

THE EARTH'S CENTRE.

The workmen in the deepest mines in Europe, says a writer in *Goldthwaite's Magazine*, sweated in almost intolerable heat, and yet they never penetrate over .007 part of the distance from the surface to the centre of the earth. In the lower levels of some of the Comstock mines the men fought scalding water, and could labor only three or four hours at a time until the Sutro tunnel pierced the mines and drew off some of the terrible heat, which had stood at 120 degrees. The deepest boring ever made, that at Sprenberg, near Berlin, penetrates only 4,172 feet, about 1,000 feet deeper than the famous artesian well at St. Louis. While borings and mines reveal to us only a few secrets relating solely to the temperature and constitution of the earth for a few thousand feet below the surface, we are able by means of volcanoes to form some notion of what is going on at a greater depth. There have been many theories about the causes of volcanoes, but it is now generally held that, though they are produced by the intense heat of the interior of the earth, they are not directly connected with the molten mass that lies many miles below the immediate sources of volcanic energy. Everybody knows that many rocks are formed on the floor of the ocean, and it has been found that a twentieth to a seventieth of their weight is made up of imprisoned water. Now, these rocks are hurled in time under overlying strata, which serve as a blanket to keep the enormous heat of the interior. This heat turns the water into superheated steam, which melts the hardest rock, and when the steam finds a fissure in the rock above it it breaks through to the surface with terrific energy, and we have a volcano. We find that these outpourings which have lain for countless ages many thousands of feet below the surface are well adapted to serve the purposes of man. Many a vineyard flourishes on the volcanic ashes from Vesuvius, and volcanic mud has clothed the hills of New Zealand with fine forests and its plains with luxuriant verdure. The most wonderful display of the results of volcanic energy is seen in the northwestern corner of our own land, a region of lofty forests and of great fertility.

BRAZILIAN COFFEE.

According to a recent bulletin of the bureau of the American Republics, the coffee plant was imported to Brazil from Africa, and found there the conditions necessary for a marvellous growth. In 1800, Brazil exported 13 bags of coffee; in 1817, 66,985 bags; in 1820, 97,498; in 1830, 484,222; in 1840, 1,057,981; in 1876, 3,763,122. The annual production now is about 6,000,000 bags of 132 pounds each. The United States take as much Brazilian coffee as all Europe. For its cultivation, virgin forest lands on hill sides are preferred, as it is known that extreme heat and cold are unfavorable to the growth of the plant. In four years, the plant begins to produce, and from that time forward the production continually increases. The tree attains the average height of about ten feet, and its head a diameter of five feet. It reaches a maximum productiveness at about nine years of age, and continues in

bearing for forty years if carefully pruned. There are three annual bloomings and corresponding crops, of which one is vastly more important than the others. The coffee is gathered in baskets and carried to yards of hard beaten clay, where it is dried in the sun, or in drying pans by artificial heat. The outer shell is separated from the beans by machinery, and the thin, inner husk by other machines, and the coffee is then ready for market. Its quality is greatly improved by age, the aroma increasing as desiccation goes on. The best Brazilian coffee, when dried, is usually of a pale color, while the new, immature beans are green. The different varieties possess different qualities, though from the same crop are obtained Mocha, Java and other varieties that figure in the market reports. The beans of different sizes and weights are separated by machinery, and sold as Mocha, Java, etc., according to the taste or gullibility of the consumer. For those who do not know that a green color is usually an evidence of immaturity the light and spotted beans are dyed to a beautiful green, which is easily washed off in warm water, as it should be before using. It is probable that not a ton of true Mocha enters the United States annually; but thousands of pounds of Brazilian "pea-perry" are sold every month in the New York market as genuine Mocha. The characteristic constituent of coffee is caffeine, whose chemical formula is identical with that of theine, of theobromine of cocoa, and of guaranine.

"TREATING" CUSTOMERS.

The customer who is in the habit of taking solace out of the clay pipe may experience beatitude through a choice Havana cigar which may allay discordant feelings and put him in good buying humor. But it must be handled cautiously by the traveler, and it must never appear that he goes about with a case full of the article intended expressly for the purpose of giving him an audience with the trade. The dealer is not to be bought, and if the offering of a cigar carries with it the remotest intimation of this sort, the traveler had better pack his grip on the spot. Should he have the faculty of casually presenting the weed, and with the same air of unconcern and good fellowship that he would unconsciously assume when he hands a cigar to a friend of the inner circle, the act would do no harm. But this is a hard thing to do, and the man, whom you may possibly never have seen before, can hardly fail to suspect your motive when you deliberately hand him a cigar. This is especially apt to be the case when the gentleman is not a smoker. An intimate acquaintance with the customer is unquestionably a very decided advantage, and the nearer the traveler can get him, in a dignified social way, the more he enhances his chances of capturing his order. The acquaintance, however, must never degenerate into familiarity. Some travelers assume the familiar manner and think they have made substantial progress when they have reached the point at which they can address the customer by his given name. This is dangerous ground to tread upon.

A SACRED CHINESE COIN.

One of the coins of the Chinese Emperor Kanghi is very much sought after by the Chinese, who use it in making rings for the finger. It is slightly different from the other cash issued under the same Emperor in the form of one of the characters that indicate the regnal period. The Chinese call it "Lo-han cash," the word Lo-han being a transcript in Chinese characters of the Sanskrit word Arhan, "venerable," the name applied to the eighteen attendants of Buddha, who are frequently seen ranged along the two sides of the principal halls in Buddhist temples.

The tradition is that while the Emperor was intimately associated with European missionaries he became imbued with a feeling of contempt for Buddhism, and illustrated this phase of his faith by having a set of eighteen brass Lo han images melted down and cast into cash. This brass is said to contain a considerable portion of gold, hence the demand for the cash. Similar pieces having the inscription filed so as to resemble the Lo-han cash are often found on the strings of cash imported by the Chinese in the United States.

HINTS TO CLERKS.

Be ambitious. Make it a part of your duty to study and learn from your more experienced fellow clerks. We can all learn to do better each succeeding day; you are thus fitting yourself for greater responsibilities, and your service is daily becoming more valuable to your employer, and, as a consequence, you are daily becoming more capable of earning advanced wages.

Be studious. Let your walks, talks and readings be in the line of your business; study its history and future; resolve to master its details and to practise them; set your mark of perfection high and strive to reach it. Do not stop at a middle place; be first in your line; remember that he who is faithful to the end will receive his just reward.

It is not a difficult matter to win the good wishes of a customer, if you treat him or her sincerely.

"There are two kinds of clerks," says an old merchant. "One who hears a great deal and tells nothing of importance, the other who tells everything and learns nothing."

The young clerk should be careful not to over-do courtesy, and "never introduce the flourishes of ball room manners in the store." The only greetings that leaves a lasting impression are those that appear to be sincere.

Let each line of goods in the store have a place. Do not deposit them indiscriminately, as want of methodical arrangement will produce a result unpleasant to the eye, and at times tend to confusion.

People will come to trade where they find what they want, and where they are waited upon by affable and obliging clerks.

Whatever tends to promote the efficacy of a clerk reacts to the advantage of the employer.

Few, if any, ambitious clerks should expect to remain clerks all their lives. They should work, plan, and learn the details of a business, with the object of some day forming a partnership or going into business for themselves.