THE SCRANTON TRIBUNE --- WEDNESDAY MORNING, AUGUST 5, 1896.

TERRACE BUILDERS OF OLD MEXICO Asether Race of Prehistoric Architects

Discovered. MEXICO FOUND IN NORTHERN

Mound Where Now There Is Not a Handful of Inhabitants -- Not an Arrowhead Found, But Some Rude Implements and Pottery.

J. W. Mitchell, in New York Herald.

To the vanished races of the moundbuilders, the cave dwellers and the cliff dwellers, American archaeologists will henceforth have to add another class of prehistoric architects in the peopling of western hemisphere-the terrace builders of Northern Mexico. This discovery was the result of an expedition sent out this winter by the United States bureau of ethnology into Northern Sonora, the most northwesterly state of old Mexico.

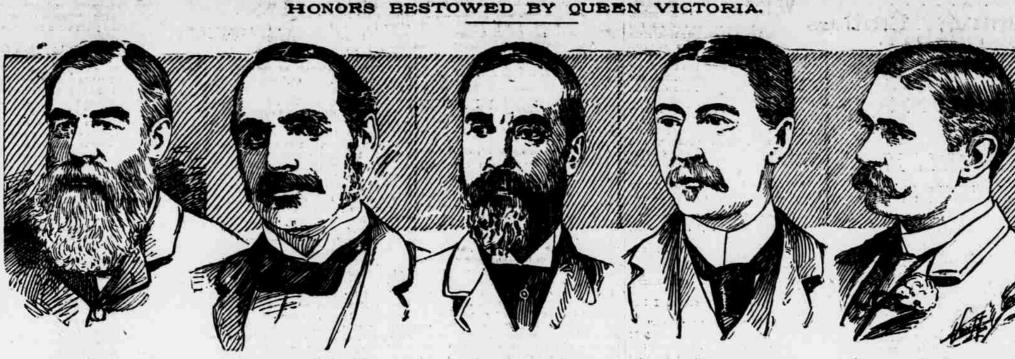
The expedition did not go primarily to look for prehistoric ruins, but that is "another story," and the finding of these remarkable remains in a region hither to considered barren of ruins of any

states, a maze of black frowning mountain ranges, broad alluvial valleys and scattered buttes of fantastic shape; a land that is a garden for a few short weeks in spring and a fiery furnace for the balance of the year; a region where canic ash. It is perhaps threethe scattered ranches may be counted on the fingers of one hand and the inhabitants themselves scarcely know the the base. It rises about five hundred trails from one to the other; and then feet above the valley, the land it overfancy almost every butte and mountain looks being a rich alluvial plain, covered wrought more or less completely into for the most part, with a ragged waste terraces, like to the hanging gardens of Babylon after ten centuries of drought, and you have a fair idea of the land of spined and prickly thing that grows in find you have a fair idea of the land of

the terrace builders. But this description must not be taken amiss. The monuments to the industry of this vanished people, when taken singly, are neither magnificent nor stupendous. Neither do they indicate any great amount of engineering skill more than is necessary to lay a very excellent quality of rubble masonry with the ma-terial generously quarried by nature already to hand. But, taken in the aggregate, the work is enormous, bespeaking a swarming population and a social condition which it is hard at this time to

appreciate or understand. To account for them, however, it is not necessary to resort to any wild or romantic theories. Too many such myths have already been exploded by the practical, painstaking ethnologist of today. The idea of a distinct and mysterious race to account for the mounds of the Ohio and Mississippi valleys has long ago been settled in the negative by that hardest of field-working scientists. Major Powell, while the same hand, seconded by the researches of Frank Cushing and others, has traced back the genealogy of the Pueblos to the time when their ancestors peopled the cave and cliff houses of the Manchos Canyon and the Canyon du Chelly, and still later Carl Lumboltz has found the wild and scattered fragments of the same race still inhabiting dwellings of the same sort in some of the most inaccessible mountains of Old Mexico.

A LOST RACE. So it may be safe to suppose, for the



[New Peer.]

Queen Victoria's annual list of birthsort was strange and interesting enough to alone have repaid the labors of the party. Imagine a great stretch of country, big as any one of the New England big as any one of the New England big to a margo of th was born in 1852. He was educated at Ston and Trinity college, Cambridge.

> with scattered veins of hardened volfourths of a mile along the backbone, from end to end, and a third longer at this inhospitable region. In the few spots where the land has brought under ditch, however, it is fertile and productive, and the same may be said of the valleys overlooked by every one of the intrenched buttes. They would seem to have been a comparatively retired and sheltered aerie for a peaceful agricultural people who planted their crops in the valley, but felt the need of a retreat from predatory foes. The most conspicuous of the many pieces of work on the Caborca Mountain s a long and strongly marked wall running almost the entire length of the mountain side, two-thirds of the way from base to summit. At the southwest end this work gives the impression of a defensive structure. The wall is from four to six feet on the outside of its points of greatest height, and the flat terrace formed by filling in behind this rough masonry is protected by a wall two feet high at the outer edge. It is at this point that the work is approached by a fairly marked trail, that becomes quite a well defined and graded road fifty yards below the wall. The road approaches the wall at a sharp

angle, and on entering the break doubles back on itself at an equally sharp angle in the other direction, so that with the aid of a rude sort of bastion thrown out from this point the entrance is fairly well protected. This is one of the points that gives the strongest color to the theory of defensive intrenchment.

HOUSE CIRCLES. f pottery nor a piece of baked clay big The side of the mountain is seamed ger than one's hand. But of minute with several deep gorges, and the terpottery fragments there was an in race and its sometimes accompanying credible amount. The ground for yards wall cease at these breaks, but on the in some places was covered almost an points overlooking the gorges there are inch deep with pottery chips and small terraces, with circles of rock two spawls of worked stone, which might or three feet high, like sentry boxes. have been gathered up by the cartload These may have been stations in which There were also a few hammer stones the defenders might command the apstone mortars and pestles, but all mor proach, or perhaps only "house circles," or less injured. It looks as though like scores of others scattered all over either in the general exodus of th the terraced portions of the hill. These rightful owners they have swept off 'house circles" at Caborca are largely every implement of any value to them onfined to the upper parts of the hill or else the mountain had been looted and far above the main wall. The rings by the victors and by the wandering of stone, which we came to call "house tribes that have since passed over it. circles," seemed to have been either As to the evacuation of the whole mere wind breaks, or else simply a group of terraced hills, there would seen foundation on which to raise a superstructure of thatch, skins or matting. little question that it was by force of necessity in the face of a savage and They were from eight to twelve feet pitiless foe. Through many of the cross and from two to four feet high. broad valleys over which we passed A few had the remains of a fireplace inthere were ancient village sites, eve side, and occasionally a bowlder "in polished to a glassy smoothness, similar more ancient, perhaps, than the aeria houses on the mountains. It is possible polished to a glassy smotohness, similar or even probable that the peacefully into the paint grinding stones of the Papclined tribe of Indians, similiar in man agos today. Both at Caborca and at the Greater respects to the Pueblos of today, and Trinchera of San Rafael Alimita the skilled in irrigation, as is shown by the ruins of numerous ditches made these outhern slope was the one which had received the greatest attention in terplains their home and there cultivated racing. Whether the exceedingly steep their crops. Driven to seek a more se northern face had been neglected in cure retreat by the inroads of the Apa each case because of its natural deches, Seri, or some other fierce tribe of fenses, or whether it had been too steep nomads, they probably maintained to admit of terracing for living pur themselves for a time in their system poses, it is impossible to say. of mountain terraces, trusting to Prov However, whether its original purpose idence and the caprice of the enemy to vas for defense or merely to suit the get some small return out of their exigencies of the peculiar domestic crops, which they still planted in the economy of the terrace builders, the valleys below. But pushed finally to Trinchera of Caborca is a remarkable extremity, either by continual persecution, or some general, sweeping raid o piece of work, and where it the only one of the sort would be worth a long the enemy, they seem to have forsake the broad valleys of Sonora and vanish journey to see. But it is fortunate that t was the first which we found, for beside that of Alimita it dwindled into Whither? Perhaps it was to the north insignificence to become a hardy, desert roving tribe The Trinchera of Alimita is larger allike the Papage, moving from tempor most by half in every way, and as a alle with the shifting rainfall, work of barbaric man is simply aswringing subsistence from from na tounding. From a distance the side of ture where the sand lisard had a strugthe mountain looks like the rough side gle for existence. Or perhaps it was t of a washboard, terrace rising above the south, to seek a miserable existerrace in regular lines from the bottom tence among the most inaccessible almost to the top. Some of them are cliffs in the wild mountains of south but fifty or one hundred yards long, western Mexico. others a mile and a half, following the It is more than likely that the Ser contour of the hill over gully and rathemselves, were they in a communivine, and fairly making the whole cative mood, which they are not, could mountain seem a gigantic plece of arthrow some interesting light on the ificial work. passing of the Terrace Builders. The mountain itself is of irregular form. At the east end and at the west rises to a sharp peak, the two con THE LAND OF USED-TO-BE. nected by a saddle perhaps two hundred Good-night, dear love, may all your feet lower than the rest, but on this is some of the most remarkable work on the mountain. One of the structures dreams be fair-And hasten not to waken and to weep; that distinguishes the saddle is an ob-For tender happiness and hope are there There in the sweet and silent Land of long stone house or corral thirty feet Sleep. long, with walls eight feet high and a protected gateway of the main wall at Dream on, dear heart, and linger one Caborca. There are two or three simiagain In that fair land of days of long ago. Live for a little while those moments when We knew the joy we ne'er again shal; lar structures, but smaller, a little higher up on the slope of the south plak. But just where the saddle joins the know.

R. U. P. FITZGERALD. M. P. [New Baronet.]

In 1885 he was private secretary to Lord Salisbury and again from July, 1886, to March, 1888, when he was sent to parlia-ment by the Milton division of Leices-tershire. Mr. Heneage is the eldest son of G. F. Heneage, late of Hinton Wall, Wragby, Lincoinshire. He is 56 years old, was educated at Eton, and was one of the life guards for six years. He

These two depressions were, in fact, the only suggestion of either a reservoir or food cache found on any of the intrenched hills, but at the foot of the great Alimita mountain there were the remains of an ancient conduit or irrigating ditch that, after skirting the base of the hill for a mile or more, disappeared in the drifting sand and tumled rock heaps of the open country. Half a mile west of the great hill of limits is a smaller cone known to the Mexicans as Trincherits, or the little intrenched one. It too, has a number of terraces and some "house circles," but it seems chiefly to have served as a natural art gallery for all the tribes of the region. From half way up its slope to the summit it is a mass of picture writings, chipped into the black volcanic bowlders with the flint and obsidian tools of the natives. Some of the drawings are evidently recent, of the past decade or two. These are all the familiar animal figures of the Apaches, ooking like the first rude drawings on a schoolboy's slate. But the older carv-ings, some of them all but weathered out, are the work of a more cultivated race. They consist of highly conven tionalized animal forms and regular hieroglyphics, much like the ancient Aztec and the Maza inscriptions of Photographs and drawings Yucatan. were made of the most striking of these for future comparison and study. NO ARROWHEADS.

The strangest feature of these strange hills, however, was that although we spent days in searching over them from end to end, not once did we find a single arrowhead. There was importd stone in plenty, varieties found nowhere "in place" in the vicinity, and there were evidences that this stone had been wrought, for there were many piles o spawls and splinters. But of finished in the day time, thus interfering with a spearheads, save a broken white quarts continuous performance.

spearhead at Caborca, we found not one. Neither was there a single vessel

RIGHT HON. E. HENEAGE [New Peer.]

STAR SHOWER COMING.

Meteoric Display Due Aug. 10 -- As-

tronomers Fix the Date of the

Earth's Contact with the Fragmen-

tary Planets Which Hurl Their

Flaming meteors will bombard the

earth about Aug. 10. The sky will be

veined with streaks of light as the stars

shoot through the atmosphere, but the siege will be raised before the meteoric

combatants get within heiling distance.

Some of the meteors joining in the fu-sillade may hurl the chips from their shoulders to the earth. None of the

shooters, however, will come nearer this planet than seventy-five miles, though

they may leave a few reminiscences of

their visit behind them. Astronomers have scheduled the me-

eoric shower for Aug. 10, but, though

they have inside information, the ar-

rangements may be upset at any mo-

ment. The earth is doing the best it can

to hasten the event by traveling toward

the stream of meteors at the rate of

eighteen miles a second. In fact two

of the advance agents of the heavenly

visitants have already made their ap-

pearance. One was seen by Professor

W. R. Brooks of the Smith observatory,

taking a peep at the moon. This was

Geneva, N. Y., last Tuesday, as it was

Pieces at the Intruder.

From the Times-Hereld.

-From the Chicago Times-Hearld, By the Courtesy of H. H. Kohlsaat, patliament from 1860 to 1874. In the Trinity Hall, Cambridge. He has been parliament from 1860 to 1874. In the Trinity Hall, Cambridge. He has been latter year he was defeated, but was a member of parliament since 1874. An-reseated on an investigation and re-signed in 1875. One of the queen's hon-ors was the gift of a baronetcy to Rob-ert Uniacke Penrose Fitzgerald. Mr. he was a Liberal member of parliament Fitzgeraid comes of good old Irish and was beaten in the latter year. He stock. He was born in 1839 and was educated at Westminster School and at

THE MARQUIS OF GRANET. [New Peer.]

stream at night. If this happens durthe stamping and finishing, all done by automatic machines, and finally the fining the daytime hundreds of shooting stars will waste their brilliance, as we ished pencils are packed around the shall not be able to see them. Even at oval, grooved blocks, tied, papered, and

night some of the meteors only appear shipped out. The pencils are counted at various as brilliant stars which die out quickly. This is because they travel straight tostages of the making, and the counting ward our line of vision. We only notice is done in a way as simple as it is accurate. The "counting board" is a board those particularly which cross the line on which two strips of wood are fasof vision. August is not trated to os brilliant a sight as that which occurs tened the length of the board and about four inches apart. every thirty-three years. Then there In each strip are 144 grooves. The

are thousands of shooting stars in the sky. We may expect a bright shower workman grasps a handful of pencils and rubs them over the board once or in 1898 and a splendid bombardment by twice, leaving a pencil in each groove. meteors in November of the following In this way he counts a gross of penyear."

LEWIS MIVER. M. P.

HOW LEAD PENCILS ARE MADE.

The Graphite Is Reduced to Dust and Compounded with German Clay.

The "leads" of lead pencils are made of a mixture of German pipe clay and "black lead," which is not lead, but graphite. But the first pencils were made of real lead, and the name has clung to "lead" pencils ever since, Graphite, or plumbago, is nearly a pure form of carbon and most of the pencils made in this country use the graphite mined at Ticonderoga, Vt., where the only graphite mine of any consequence in the United States is located.

supposed to be a free silver meteor which had deserted the earth for a new The graphite is taken in the lump from the mines and caried to the reduclove. Part of another meteor fell to the earth on Wednesday in Mexice, with ing mill, where it is ground or pulver such terrific force that it penetrated 700 ized in stamp mills under water. The fine particles of the graphite float away feet through rock and soll. A clear atmosphere will be all that is needed to with the water through a number of enable everyone to see the futile bomtanks, collecting at the bottom of these hardment of the stars. But thousands reservoirs.

of meteors will shoot toward the earth It is packed in barrels in the form of dust and sent to the factory, where tens of thousands of lead pencils are August and November are chosen turned out every day.

The pulverized graphite is so fine that rea v is a di

ployers. A young lady stopped up to h and asked to see Popys' Diary. "We do keep them," said the youth blandly, " we have the Excelsior." Extremes no and the aslesman in this same book at who wrote down an order for the T." of Markus I'Ralius could scarce' of Markus l'Relius could scarce soust of a college education. He was a college bred youth, however, but unicquisited with the ways of business, who, when asked if he had seen Ballinger's Guide lying about, replied, "No.;" then refise-tively, "I can't say I remember having seen it in stock."

seen it in stock." II III Seen it in stock." S. S. McClure, the enterprising pro-prictor of McClure's Magasine, meditates a very important new departure. He thinks that the public are beginning to be wearled of black and white, and pro-poses to make experiments in colored B-lustrations. For this purpose he has ar-ranged to publish a life of Christ, which will probably be written by Ian Macheren or Mr. S. R. Crockett, in his magasine, and he is travelling in Egypt and Pales-tine making arrangements for the plo-tures. An immense sum is to be sunk in the hope of securing thoroughly satis-factory reproductions. If Mr. McClure succeeds, no doubt others will have to folsucceeds, no doubt others will have to follow in his track, and a new terrot be added to magazine publishing.

OUAY AND CAMERON.

One Story About Each of Pennsylvania's **Two Picturesque and Interesting**

Senators --- Cameron's Nerve.

From the Washington Post. Politics make strange bedfellows, says the old political saw. An instance of this is seen in the fact that a Pittsburg Democratic newspaper, which, until since the Chicago convention, was a strong gold standard advocate, is now supporting Bryan and the Chicago platform and quoting from Senator Don Cameron's rare speeches in favor of free silver to make good its new position.

"Don Cameron," said a Pennsylvania admirer, "has more nerve than his father, Simon Cameron, ever had, though he was by no means deficient in that necessary political article. For in-stance, in the campaign of 1873 Pennsylvania voted for governor in October. General John F. Hartranft was the Republican nominee. A right was made against him by the self-styled "better class Republicans," the kind since denominated as Mugwumps. Old Simon Cameron and some of his advisers be-came frightened. A meeting to consider the advisability of substituting some other person for Hartranft was called to meet at the Continental hotel, in Philadelphia. In the midst of it, when old Simon and the rest had about come to the conclusion to retire Hartranft and put up somebody else, Don, who was not in the confidence of the meeting and had not been invited to attend it, but who had learned what was going on, strode into the room. With soant ceremony he addressed the meeting in this fashion:

part on the noor, enconcert minister in a confortable seat, with his pipe in one corner of his mouth. A moment later the brakeman came in and, looking around, espied the Irishman. Leaning over, he tapped the man on the shoulder 'You are talking about taking Hartranft off the ticket. If you do I will beat whoever you put up. You can put up him (pointing to Wayne MacVeagh, his brother-in-law), and I will beat him. Or you can pu up him, even (pointing to and said: : "If you want to smoke, go forward to his father, Simon), and I will beat him. The Irishman looked at him cooly for moment, and repiled "I'm not Good-day.

"With that he turned on his heel and left the room, without waiting to hear "You've got your pipe in your mouth, the reply of the meeting. Hartranft re-mained on the ticket, and was elected, "Faith, yes," replied the son of Erin, and four years later at Cincinnati was "un I've got me fut in me boot, but Pennsylvania's candidate for the Presidency. It was a great exhibition of A good story is told of an English by Don."

A good story is told of an English family living in Norfolk county, who possessed the euphonious name of "Bug." As that term in England is never mentioned in polite society and signifies a minute insect noted for its nerve Matthew Stanley Quay, Pennsylvania's other senator, is on the executive committee of the Republican national committee. It is said that he could have been chairman of the exec committee had he so desired. As it is, he will undoubtedly have the confiden tial ear of both Major McKinley and Mr. Hanna, at least till November 3, no matter how it may be after that. Senator Quay began his career as a legislator as a representative in the Pennsylvania legislature for the term of 1865-'67. At that time and until the adoption of the new constitution in 1874 the legislature had the sole power of granting divorces. Quay's first act as a legislator was the introduction of a resolution to divorce Henry Lord Mc-Connell and Mary Wilson McConnell. This resolution passed both houses under suspension of the rules with in two hours after it had been introduced by Mr. Quay, and became a law by the immediate signature of Governor Curtin. Of course, there is a story. Henry Lord McConnell was a captain in the Union army stationed at Harrisburg, in 1865, about the close of the war. He was a handsome, showy fellow, but as nothing was known of his antecedents he gained no particular social position at the Keystone capital. Mary Wilson McConnell was the daughter of Andrew G. Curtin, governor of the commonwealth. She was in 1866 but a school girl of seventeen. She was attracted by Captain McConnell, and one afternoon yielded to his pleadings and went with him to the office of a justice of the peace and was married to him. Then she returned to the governor's mansion to tell what she had done, and try to reconcile her father. He, however, took another view of the matter and his daughter never saw Captain McConnell again. Governor Curtin was not only a power in his ownistate, but he possessed a great in-fluence at Washington. Captain Mc-Connell was speedily ordered away from Harrisburg, and dropped out of sight and this story. The marriage was kept as secret as possible, and never in fact became generally known in the social circles of the state cpaital.. So when Mr. Quay of-fered his resolution there was not half a dozen members of either house who had the remotest idea who the parties were. Quay had been military secretary to Governor Curtin during the four years of the war, and knew how to deal with the legislature. Mrs. McConnell had repented of her hasty and illadvised act: McConnell had gone no one knew whither and none cared, so he That never returned, so that there was none to oppose the divorce. Miss Curtin, always a social favorite, subsequently married into a wealthy family in an ad-

cils in a few seconds, and does it without a mistake, for only 144 pencils can be placed on the board at one time, and if any grooves are empty the workman notices the mistake at once. CULLED ANECDOTES. From the Chicago Record. 'As the C. and O. train was pulling out of Covington for Cincinnati, an Irish laborer, with his regulation tin dinner can and clay pipe, stepped into one of the passenger cars, and, putting his pail on the floor, ensconced himself in

present at any rate, that the vanished architects of the terraced mountains in Sonora were the progenitors of some of the peaceful tribes that were struggling to hold their own aginst their fierce Nomadic neighbors, the Pimas, the Apaches and the Seri, when the country was first opened to settlement by the Spanlards. But none of the tribes then existing had any records or traditions connecting it with the terraced mountains, and there is, so far as known, no mention even in the Spanish records of these strange antiquities.

Ten years ago, when Bandallier wa carrying on his interesting researches ong the ruins of New Mexico and Arizona, he penetrated a short distance into Sonora, but, finding that the ancient Pueblo ruins characterized by Casa Grande, Quivira, and by the modern Zuni had disappeared entirely, he returned to report the country barren of ruins of any sort. This region being cut off on the north by the forbidding waste of the Arizona desert and on th west by the even more desolate shore of the California guif, untouched by railroads and scantily watered throughout. it is little wonder that other scientists were willing to take the pioneer's word for it and that region remained a terra cognita to the ethnologist.

The expedition which at length brought these hidden ruins to light was charge of Professor W. J. McGee, chief archaeologist of the burea of eth nology, a scientist of national reputation, and a conscientious field worker, but one whose fame among his associates is based almost as much on the eccentricity of using no periods after his initials as upon the number of monographs he has written. With the party was Willard Johnson, of the United States Geological Survey, as topographer, and, through the courtesy of Professor McGee. I was included in the offi cial capacity of photographer. A Mexican driver, whose chief characteristic was a mortal fear of Seri Indians, and a Papago interpreter, whose strong point was his unlimited capacity for eating and sitting still, completed the outfit.

The first of the terraced mountains visited was a comparatively small one overlooking the very ancient and sleepy town of Caborca, an isolated, dusty speck of a town, whose only claim to fame lies in having been the scene of the now almost forgotton massacre of Crabbe and his hundred American fillbusters, almost half a century ago. This Caborca Trinchera is a fair specimen of Its sort, though not large. All of the terraced mountains are known as "La Trinchera," the Entrenched Mountain, by the local population, and they calmly speak of their entrenched mountain though the name were distinctive and there were no other in existence. But they have lived so long in its shadow that they do not regard it with any more interest than any other part of the landscape. The only interest i has for them is to furnish ready made "melates," or grinding stones. And this may account for the scarcity of impleents of any sort on the various mountains visited, for they must have served from time immemorial as treasure ses of worked stone for the wandering Apaches, Pimas and Papagos, all of whom have, at one time or another, had their range over this territory.

POOR DEFENSES.

stone the size of a man's first, making As a matter of fact, the term "ena terrace from twenty-five to thirty feet broad, on which are numerous trenched mountain" is misleading. The terraces, except in a few cases, do not seem particularly adapted for pur-poses of detense. The Caborca mounnouse rings and two well holes that might have been reservoirs except that there is no remnant of a lining that ragged butte of black basalt would enable them to hold water.

south peak is the most extensive plece Recall those hours and once more live in of masonry on the mountain. It is the them. retaining wall of a great terrace from ten to twenty feet high and about 100 king. yards long. The wall of big lava blo a shout a yard thick, and behind it is

illed in even with the top with small

Wake not, beloved, for night is every where, And dawn will never break for you and

every year for the threatening but harmless fusilade. The most brilliant ineteoric shower only occurs, every thirty-three years, and is not due until 1898 or 1899. The August display is only a sideshow compared with the showe which takes thirty-three years to get here. Observers will get plenty of chances to wish, however, whenever they see a shooting star within the next three weeks.

EARTH INVADES THEIR SPACE

The metoers travel in their own cirle around the sun, and would never think of threatening the earth K the latter did not plunge right through the ring. This stream or ozone of meteors travels round the sun in a direction almost opposite to that of the earth. Consequently the latter infringes on the territory of the meteors at certain periods and a shower of flaming stars follows. The meteoric stream is a vast ellipse having no beginning and no end. Pro fessor Herbert A. Howe, of Chamberlin University, Denver, says the meteors travel in parallel paths, like drops in a rianstorm.

Sometimes August is not favored with a brilliant shower of shooting stars, because the belt is not so dense in some parts as in others. Sometimes there are gaps in the stream and only a few hunireds of stars fall. The earth strikes the belt again in November, and a bright shower is usually seen between November 11 and 13. The August me teors are denser about the 10th of the month. The meteoric river is so broad. however, that it takes the earth a month to get through it, and shooting stars may be seen from July 18 to August 22. It was one of these meteors on the edge of the stream that sent a reminder to the Santos Reyes mine in the state of Chihuahua, Mexico, last Wednesday. A huge plece of meteoric iron

struck the mountain side and carried away cliffs before it buried itself 700 feet in the earth. It also destroyed a miner's cottage and killed his two children.

Although the stream travels at the rate of twenty-six miles a second it takes it 100 years to make one revolution. These shooting stars never strike the earth, but only impinge on its atmosphere. So swift is the motion of a meteor that it flames into incandescense when encountering the higher strata of air, skirting the globe at a safe distance, though sometims flinging a souvenir to the invader of the

curs every thirty-three years is one of marvelous brilliance and beauty. Professor Howe says that when the earth struck the dense part of the stream November 12, 1882, the negross of the southern states were struck with terror and thought the world was coming to an end. The falling stars were as th ick as now-flakes. Another brilliant display was seen in the heavens in 1866 and the next is expected in November, 1889. though a bright shower may be seen in the fall of 1898 as a forerunner of the great bombardment. The dense part of the meteoric stream is 2,000,000,000 miles long and consumes two years in

passing a given point. Professor S. W. Burnham is awalting the advent of the meteoric visitors in his observatory in Fifty-first street. "We may have a fine display in Chigago about August 10," he said, but it

smooth and oily to the touch. It is divided into various grades of finenes by floating it on water from one tank to another.

The coarse dust sinks to the bottom of the first tank, the next finer to the bottom of the second tank, and so on down the line, the finest powder for the finest pencils settling in the last tank

In another series of tanks the German pipe clay, which is mixed with graphite to secure the different grades of pencils from very soft to extra hand. is graded in the same way, by floating The finest clay is mixed with the fin est graphite, and the hardness of the him: pencil is secured by increasing the pro-

portion of clay in the mixture. For the medium grades, seven parts by weight of clay are mixed with ter parts of graphite,

The mixing is done under a grinding mill, similar to that used for mixing paint, and water is added to facilitate the mix. The grinding-stones are about two feet in diameter and only the upper one revolves.

After the graphite and clay ar ground together the mixture is put in canvas bags and the water is squeezed out under a hydraulic press, leaving a mass the consistency of putty. This plastic material is placed in the form-

ing press, which is a small iron cy-linder, in which a solid plunger or piston works up and down A steel plate, having a hole the size

and shape of the "lead," is put under the open end of the cylinder, and the plunger, pressing down, forces the graphite through the hole, making a continuous thread or wire of graphite. As long as this thread is moist it is pliable, but it becomes brittle when dry, so it is handled rapidly. It is cut into three-lead lengths, straightened out and then hardened in a crucible

over & coal fire. The leads, when taken from the crucible, are ready for the wood.

Pine is used for the cheap pencils, an ordinary quality of red cedar is used for the medium-price pencils, but nothing but the best Florida Key cedar is put into the best pencils.

The saw mills in Tampa, Fla., cut the cedar into blocks about seven inches long, and these are sawed into strips wide enough for six pencils, but, as pencils are made in halves, each strip is only thick enough for half a pencil.

When the strips are received at the factory they are run through a machine which cuts in each one six grooves, round or square, and at the same time smooths the face of the many converts. wood. Both strips are grooved alike,

for, unlike the European-made cils, the American made has the lead

equally in each strip. The filling of the strips is done by cirls. The first one takes a grooved slip of wood in her left hand and a bunch of leads in the right. She spreads the leads out fan shape, and with one motion fills the six grooves with leads. Next to her sits another girl who takes the filled strip, and quickly and nestly lays on it another grooved strip. which has just been coated with hot giue by a third gir!.

The filled and glued strips are piled up on each other and put in a press, where they are left to dry. The ends of the strips are evened off under a sandpaper wheel, and then the strips are fed into a machine which cuts out the individual pencils, shapes them. and delivers them, smooth and ready

for the color and polish in six streams. is largely dependent on the clearness of the atmosphere and whother the earth strikes the dense part of the meteoric the varnishing machine. Then follows

power of jumping, the family of that name did not appreciate its uniqueness. Upon coming into possession of some money they at once petitioned to have it changed to "Howard.". Their request was granted; but, alas for them, the bugs of that portion of the country were henceforth known by the more refined title of the "Norfolk Howards."

the smoking car.'

haven't you?"

I'm not wolkin'.

a moment, and replied

A doctor, who had a great dislike to any form, managed, in hurry at the railway station, to get into a smoking compartment. A young man sat opposite, puffing away at a huge cigar. After eyeing him for some ninutes the gentleman at last addressed "Young man, as a medical man let

me warn you against smoking. Ex-perience has proved to me that of every ten men suffering from epithelium and paralysis of the tongue, nine of these have been caused by tobacco.

'Sir," exclaimed the youth, "experence has proved to me that of every en men suffering from black eyes, nir of them have been caused by people neglecting to mind their own business.

When Sala went to Australia he arranged to deliver a series of lectures, and he was fond of telling an anecdote about one of his platform experiences

hore "I was describing to my audience." he said. " in my very best English the coronation of Her Majesty. I had seen the procession from the corner of Parlament street, and was telling how the oung girl-queen drove by in the stateiness of childhood's simplicity, the dignity of sovereignty already seated upon her pale young brow, with heaving breast, 'A hectic flush upon her blanched heek,' I was saying, 'her sweet, pallid ips slightly parted, a teardrop trembling on her quivering eyelid all showed' -'Bosh!' suddenly murmured a buxom old dame in the front row, and my in-

spiration was gone

The Westminster Budget tells a char-acteristic story of the late Rev. Peter Mackenzie, of London. Many years ago. after delivering a lecture in a village near Sunderland, he was returning to his host's house along a lonely road, when he was accosted by a robber. The latter was a believer in the right of might and requested Mr. Mackenzie to turn out all the cash he had got. "Well, my dear man," replied Mr. Mackenzie, "you know I am big enough to thrash you. If it's money you want, I'll give you balf a crown." The robber would not account the term therefore. not accept this very charitable offer. Mr. Mackenzle "doffed" his cost and gave him what the man is now pleased to call " a dashed good hiding." That thrashing did the man a great service, for he afterward loft the paths of vice and became one of Mr. Mackenzie's

"BOOKMAM" GOSSIP.

Here is a good story for the enemies of Philadeiphia. A prominent lawyer of that venerable city was narrating to a younger advocate some of the delays and comp cations of a chancery sult in which he was engaged.

"Bless me!" said the junior advocate, "I never heard of anything parallel to that except Jarndyce vs. Jarndyce. The other at once looked thoughtful, and pretty soon, pleading an engagement, went off. The next morning he came into the younger man's office with an air of eat vexation. "Look here!" he said. "Why can't you

remember names accurately? Here I've spent the whole night trying to find that case of Jaradyce vs. Jaradyce that you mentioned, and there isn't any such case in Pennsylvania law reports, at all!"

He was a callow youth, fresh from college, and as he was supposed to know it all, he was considered an acquisition in the retail department of a well-known book store in New York. His first custo-mer shock the confidence of his proud em-

The second state of the se

joining state.

COUNTING THE COST. From the Philadelphia Times,

In wages alone the loss to wage-carners

would be incalculable. Under the free sil-ver policy the workingman of today must receive just double the wages now paid him to enable him to earn what he is earning now. One dollar under the free silver system would purchase for the wage-earner in the necessaries of life just one-half what a dollar purchases for him today, and who is reckless enough to assume that employers would double the wages of labor under a degraded money. system that must paralyze business, cresystem that must paralyze business, cre-ate the profoundest distrust and greatly lessen the opportunities for employers to make their capital profitable? As a rule employers would be much less able to pay fair wages for labor under the cheap

money system than they are today, and the wage-earner must know that when business is staggering under paralysis the first to suffer is the workingman by the reduction of wages, and when business improves he is the last to gain the seven tage of it

stream. 18 A BRILLIANT SIGHT. The great meteoric shower which oc-

In that vague realm where Memory

His scepter joy, and love his diadem, Where earthly winter is not, only spring

Good night, dear love, may all your dreams be fair-Leave not, my sweet, the Land of Used- the sim