

A Prehistoric Skull from California Which Has Set Scientists to Guessing About Adam.

—IS MAN A MILLION YEARS OLD?—

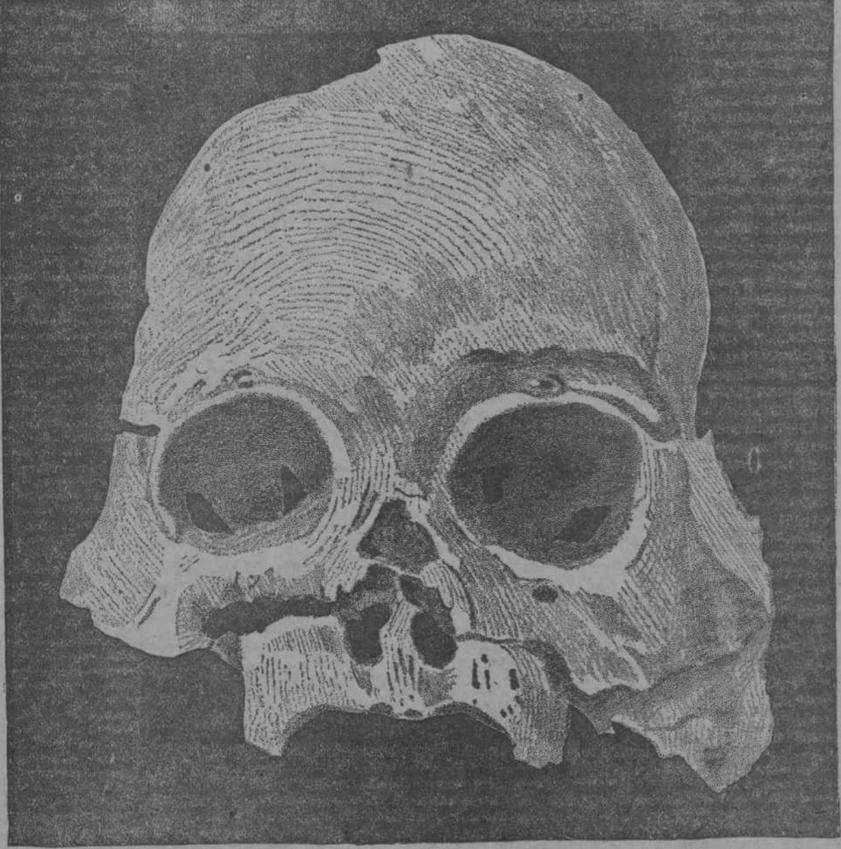
Did This Man Walk the Earth as a Companion of the Gigantic Mastodons and Other Extinct Monsters.

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Java. There is no novelty in the finding of these relics. Long ago Professor Dwight Whitney, the famous geologist, proved that there were those of prehistoric man and that the famous Calaveras skull was not a hoax concocted by a miner. The interest of the present investigation lies in the assertion that the relics are as ancient as the middle of the Tertiary period.

Now these human relics are associated always with the ancient river gravels. The first of them discovered were turned up by the picks of the miners of '49 and the early '50's. These were portions of skulls, jaw bones and other bones, mortars and pestles of stone, flint knives, hammer stones, etc. Most of them were unearthed in Tuolumne County, but not a few were found in Calaveras County, across the Stanislaus River. Among these latter by far the most remarkable was the Calaveras skull, which became so celebrated.

In this region is the great alluvial gold belt, which was dug over pretty thoroughly by the early gold seekers in California. Naturally they took no very great interest in the objects in question, and it was not until some time later that the curios began to excite attention. Before going further it will be as well to show in a few words what reasons there are for attributing an enormous antiquity to the human relics in question. It is obvious, in the first place, that the people who owned them lived along the banks of streams which ran down from the Sierra to the sea. The mingling of their bones and tools with the gravels of these rivers, the gravels long ago transformed into rock, proves this much beyond peradventure. When they died their remains were buried in the gravels, to be transformed in some cases into fossils, like the skulls and other parts of mastodons and rhinoceroses, their contemporaries. In the course of ages came various geological changes, and finally volcanoes burst forth and filled the valleys with floods of lava, obliterating the old river beds. However, the rivers kept on running, finding for themselves fresh channels, and, the latter being filled up with lava at intervals, one finds to-day in the mountains of that

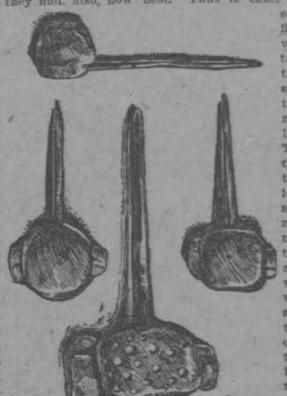


Life Size Drawing of the Calaveras Skull Which Belonged to an American of the Tertiary Period a Million Years Ago.

the biggest stream must flow for a very long time in order to lay down such gravel beds.

One gets a vivid notion, therefore, of the great periods of time represented in the formation of such a mountain by observation of the succession of buried rivers, one on top of another, with strata of igneous rocks and lava between. After the lava flows had ceased, the streams flowing down from the Sierra adopted more permanent courses, and since this began such a length of time has elapsed that the rivers in question have cut new valleys through the lava, through the rocks and through the ancient stream beds, so as to make valleys 2,000 feet and more in depth.

By this action of the waters the ancient river beds have been exposed, and into these gravel deposits the miners have driven thousands of tunnels, to get at the gold which was brought down from the Sierra by those vanished streams of long rocks, being harder, resisted the erosion of the waters, and so filled them up very rapidly. Subsequently, when the period of gold which was brought down from the scooping out of valleys came, the lava flows by those vanished streams of long rocks, being harder, resisted the erosion of the waters, and so filled them up very rapidly. Thus it came about that the old stream channels, filled with lava, were transformed into the ridges of mountain ranges, each such ridge marking the course of a fossil river. This is exactly the case with Table Mountain, the top of which follows the course of a vanished stream. Here and elsewhere in that region the miners nowadays turned into the mountain sides and with their excavations follow the winding course of the ancient streams. The tunnels wind as the old rivers wound, and the patient diggers find it hard work enough to break with their picks the stone which was once loose gravel in order to get the gold which the waters of long ago brought down from the hills and deposited. When the first relics were brought to light in California, and began to excite attention, there was a good deal of dispute as to their authenticity. The dispute on the subject has been emboldened by Bret Harte in his famous poem, which begins: "I reside at Table Mountain, and my name is Truthful James." It is related in this poem how "Brown, of Calaveras, brought a lot of fossil bones" to a meeting of a local society, and trouble followed. Then Abner Dean of Angels raised a point of order when a chunk of old red sandstone took him in the abdomen. And he smiled a kind of sickly smile and curled up on the floor. And the subsequent proceedings interested him so much. Truthful James, by the way, is still living at Tuttle-town, near the foot of Table Mountain. Josiah Dwight Whitney, State Geologist of California, began operations in the region described during the period of the civil war. He heard about the finds that had been made, gathered up a number of them, assembled the evidence respecting them, and made a report on the subject. His collection is now preserved at the University of California. The evidence he secured appeared so conclusive that it was accepted as incontrovertible. However, the recent work performed under the direction of the United States Geological Survey resulted in an entirely new estimate of the length of time elapsed since the formation of the river deposits referred to, treading the presumptive age of the human relics, and putting back the people who owned them to the middle Tertiary. This seemed to be so astounding that Professor Holmes was sent out, as already stated, to make a special examination.



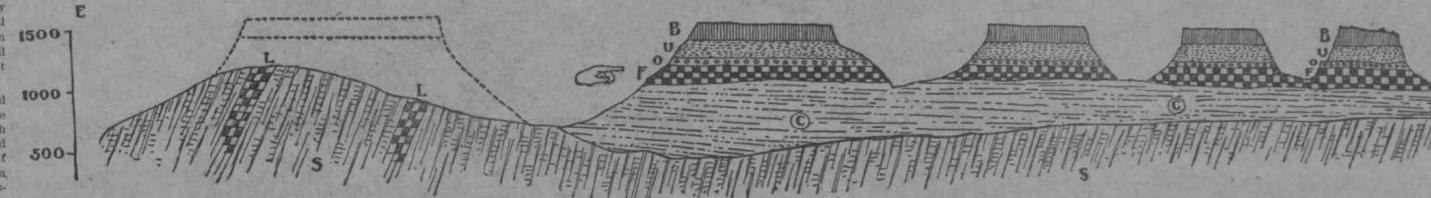
STONE HATCHETS BELONGING TO MEN OF A MILLION YEARS AGO.



STONE HAMMERSTONE USED BY MAN OF TERTIARY PERIOD IN CALIFORNIA.

country a series of ancient stream beds, the gravels of extinct rivers forming the rivers would be found represented in its cross-section by distinctly marked gravel layers, some of these deposits being as thick as a cake, such a series of vanished much as 300 feet thick. Of course, even

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Geological Plan of Table Mountains, by Professor J. D. Whitney, Showing Where Most of the Million-Year-Old Human Relics Have Been Found

BB.—Hard basaltic lava, capping the hills and forming Table Mountains. UU.—Ashes and tufa. OO.—Band of conglomerate above the Tertiary. FF.—Tertiary sandstones, and shales with vegetable impressions, where most of the human bones and implements have been found. CC.—Cretaceous shales, nearly horizontal. SS.—Auriferous slates. LL.—Carboniferous limestone belt, intercalated in the auriferous slates.

WHAT A MAN DOES IN ONE YEAR.

THIS article and these illustrations are designed to show the multitudinous things a man does in his daily life in twelve months, the amount of energy he puts forth in carrying out his various duties, how much he talks, walks, smokes, whistles and eats; how much his physical organization wears and tears; in short, to strike a sort of balance sheet of the human anatomy at the close of a year's ceaseless, tireless plodding in the struggle for existence. Take the mere matter of talk. No one ever stops to think of how many words he utters in the course of an ordinary day's business or pleasure. Many men talk at the rate of 100 words a minute; many women at the rate of 140 words. Assuming that a man talks, let us say, but 38 words every minute, and that his talking day consist of ten hours, he will, therefore, utter in one hour 2,280 words, in one day 21,920 words, and in 365 days the enormous aggregate of 11,650,800 words. It is impossible for the mind to comprehend this figure. So let us make a comparison. There are, in the new Webster's Unabridged Dictionary, 125,000 words. So that in a year a man talks the equivalent of more than 93 dictionaries. The average novel contains about 150,000 words. Therefore, a man who talks at a given speed of 38 words a minute for 14 hours a day, that is, 11,650,800 words in a year, gives utterance to enough words to fill 77 novels, more than he could comfortably read in the same time. The argumentative man and the man who talks in his sleep, of course, break this astonishing record very considerably. If the average man's utterances were worth, for publication, \$10 a thousand words, which is the price many prominent New Yorkers' spoken thoughts and opinions would bring in the leading newspaper offices, he could earn in a year, simply with his tongue, \$116,500—more than twice the salary of the President of the United States.

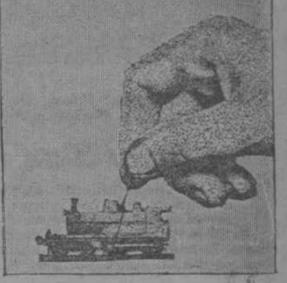


EACH WEEK YOU GO UP ENOUGH STEPS TO REACH TO THE TOP OF THE CAPITOL AT WASHINGTON. THIS GENTLEMAN DOES IT AT ONE STEP.

It is admitted that the English-speaking race surpasses all others in the amount of their reading and writing. A glance at the illustrations will show what this means. Here we have the average American standing on one large book, between whose covers is concentrated his year's reading matter. His twelve months' supply of writing paper rests on the esasel, and provided he is not an author or member of any other profession in which writing plays an important part, it will see him through very well. The man in the illustration is not more than 5 feet 8 inches in height, which makes his twelve months' pencil thirteen feet long. This abnormal length is largely due to the quantity cut away during the sharpening process. Of course you know that the human body generates electricity. This all goes to waste. Perhaps an Edison or a Tesla is based on the calculation that the average man of the twentieth century will discover a means to conserve this valuable human element so that every man will carry in his vest pocket his own little human dynamo. At any rate, we all generate sufficient electricity in the body to keep a powerful dynamo going twelve hours a day for one week. Here is a remarkable fact about the lifting power of the human eye. Ever think of how often you raise these delicate instruments, and would you not be surprised to learn that you exert at each raising

climbing, every one of us in a year performs wonders. Five miles a day is a fair estimate of the distance covered by every one of us. This includes, of course, the distance we walk indoors and outdoors. New Yorkers who work in offices and stores do a good deal of inside walking, while they take no account in measuring their daily exercise. A creeping baby, some one figured out not long ago, covers six miles in a day. So that five miles a day is not too great an estimate for the average busy American. Bank presidents, capitalists, the very rich class generally, who ride to and from their offices in a cab or a carriage and pair, do very little walking, but the working classes, merchants, clerks, salesmen, shopgirls, letter carriers, bartenders, stevedores, conductors, etc., certainly cover more ground than five miles a day. According to the estimate, we all walk in a year 1,825 miles, almost equal to the distance from New York to Denver, Col., which is 1,930 miles. Most people, except millionaires who have private elevators in their houses, and flat dwellers, have to climb stairs. If it were possible for a man to put one year's stair climbing into one mighty step, he would be able to stand with one foot on earth and with the other touch a sunbeam about 18,720 feet up in the sky. In one week the average man's stair climbing is approximately equivalent to one gigantic step from the plaza in front of the Capitol at Washington to the top of the dome of that lofty edifice. We are a nation of hand-shakers. Some men get along in the world solely on their proficiency in the fine art of shaking hands. Politicians and commercial travellers are great hand-shakers. So are society people generally. It is estimated that the average New Yorker in a year shakes 1,200 hands. The force exerted in performing this interesting duty, if concentrated in one giant hand, would be equal to eighty tons, about the weight of a locomotive. Such a weight, if thrown into one mighty hand-shake would be crushing, indeed. The hard smoker has been made to answer for a great deal in one way or another. But it may be news to him that on the average he strikes some 7,000 matches per annum. The illuminating power of 7,000 matches is considerable. The smoker also consumes twice the quantity of oxygen required by his non-smoking brethren. It is only fair to point out that the heavy cigarette smoker is the greater culprit. There are numberless devotees of this form of the fragrant weed whose yearly cigarette measures 1,825 feet. Thus a hardened six-foot cigarette consumer gets through a tube of tobacco over three hundred times his own length in the course of the year. Referring again to the smoker's match supply, 7,000 matches, if of the wooden variety, would make one gigantic match. If all the 7,000 were crowded into one, if the smoker abstained from the habit for one year and ignited this giant match on New Year's Day, 1900, he would have a beautiful pyrotechnic display that Mr. Pain couldn't produce. The burning match would make a flame as fierce and brilliant as a big conflagration. He might have an interesting fireworks display on his garden fence without extra charge. These 7,000 matches, if placed together in one big match box, would require a box five feet two inches long, almost as long as a man. The air pumped by his lungs in the year would suffice to keep the bellows of the largest organ in the world occupied for

IF THE 1,200 HANDSHAKES YOU GIVE IN A YEAR WERE GIVEN, BY ONE GIANTIC HAND, IT WOULD EXERT A FORCE SUFFICIENT TO LIFT AN 80-TON ENGINE. A week. Even the breath expended on whistling becomes tremendous in 52 weeks; concentrated into one blast in would amply suffice to play a solo on a French horn several times a man's length. Two of the accompanying pictures are infinitely pathetic, for they show in concrete form the misery of the match and the joy of married life as expressed in buttons or the loss of them. The bachelor's lost buttons tell their own tale of woe better than any words, while the one lost button of the married man must have missed its way when his wife was from home.



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HERE IS THE AVERAGE AMERICAN READER AND WRITER STANDING ON HIS YEAR'S READING, POINTING TO HIS YEAR'S AMOUNT OF WRITING PAPER WITH HIS YEAR'S PENCIL.

WITH THE BREATH SPENT IN A YEAR'S WHISTLING YOU COULD PLAY A SOLO ON THIS FRENCH HORN.

PARLOR MATCHES. THE HARD SMOKER BURNS UP IN A YEAR 7,000 MATCHES, EQUAL TO ONE MATCH PRODUCING A FLAME LIKE THAT OF A BIG BURNING BUILDING.