Miscellaneous.

The Cubit, the Palm, and the Finger.

March 9th, we reviewed President Albany Barnard's Lecture on the Metric System. Our readers will not be displeased to learn how the ancient architects and engineers measured their work. Perhaps as good an account of this as can be found, was published in the "Revue Archeologique," of October, 1866, by M. Aures, in his "Etude des dimensions du Tombeau de Josue, discovered by M. Sauley in his last voyage in the Holy Land." We must, however, save space by condensing the facts within the smallest dimensions.

Herodotus informs us that the Egyptians in his time used *the cubit of six palms* or twenty-four finger-breadths. In other words, they measured cloths and all flexible fabrics by the distance from the tip of the middle finger to the point of the elbow, as women do still. And they found that this length corresponds to six times across the palm of the hand at the roots of the four fingers.

In spite of this testimony the records of cubit-dimensions preserved to us from a far greater antiquity show that the Egyptian cubit *was equal to seven palms*, or twenty-eight finger-breadths. These records consist of the following monuments:

M. Girard found the cubit marked three times on Nilometer at Elephantine. Each time there is a length of seven cubits scored off on the walls, each cubit subdivided into fourteen half palms. This cubit he found to measure .527 of a French metre (= 20.747 inches).

A cubic of slate got by M. Anastasi, and now in the Florence museum, measures .5,265.

A rough, hard-wood cubit bought at Thebes by Mr. Meyer, of Liverpool, shows seven divisions for palms, and four of these are subdivided into four fingers. Its length is .5,258 (20.7 English inches.)

Samuel Sharpe's cubit measures .2,251 (20.675 English inches.)

The black-wood two-cubit found by Mr. Harris in one of the pylons of King Horus, in the temple at Karnak, and now in the British Museum, stained red with dust, and no doubt left by one of the masons on the spot, nearly 2,000 years before Christ, measures 1.049. Its cubit is therefore .5,245.

If Newton be correct in calling the chamber in the Great Pyramid 20x10 cubits, the cubit used at its erection 3,500 to 4,000 years before Christ, measured .5,239.

The mean of these measures would .5,254; or, rejecting 4, .525, which divided by 7, gives 0.075 metre, or 2.95 (nearly 3) English inches to the palm, and three-quarters of an inch (0.74) to the finger-breadth.

But why should the Egyptians have two cubits, one six and the other seven palms long? Mr. Aines suggests the following satisfactory answer:

The six-palm cubit was used in common life in measuring flexible articles.

The seven-palm cubit was used in civil engineering and architecture. The workman dealt with rigid materials like blocks of sandstone and granite and brick walls. He applied his fore-arm to the object and placed his other hand behind the elbow to mark the place until he could move to make the next measurement. If he used his finger to keep the place he must make allowance for one finger-breadth of over-measurement. To avoid this he laid his open palm behind his elbow to mark the place and began his next cubit from the other side of his hand; thus getting *one cubit plus one palm* at every shifting of his arm. This became the masonic cubit of *seven* palms.

Philology affords a very curious confirmation of this hypothesis. As the old Egyptians called the *hand* TAT, and used the word to express *papyrus* (on which they wrote), *to speak* (that is, writing), and *to establish* (that is recording forever)—as they called the *foot* RAT, the same word they used for *sculpture*—as they called the *arm* AA, the same word they used for a *house*, and UA, *length, distance*—as they called the *forearm*, MAN, the same word they used for a *monument*, or *erection*—so, they called the *finger* TEB, and used the same word to express a *brick*, and a *measure* or weight. It is evident that the working members of the first human architects were in excellent harmony with their designs. They measured without their instruments and constructed without machinery. Yet their monuments have outlasted all the ages, and their genius has inspired all generations of civilized people.—*The South.*

What Becomes of the Coin.

In the reign of Darius gold was 13 times more valuable, weight for weight, than silver. In that of Julius Cæsar gold was only nine times more valuable, owing, perhaps, to the enormous quantities of gold seized by him in his wars. It is a natural question to ask, what becomes of the gold and silver. A paper read before the Polytechnic Association by Dr. Stephens, recently, is calculated to meet this inquiry. He says, of our annual gold product, full 15 per cent. is melted down for manufacture; 35 per cent. goes to Europe; 25 per cent. to Cuba; 15 per cent. to Brazil; five per cent. direct to Japan, China and the Indies; leaving but five per cent. for circulation in this country. Of that which goes to Cuba, the West Indies and Brazil, fully 50 per cent. finds its way to Europe, where, after deducting a large percentage used in manufacturing, four-fifths of the remainder is exported to India. Here the transit of the precious metal is at an end. Here the supply, however vast, is absorbed, and never returns to the civilized world.

The Orientals consume but little, while their productions have ever been in demand among the Western nations. As mere recipients, therefore, these nations have acquired the desire of accumulation and hoarding, a passion common alike to all classes among the Egyptians, Indians, Chinese and Persians. A French economist states that in his opinion the former nation alone hides away $20,000,000 of gold and silver annually, and the present Emperor of Morocco is reported as so addicted to this avaricious mania that he has filled 17 large chambers with the precious metals. The passion of princes, it is not surprising that the same spirit is shared by their subjects, and it is in this predilection that we discover the solution of the precious metals. This absorption by the Eastern nations has been uninterruptedly going on since the most remote historical period. According to Pliny as much as $100,000,000 in gold was, in his day, annually exported to the East. The balance of trade in favor of those nations is now given at $80,000,000.—*Christian Union.*

THE TRANSIT OF VENUS.—From time to time has been mentioned the preparations which are in progress for observing the transit of Venus in December, 1874. It now appears that Russia will take part in the great work. The astronomer at Pulkowa, near St. Petersburg, states that the number of Russian observing stations will be twenty-four, extending from the shores of the Pacific ocean to eastern Siberia, and to Persia. Competent observers and efficient instruments will be provided for each station; and as photography will be made use of, some of the party have been exercising themselves in the art, and with such good results that they can now take instantaneous photographs of the sun with dry plates. This looks promising; and as other observers are practicing with the spectroscope, we may be pretty sure that the coming transit may be observed as transit was never observed before. The Russians have already set on foot meteorological observations at their stations, with a view to select places which have clear weather in December. Other countries are expected to co-operate; and we hear that the astronomers of Germany will, ere long, publish their plan of operation.

IN Australia, the income from the sheep industry exceeds that of the mines, being $100,000,000 per annum.

AN OREGON ROMANCE.

HOW A YOUNG IRISH WOMAN WON A GOOD HUSBAND.

There were married in the city last evening a couple whose love-making and marriage furnish us a theme upon which to write a romance; but as we are not novel writing at present, we shall narrate the story as it comes to us, plainly and concisely, leaving to some other one the task of writing the history for publication in book form.

During the spring of last year there appeared upon the railroad a fair haired, smooth faced, muscular fellow, with a rich, Irish brogue, who applied for work, expressing himself as willing to do anything. He had "an ould father and mother in the ould country that he wanted to help to America, and was willing to work hard for good wages." He was given a pick and shovel, and told to pitch in, which he did with a will. Although he was a little awkward at first, he soon mastered the science of handling the shovel, and came to be regarded as one of the best men on the work. He had a pleasant voice, told a good story, and made many friends among the workmen, who regarded him with special favor. After a while Mr. Hallett, the contractor, had his attention called to the new hand, and, finding him quick at learning, gave him command of a gang of men, and found that his confidence was not misplaced.

In the same camp was another foreman who was as lithe and active a young fellow as can be found in any part of the country. Between the two a warm friendship sprang up, and when not at work they were always together. The other men became somewhat jealous of Mike for occupying so much of Jimmy's time and drawing him away from their company, but of course could not say anything.

The summer passed away, and the winter months, with their rain, came, and when work got slack and men began to drop off and come to the city, Mike proposed to Jimmy to go to Portland, take a room and live until spring. The proposition, however, was rejected by Jimmy, who declared that he did not want to come to the city. So the two remained at Eugene for several weeks, waiting for the recommencement of the work.

Somehow or other, during the winter, Mike made a discovery—and that was that Jimmy was not what he had represented himself to be. That instead of being a man he was a woman. An explanation was made and Mike's feelings soon underwent a change, and he found that Cupid had pierced his heart. He proposed to Jimmy to come to the city, where she would receive her proper habiliments, and then they would form a copartnership for life and in proper time return to work on the road as sub-contractors. The proposition was agreed to and last night saw Mike and Jimmy made man and wife. They have purchased a tent and gone down to Cowlitz River, for the purpose of assisting in the building of the North Pacific Railroad from Pumphrey's to Olympia. During the coming summer "Jimmy" will preside over the culinary department unless Mike should get sick, when, she declares, she will go out and "boss" the men.

BANISHED PRIESTS.—The State of Guatemala has had a late revolution. The party of Progress, as it is called, succeeded in getting hold of the government, and one of its first acts was to banish a large number of priests. Thirty-nine of these were brought up to San Francisco by the steamer. They are of the Franciscan and Dominican orders, and will be distributed among the churches of this State. Interference in politics, in plotting for the restoration of the late government, is the alleged cause of their banishment. The priests deny this charge.—*Sacramento Union.*

HE that feasts his body with banquets and delicate fare, and starves his soul for want of spiritual food, is like him that feasts his servant and starves his wife.

CLIMATE OF THE NEW NORTHWEST.

Harper's Weekly, in an interesting article descriptive of the country traversed by the route of the Northern Pacific Railroad, gives the following reasonable explanation of the remarkable mildness of climate and fertility of soil which characterize the vast region which has come to be known in the new Northwest:

The fact of the mildness of the climate which prevails along the belt of the country tributary to the line of the Northern Pacific Railroad, is abundantly established. Nowhere between Lake Superior and Puget Sound is it colder than in Minnesota: and this great State is not surpassed as a wheat producing region, or in healthfulness of atmosphere. Dakota is very similar to Minnesota; and from Dakota westward the climate steadily modifies, until, in Oregon and Washington Territory, there is almost no winter at all aside from a rainy season, as in California. Throughout Dakota, Montana, and northern Idaho, cattle and horses range out all winter, and in the spring are fat and strong. Records kept by government officers at the various military stations on the upper waters of the Missouri show that the average annual temperature for a series of years has been warmer in Central Montana than at Chicago or Albany. This remarkable modification of climate, the existence of which no well informed person now questions, is due to several natural causes, chief among which are these: First, the country lying between the 44th and 50th parallels is lower by some 3,000 feet than the belt lying immediately south. The highest point on the Northern Pacific Road is 3,500 feet lower than the corresponding summit of the Union and Central line. Both the Rocky and the Cascade ranges, where they are crossed by the Northern Pacific route, are broken down to low elevations compared with the height 400 miles southward. This difference in altitude would account for much of the difference in climate, as four degrees of temperature are usually allowed for each 1000 feet of elevation. But, second, the warm winds from the South Pacific, which prevail in winter, and (aided by the warm ocean currents corresponding to our Atlantic Gulf Stream), produce the genial climate of our Pacific coast, pass over the low mountain ridges to the north of lattitude 44°, and carrying their softening effect far inland, giving to Eastern Washington the climate of Virginia, and the climate of Ohio, without its dampness and chill.

The same cause—the depression of the mountain ranges toward the north—accounts for the abundant rain-fall in nearly all parts of this vast area. The southwest winds, saturated by the evaporation of the tropics, carry the rain clouds eastward over the continental divide, and distribute their moisture over the "fertile belt" stretching from the mountains to the lakes. Further south the mountains, with their greater altitude, act as a wall against the warm, moist, wet winds; hence the colder winters and the aridity of portions of the regions south of Montana and east of the mountains. That the climate of the new Northwest which is now to be opened to settlement, travel, and trade, is such as to make it a congenial home for the migrating millions of Central and Northern Europe, and the crowded portions of our land, there is no doubt.

CIRCULATION OF BLOOD IN THE SYSTEM.—The blood circulates through the body in about two minutes. The amount of blood will not vary much from twenty-four pounds, so that twelve pounds pass through each minute. It is estimated that the blood moves at the rate of two and a half feet in a second, or two miles an hour.

THE shortest expression, supposing equal perspicuity and elegance, is the best. The rays of sense, like those of the sun, acquire force by converging, and act more vigorously in a narrow compass.

A SECRET.

There are a great many persons who cannot tell why it is they have so much difficulty in getting and keeping positions in business. If they are in business they easily drop out; if they are out, they find it hard to get in. If they have a position to-day, they may lose it to-morrow; if they lose their place, they may perhaps have to wait weeks and months before they can secure another. They do not comprehend that while others are busy they should be unwillingly idle; that while others have as much as they can do, they have nothing to do. There is a little secret, that will go far to explain the difficulty; there is a constant, unsupplied demand, in all departments of labor, for skill, and it is those who possess this property that easily secure and retain situations, while those who possess it not are forced to be idle. There is all the difference in the world between an expert clerk and a clumsy one—between a skillful salesman and an unskillful one—between a dexterous mechanic or laborer and an awkward one—between even a cheerful and tidy house servant, and a careless, slovenly one. The value of skill applies to all vocations, and all departments of service. Whether a piece of work is well done or ill done, may be a question of vast importance to the employer; it may be worth twice as much to have it well done, as to have it badly done. A good workman may be worth twice as much as a poor one; an expert, reliable clerk, who attends to his employer's business, as well as the employer himself would, may be cheap at 100 dollars a month, while a careless clerk, who is not concerned how he does his work, so he gets through with it and draws his pay, may be dear at half that sum. A young man, with a good education, twenty-five years old, and of some experience, may imagine that his services are worth as much as another man of the same education, age, and experience; but he may be seriously mistaken in his estimate. His value is to be submitted to an employer for an estimate, and the qualities of skill, tact, diligence, fidelity and trustiness, are all to be considered in determining it. If one man possesses these attributes in a high degree, and another lacks them, the former is sure of constant employment at liberal compensation, while the latter may be a large portion of his time out of employment, or able to command only an inferior salary. Labor is sometimes only a glut in the market, but skill and efficiency are always in demand. If, therefore, a man who ha services to sell, would get a good price, and constant employment for them, let him, by diligent study and careful application, make himself master of his calling, whatever it be.

WEIGHT OF HONEY IN A HIVE.—A bee-keeper must not judge of the state of his hive in spring, by its weight alone, because at that time the number of young bees and larvæ in it, weigh heavy, and may impose on the unwary for real wealth, when the stock of honey is nearly exhausted.

THERE is nothing purer than honesty, nothing sweeter than charity, nothing warmer than love, nothing brighter than virtue, and nothing more steadfast than faith. These, united in one mind form the purest, the sweetest, the richest, the brightest, the holiest and the most steadfast faith.

WE hardly know which is the bigger fool, the farmer who undertakes to farm entirely by his books and papers, or the one who don't take any papers or read agricultural books at all.

EVERY column of a newspaper contains from ten to twenty thousand distinct pieces of type. The displacement of a single one makes an error. Is it strange that errors occur?

SECOND-HAND cares, like second-hand clothes, come easily off and on.