sensible loss to be observed. The application of this motive power-or. rather, transmission of power-to the various mining operations, to tunnelling, sinking, driving, coal-hewing, etc., has necessarily induced various forms of apparatus. Some act. as for coal, by means of a revolving cutter working horizontally, others with a percussive action, cutting a groove, in imitation of the ordinary manual operations. Others, again, act solely by percussion to form shot holes. the material also modifies the form of drill or punch. The form which appears to receive the most favor for hard rocks is of the shape of a Z. and, in the best arranged apparatus, is made to revolve in such manner that consecutive strokes do not fall in the same place,—Mining Journal.

## THE WIFE.

Only let a woman be sure she is precious to her husband, not useful, not valuable, not convenient simple, but lovely and beloved; let her feel that her cares and love are noticed appreciated, and returned; let her opinion be asked, and her judgment respected in matters of which she is cognizant; in short, let her only be loved, honored and cherished in the fulfilment of the marriage covenant, and she will be to her husband, her children, and society a wellspring of happiness. She will bear pain and toil and anxiety, for her husband's love is a tower and fortress. Shielded and sheltered therein, adversity will have lost its sting. She may suffer, but sympathy will dull the edge of sorrow. A house with love in it; that is love expressed in words and deeds, for I have not one spark of faith in love that never crops out; it is to a house as a person is to a machine-one is life, and the other is mechanism. The unloved woman may have bread just as light, a house just as tidy as the other, but the latter has a spring of beauty about hor, a joyousness, a penetrate two hundred feet above, and five hundred ing and prevailing brightness, to which the feet east of the spring, and you will find the former is an entire stranger. The deep happing place. ness of her heart shines out in her face. She a golden significance. The prize makes her calling high, and the end sancrifies the means. Love, is heaven, and heaven is ove.

THE ANTIQUITY OF MAN.

Mr. Frank (Calvert, of the Dardenclies; who, besides his archaplogical attainments; is an experienced geologist, has communicated to the Levant Herald the following notice of a discovery which he has made near that town, and which carries back the existence of mankind to a period: immensely more remote than has yet been ascertained by scientific re-

search :"I have had the good fortune to discover in the vicinity of the Dardanciles conclusive proofs of the existence of man during the Miocens period of the Tertiary age From the face of a cliff composed of strata of that period, at a geological depth of 800 feet, I have myself extracted the fragment of a joint of a bone of either a dinotherium or a mastodon, on the convex side of which is deeply incised the unmistakeable figure of a horned quadruped, with arched neck, lozenge shaped chest, long body, straight forelegs and broad feet. There are also traces of seven or eight other figures, which, together with the hindquarters of the first, are nearly obliterated. The whole design encircles the exterior portion of the fragment, which measures nine inches in diameter and five in thickness.

"I have also found, not far from the site of the engraved bone, in different parts of the same cliff. a flint flake and some bones of animals, fractured longitudinally, obviously by the hand of man, for the purpose of extracting marrow, according to the practice of all primitive races. There can be no doubt as to the geological character of the formation from which I disinterred these interesting relics. The well known writer on the geology of Asia Minor, Made Tchlhatcheff, who visited this region, determined it to be of the Miocene period; and the fact is further confirmed by the fossil hones, teeth and shells of that epoch I found there, for I sent drawings of these fossils to Sir John Lubbock, who obligingly informs me that, having submitted them to Messrs, G. Busk and Joffreys, those eminent authorities have identified among them the remains of dinotherium and the shells of a species of melanta, both of which strictly appertain to the Miccene epoch.

"In addition to these discoveries, at about ten miles distance from the above locality, I have lately come upon other traces of man's existence in drift 200 or 300 feet thick, underlying 400 or 500 feet thick of stratified rocks. I cannot positively affirm that this formation is likewise Miocene, the fossil shells it contains not having yet been examined scientifically; but in all probability such will prove to be the case. Throughout this drift I have tound numerous stone implements, much worn. Flint is comparatively rare, but other hard stones have been adopted, red and other colored jasper being most common. Some of these implements are of large size, weighing upwards of nine pounds.

"It is not more than forty or fifty years since the possibility of man's having come into being at an earlier period than the received term of 6,000 years was first discussed; and it is only quite recently that geologists, upon the evidence furnished by the Quarternary drift, are agreed to assign him an antiquity of about 100,000 years. Some suspected traces of his existence have indeed been noticed in the Pliocene and Miocene forma tions, but not sufficiently marked to be conclusive. It may be mentioned that the drift of the Quarternary age, to which the earliest vestiges hithorto known of primitive man had been confined, forms immediately below the arth's surface, comparatively sp mere crust; beneath underlie in succession the vast thicknesses of the new and old Pliocenes, and Miocenes of the Tertiary age, to which last my discovery now carries back the existence of mankind. The remarkable fact is thus established beyond a question that the antiquity of man is no longer to be reckoned by thousands, but by millions of years.

"I shall abstain from making further researches in the place where the engraved bone was discovered until II can do so in the presence of persons well known in the scientific world, who, I trust, may be tempted to visit the spot.".

## CUMBERLAND GAP CAVE.

H. B. N., a member of the 42nd regiment O. V. I., writes as follows:

In the summer of 1862, while the Federal forces were occupying the Gap, a cave was discovered by our men, while felling timber on the south side of the mountain. Start from the point where all the roads, converge to pass the Gap, and follow the Virginia road along the side of the mountain in an easterly direction, until you pass the spring or rather creek which gushes out of the mountain leave the road at the curve just beyond this spring, and; take a idiagonal course inputhe mountain until you reach an altitude of about

We were encamped at the foot of the moungleams over: Itisgairy, graceful, and warm; tain; and although we were inot seenerally; welcoming with ther presence. She is full of much given to erstacing ever holes in the devices and plots and sweet surprises for her ground, the discovery had sufficient force to husband and family! She has, never done rouse a few of us, we soon came to a small with the romance and poetry of life. Hum! ble household ways, and duties have for her, tree had been aprooted leaving a hollow some this pit was semall restangular opening in the last not observed, set fire to his magnificent resters to believe or disbelieve what seems to will say anything. I saw the man get and of the court rocks, leading in an horizontal direction, and he had not observed, set fire to his magnificent resters to believe or disbelieve what seems to will say anything. I saw the man get and of just large enough to admit one person at a beard. For a moment he was in a state of the

time, on all fours. This did not quite meet our expectations, as we thought it not much of "an opening for young men." Lighting thy caudle, I innde a venture, hid found; after widened in all directions. Rising to my foet. and taking a few steps forward, I held the light above my head; but nought could be seen. Beyond the few feet of rocky floor, I stood upon, all was impregnable darkness and profound silence. From the upper coiling or outer wall not a ray of light returned. A shout brought back a long succession of echoes, and died away in a murmur, bringing evidence that we stood in the entrance of a large cavern with irregular walls. Getting our party together, we followed along one side of the cavern until we came to a rostrum, rising abruptly from the floor to the hight of eight or ten foot. At the front edge, and near one corner, stood an irregular column of alabaster, by which means we were enabled to mount the dais, which proved to be a horizontal platform extending backward at a slight inclination, and joining the ceiling at a sharp angle some distance back. This grotto was filled with stalactites of dazzling whiteness, so thickly set as to har our entrance. Instead of the counter parts, the stalagmites, growing up like cypress trees from the ground beneath as usual, the material has been evenly distributed by the inclination of the rock, thus making a floor of glittering crystal, and fringing the front of the rostrum with a pendant veil of silver whiteness and dazzling

Holding our lights above our heads and looking towards the interior of the cavern: we discovered the ceiling, as far as our lights could reach, to be more brilliant in scenic effect than anything we had yet seen. It seemed as if we were looking up into an immense dome hung with tapestry. So perfect was the imitation of heavy folds of drapery that no repetition of the view could dispel the illusion. The column that had helped us to our position was now seen to be an irregular cluster, some six feet in diameter and extending from the floor to the ceiling.

Among other features of interest was a small stalactite in the form of a quarter circle, with its base attached to the under side of a horizontal rock; it turned on a radius of about five inches, and terminated in a sharp point at right angles to the base line. The drops of water forming this had evidently followed the line of some insect's web.

When we left the chamber, everything was intact, not a stalactite broken or a crystal displaced, save a few specimens we brought away. But when I saw it the next time. "the hand of the spoiler had been there." During the "uupleasantness," I was the witness of much vandalism, but nothing ever seemed less excusable, or furnished a stronger proof of the irredeemable destructiveness of some natures, than the wanton spoilation of these beautiful specimens of the Creator's handiwork.' I visited the cave several times before we broke camp, each time finding new chambers; and I left it with a feeling that I had only walked along a corridor, and had not entered the palace proper. If the cave has not been entered since then, these eleven years will afford some evidence as to how fast Nature repairs her desecrated shrines. I write this in the hope that some one may have made or will make further exploration, and report the same."

# PERSIAN ETIQUETTE.

The advent of the much-talked of Shah of Persia has created an unusual interest in the customs of his country. It is singular, in deed, how little we really know about Persian manners and customs. The Persian tongue has long been the language of Oriental diplomists, and Persian etiquette is remarkable for its elaboration. Indeed, Persia is now almost the only country where Oriental etiquette is kept up in all its ancient purity. All marks of respect are observed by the Persians with the utmost punctiliousness and exactitude. On the Shah entering the throne-room on a State occasion and seating himself, an official shouts out, "He has passed!" and all 'present bow by stooping the body and placing the palms of the hands lightly on the knees. The "eye of the State" then walks backwards from the Shah, and, moving down the assembly, giving handfuls of silver coins from a golden salver. Inferior officers distribute sherbert from jewelled cups and bowls of rare china. The next incident is the recital by a Mula of the prayer for the sovereign, and the whole affair winds up with an ode spoken by the Poet Laureate. Among other singular customs enforced by etiquette is the rule that where a superior dines with an inferior the latter brings in the first dish himself, a practiconot without precedent at Western Courts. The bringing in a dish is however no light. undertaking, and requires considerable skill, strength and practice, for the manner in which it is performed is, especially at court, atrictly greatest horror of lying; he had been taught prescribed." The dish of tray mast be hold at that one of the greatest sins was to tell a lie, deposited precisely in the right place at once. presently one of them, who had been dooking Some Judiorous stories are related about this practice. One old gentleman with a magnifiwas feeble, and, to make matters worse, just though somewhat if crestfallen." We repeat

atmost perplexity, To put down the tray l elsewhere than in its appointed place, an operation which required some deliberation, was out of the question. To sllow his cherished oreeping a few feet, that the passage suddenly: beard to be consumed was also impossible? He was equal to the concasion, and plunging his flaming beard into a dish of curds which stood on the tray he calmly completed his task, amidst the applause and amusement of the beholders.

#### ... ATTENTION TO DUTY.

"Business before pleasure" is an old and common expression; but one pregnant with peaning. Indeed all of these old adages which anyo become, as it were, stereotyped, are most expressive. The importance of attention to duty is acknowledged by every one; but how few of us carry it out practically. One writer has told us that it is the most sublime word in any language; but it is sufficient for us to say just now that it is An offigation we are under to perform, certain works, and to recognize certain laws and customs. Duty can be exhibited in a vast variety of ways. To know it we need but analyze our first and great duty to God, our duty to society, and our duty to ourselves.

Take man from the lowest depths of povory, or from the downy beds of wealth, and you will find that to act well his part in life he must recognize this fundamental rule. As the majestic ship is safely guided across the ocean by a helm, so on the mighty depths of life duty is the only safety holm we can employ; without that the ship is lost.

Look down upon the shadowy corridors of the past, and behold the master minds suffering everything for duty, ever striving to perform that part which has made their names immortal. Examine that Socratic morality which adorned the olden times of Greecewhen she, proud empress of the world, reigned over science and philosophy. It was attention to duty which raised her to the pinnacle of glory, and threw her influence, like a protecting mantle, over a credulous and ignorant humanity.

Analyze that now acknowledged doctrine. which enabled a celebrated and profound thinker to declare there must be a master spirit in nature—that power, and you will find his reflections were based upon an analogous principle. The early Romans were men who faithfully performed their duty, and behold imperial Rome as an evidence of what this rule can accomplish. But when affluence and corruption entered the city, and men no longer considered social or moral duty, this proud mistress of the world fell into disrepute and contempt.

If it is our duty to do anything, we ought to perform it unhesitatingly. It is our duty to work. The young men of the South have a hard lesson to learn, that it is their duty to pursue all honest avocations. That system which more or less prevailed in ante bellum days-which made it ungentlemanly to perform manual labour, has been exploded, and to that extent the war has benefitted us.

Some men are adapted to farming, others to science, and others to the still more liberal professions. A man should pursue that avocation in life which he can best fulfil, remembering that all honest pursuits are alike creditable, and that labour is a legitimate and noble characteristic. The time has past when work is distoputable, and now idleness is considered

But it is not only in the field of labor that man should do his duty, but in all the relations of life. That community in which he lives expects him to act his part, not only in setting an example, but in performing his integral part. If he would act well upon the stage of life, and be worthy of praise and commendation, we can follow no better or wiser rule than that of duty.

## GREATEST OF ALL.

Some time ago, Bishop of Lichfield had been at a church in the Black Country, and, as is often the case with his lordship, instead of riding in a carriage when returning, he walked the distance between the church and the railway station, or other place to which he was going. On the way he met a number of men 'squatting" together on the ground, in minerlike fashion, and he suggested to the gentleman who was accompanying him, that they should say a few words to those men. This, also, was a favorite practice with the bishop, who was always ready to offer a word in season whenever a favorable opportunity presented itself. Going, therefore, to the men, he inquired what they were doing. They answered that they were trying which one of their number could tell the biggest lie—the reward to be a kettle, "Trying to tell the biggest lie ! "exclaimed the astonished his lordship proceeded to inform the men that he had always been brought up with the armin'i length; carried perfectly horizontally. The meny listoned patiently wto; this plut intently at the bishop, suddenly exclaimed. If voly angry, columbia hundred and assure as to distribute the had never told and, if Gie the governor the kettie green May it plant your monor, said a lawyer, and a lawyer and a lawyer. cent beard had to bring in a large tray con fold a lie, Gie th' governor the kettle; gie taining several dishes, and place it in front of the governor the kettle. It is added that life

THE OLD APPLE WOMAN. There was once a poor apple moman who had a stand in a street in Boston, who mag taken to ill before her stock was half sold out voling was obliged to go in the shade, where the could lean against the miling, and still keep an eye on her fruit and candies, about which she was very anxious. To lose them would be a sore loss to her, poor woman.

Just then a bright young girl came by, and saw at a glance her trouble. She was, perhaps, twelve or thirteen years old, wide-awake, and neatly dressed, More than that, she had a large, warm, heart, that could sympathize with even an apple woman's difficulties.

"Just rest as well as you can," she said cheerfully, "and I will sit here and sell for you till you feel better. It, will be just fun. for:ome,". ahe added, taking her seat on the hard bench. She had never sold anything in her life, but I dare say she had been a good customer, and so was well posted with regard to prices.

People stopped and wondered at seeing that sweet young face at the old woman's stand, but she quickly explained how matters stood by pointing to the old lady, who sat near. When they comprehended it, she could hardly serve her customers fast enough. The spirit of kindness seemed contagious. Many gave her five and ten cents more than the cost of the articles, refusing to take any change, and soon the last orange, and apple, and stick of candy was sold, and a handsome box full of money was handed over by the delighted little girl to the no less delighted woman. Now she could afford to rest until she was able to come out again. Never before had she such a day's sale. Both went home with happy hearts, but which do you think was the most blessed? The giver or the receiver?

This was twenty years ago. I wonder if there are any bright dresssed little girls nowa-days who have the spirit that would lead to such deeds of kindness .- American Presby-

#### WIFE, MISTRESS AND LADY.

Who marries for love takes a wife; who marries for fortune takes a mistress; who marries for position takes a lady. You are loved by your wife, regarded by your mistress, and tolerated by your lady. You have a wife for yourself, a mistress for your house and friends, a lady for the world and society. Your wife will agree with you, your mistress will rule you, your lady manage you.\ Your wife will take care of your household, your mistress of your house, your lady of appearances. If you are sick your wife will nurse you, your mistress will visit you, your lady will inquire after your health. You take a walk with your wife, a ride with your mistress, and go to a party with your lady. Your wife will share your grief, your mistress your money, your lady your debts. If you die, your wife will weep, your mistress lament, and your lady wear mourning? Which will

## DON'T COUNT THE STEPS.

It is, perhaps, well for us that we do not count up in early life the number of steps, many of them weary ones, we shall have to take in treading the long road that reaches from the cradle to the grave. It is well for the young housewife that she does not estimate the number of million of dishes she will be required to wash during a period of housekeeping forty yeas long; in each of which the table must be cleared and the dishes washed over a thousand times. It is well that the poor seamstress does not calculate the number of miles of "seam and gusset and band, band and gusset and seem" her tired fingers must form, till the lamp of life, like the table lamp, gives out. It is wise and well that she, who sits from one year to another in the same little room, does not realize that hand moves, in forming stitches, more miles than a steamship travels in crossing the Atlantic.

## JEFFERSON'S TEN RULES.

Jefferson's ten rules are good, yet especially so for those who have the training of the pupils in our public schools. They are so short and concise, and embody so much of value, that it would be well if they were clipped out and put where they could be seen , ; often. They read as follows:

Never put off till to-morrow what you can do to-day.

Never trouble another for what you can do yourself.

Never spend your money before you have it. Never buy what you do not want because it is cheap.

Prides cost more than hunger, thrift and old. We seldom répent of having esten toons

to his inversue and mering in line withtt 1 Nothing is troublesome, that we do will : 13

Haw much pain the evils have cost us that have never happened.

Take things always by the smooth handle. Whom angely, would temubefore your speak ; mid

addreming ole of the oity judges, " I bedught " the Shah. The tray was helvy the bearer lordahip resumed this walk highly saided the grisoser drawight in containing the ", Wall, " said ift fellow in An underiene Bebo ni