



The CARADON COPPER MINES have been excavated out of solid granite at the base of CARADON HILL (1208 feet), and are connected with the sea-shore, via Liskeard and Looe, by a small railway worked by horses. Let us avail ourselves of its help to reach the mines.

The scene is a fantastic one; a clear swift stream runs into a deep valley between the twin hills, West and South Caradon. On the slopes of these hills, and in the hollow of the valley, are the banks of the copper mines, and the ground is dotted with groups of work people - women and girls, in bright coloured attire, hammering at lumps of ore, or sifting and washing them in the numerous watercourses which ripple around. The copper extends beneath the valley from side to side, and is richest where it lies deepest. Shafts descend to the lodes or veins in which the ore is embedded, and in these a succession of ladders wearies the legs and tests the patience of the curious explorer. The miner's tools are a gad, a pick, a sledge-hammer, a borer, a clayingbar, a needle, a scraper, a tamping bar, a shovel, and a cartridge tool for blasting with powder. These, with fuzees, slow match, powder horn, corve, and wheelbarrow, complete his equipment.

The first step, when the mining engineer has ascertained where the copper lies, is to sink a shaft and work a gallery until the lode is reached. This is the business of the *tut workers*, who are generally paid so much a cubic fathom for the rock they excavate, earning, on an average, 45 to 65 shillings a month. The men who work the ore are called *tributers*. They generally undertake a particular portion of the lode, working in a sort of club or guild, called a pair, and dividing themselves into three gangs, each of which labours eight hours at a time. These adventurers hire their "pitch" from the mine-owner, pay all their own expenses, and receive a certain per centage on the ore they procure ; so that they have a direct interest in their work, and every inducement, moreover, to work *intelligently*, as upon the nature of the ore which they excavate depends their profits.

The ore being brought to the surface in baskets, has now to undergo sundry cleaning and purifying processes. (We confine ourselves here, be it remembered, to copper ore. It is broken up with hammers, or by tampers worked by water-power, and the first quality—*prills* — divided into walnut-sized pieces by the *cobbers* (young girls). The *second* quality—*dredge-ore*—after having been crushed, is cast into a sieve or "jigging" machine, and "jigged" up and down in a *hutch* of water. The worst quality—*halvans*—is mixed up with the residuum of the better sorts, and separated into *strakes* and *tyes*. Formed into parcels, or *doles*, they are then all ready for sale.

The *Sale*, or *Ticketing-days*, take place weekly at Truro, Redruth, and Poole. A dinner is provided (in true English fashion) at the expense of the mine-owners, who there meet the agents of the principal mining companies. The latter, having already provided themselves with samples of the different ores for sale, now hand in sealed tenders, or *tickets*, stating the prices they are willing to give for respective *doles*. These tickets are opened, read aloud, and the highest bidder becomes the purchaser. The ore is then shipped for Swansea, to undergo the process of smelting.

The business of a mine (a *huel*, *wheal*, or *hole*) is usually placed under the control of a *purser*. The mining operations are superintended by a *captain*, who, in large mines, is assisted by *grass captains* and *underground captains*—the former, as their name applies, attending to the works *above* ground. As many as 30,000 persons are employed, it is supposed, in the Devonshire and Cornwall mines. The total value of the ore annually excavated exceeds £850,000, and more than 200,000 cwts. are exported yearly. In 1800, the total value of the ore* for the year was only £550,925—(*M^cCulloch*).