is useful in carpenters' and cabinet-makers' work. The *bop* is a white wood, extremely light (very much resembling cork), polishes well, and would be useful to joiners. The *meucque* is a light, white wood, used for making *sabots* for the Annamites. The *goo* is a very fine, light, and well-veined wood, becoming black with age, scarce in Nghê-An, but abundant in Ha-tinh. It is used for inlaying work. The oak, thus named because it resembles the European oak, is a heavy wood of mahogany color, has a good polish, and is used in cabinet-work.

Among the other principal woods in which a considerable trade is carried on, may be mentioned the bamboo, rattans, *cunao*, *vang sao* (a parasite plant used in Chinese medicine, and very expensive), and cinnamon. From the clearings to the banks of the river, the logs and planks of wood are dragged by buffaloes. Rafts are then formed, which descend the stream from Nghê-An and Ha-tinh in all seasons except when the waters are exceptionally swollen. During the dry season the streams have always a sufficient amount of water to allow the rafts to go down to the sea. The province of Nghê is one of the richest in Annam from a forest point of view; and the Song-Ca and Song-Cong, streams which traverse the forest region, form excellent means of transport for articles so heavy and cumbersome as timber.

GEM-MINING IN SIAM.

THE region in which gems, including rubies and sapphires, have for the past ten years been found, lies situated on the western side of the Cambodian peninsula, about 240 miles south-east of Bangkok, and covers approximately an area of 100 square miles. The centre of that district is Chantabun, a seaport with a good harbor, connected with Bangkok by a line of three small steamers running at regular intervals. It is stated in a recent report to the foreign office that within three hours' walk from Bangkok, to the north-west, is Ban Kacha, where rubies of a very inferior kind are still sought after by the local inhabitants, both Siamese and Chinese. Tongsoos, or natives of Pegu, and Burmese, do not work there. Again, twelve hours distant from Chantabun are the mines of Müang Krung, with a mining population of about 100 in all, mostly Tongsoos, with a few native Siamese and Chinese. Two days' journey from Chantabun, in a southerly direction, is the district of Krat, with mines from which rubies are extracted, and but few sapphires. The Tongsoo workers there number about 3,000. On the eastern side of the hill range, and three days' journey due east from Chantabun, midway between that town and Battambang, are the Phailin mines, the most extensive and most frequented of all. Here there are between 4,000 and 5,000 gem-seekers. Rubies and sapphires are both found, the latter being more abundant. The rubies at these diggings, although more rarely met with, are said to be of higher value than those discovered at other places in Siam. A stream which rises in the hill ranges passes through the neighborhood of the mines on its way to the Thale Sap and the Cambodia River. All three of these

localities—Krat, Krat, and Phailin—have been, or shortly will be, conceded on mining leases.

The method of obtaining the precious stones, as described in the *Journal of the Society of Arts*, London, is identical at all the diggings in the region of Bangkok, and is as follows: The intending digger, on entering the district, pays three ticals (5s. 3d.) to the head man,—a Burmese British subject appointed by the British Legation, and responsible to the governors of Battambang and Chantabun, according as the fees received are derived from the Phailin or Krat mines. Beyond this tax there is no further fee exacted. The Siamese Government claim no right to pre-empt gems found, or to purchase at market value all stones above a certain carat weight, as was the case in Burmah. The Tongsoo digger's first object is to discover a layer of soft, yellowish sand, in which both rubies and sapphires are deposited. This stratum lies at depths varying from a few inches to twenty feet on a bed of subsoil, on which no precious stones are found. A pit is dug until this corundum is exhausted; and the soil removed is then taken to a neighboring canal or stream, one of which runs in the proximity of the mines both at Phailin and Krat, where it is mixed with water, and passed through an ordinary hand-sieve. In his search for this peculiar alluvial deposit, which is generally free from any admixture of clayey earth, the digger has often to penetrate into the jungle that grows thickly around, combining the work of clearing with the occupation of gem-digging.

The Tongsoos do not appear to form themselves into companies for mutual assistance or division of profits. They work principally in twos and threes; and, if chance lead them to discover a gem of any value, they either undertake a sea-voyage to Rangoon or Calcutta for the purpose of obtaining a good price for it themselves with the dealers in precious stones at these places, or consign their acquisitions to an agent, while they themselves continue to search for more. A process of migration is continually going on among the Tongsoos of the different mines, the workers passing from one to the other, according to the reputation of a particular mine at certain periods.

No artificial or mechanical processes for the washing of the soil have as yet been introduced, nor have gems been discovered in fissure veins of soft material embedded in crevices of hard rock or in crystal form. Rubies and sapphires are found at all the diggings, often deposited side by side in the same layer or stratum of sand. The ruby of "pigeons' blood" color is rarely, if ever, met with. The color of the Siam ruby is usually light red of a dull hue. The sapphire is of a dark, dull blue, without any of the silken gloss which is the distinctive mark of the Burmah and Ceylon stone. Stones resembling garnets rather than rubies are found in the dried beds of water courses at Raheng, two hundred miles north of Bangkok; and there is every reason to believe that rubies also equal, if not superior, to those discovered in the south-east, exist throughout the Raheng district. Those hitherto obtained are the result merely of surface scratchings by the Tongsoo seekers.

NOTES AND NEWS.

THE encouragement received in New York since April 1 by George L. English & Co., mineralogists, has been such as to lead them to the decision to concentrate their entire business in the metropolis. It is their purpose, therefore, to transfer their Philadelphia stock to New York on Jan. 1, 1891. For the present they will remain at 739 and 741 Broadway, where, with new fixtures, a greatly enlarged stock, and an increased corps of assistants, they hope to merit and receive a growing patronage.

—The production of kirschwasser in Switzerland is carried on in the cantons that produce the best cherries; namely, Basle-Campagne, Bern, Aargau, Freyburg, Grisons, St. Gall, Lucerne, Upper Unterwalden, Soleure, Schwytz, Valais, Vaud, Zug, and Zurich; that is to say, in fourteen cantons out of twenty-two. The United States consul at Lucerne says that the principal distilleries are in the following cantons: Basle, Lucerne, Schwytz, and Zug. The others are small concerns, consisting of one, two, or at most three, stills. The manufacture of kirschwasser is also carried on to a great extent by the farmers. For the distillation of kirschwasser,