Geologists and other experts differ as to the period that must elapse before the coal fields now actively mining will show signs of exhaustion. vast areas of coal deposits exist in Alaska, China and elsewhere which remain untouched, but approximately 400 years is the lowest calculation of the time required to consume the coal deposits of America and England at the present rate of consumption.

In the meantime vast changes in the production of power for manufacturing purposes are certain to take place. Streams in all parts of the world will be utilized for generating electricity. Problems relating to the transmission of the current over long distances with a minimum leakage are engaging the attention of electrical engineers. A solution will surely be forthcoming.

A century hence the smoke nuisance in cities may not be understood, for the simple reason that all power used in factories and heat for domestic purposes are likely to be supplied by water-generated electricity. The producition of coal has already become so expensive that experiments in the use of oil as fuel in steamships and war wessels have made considerable proggress. Relative success appears to have attended these trials.

No more interesting experiment with pil fuel has been made, however, than that which the owners of a new steel plant at Pottsville, Pa., are planning. For the sake of economy in fuel cost an oil process is to be used in heating two new hearth furnaces. In the event of success, accompanied with proportionate economy therei s scarcely a rolling mill in the world that would not sooner or later adopt the oil process of heating.

Every such experiment has a tendency to decrease the dependence of the world on coal.

LUMETER A NEW-INSTRUMENT

Device Made By British Opticians to Measure the Surface Brightness of alluminated Objects.

The "lumeter" is an instrument designed by J. S. Dow and V. H. Mackinbey, British opticions, to measure the surface of brightness of illuminated objects, and it gives a simple means of studying the distribution of lighting. The illuminated object under test is wiewed through an aperture in an ilfuminated screen, which is kept at uni-form brightness by a suitably-placed small glow lamp. The relative bril-Hancy of the observed surface and the screen can be adjusted until they appear equal, and a graduated scale then indicates the surface brightness of the standard illuminated screen. the instrument in classrooms, workrooms, etc., have shown surprising vafintions in the lighting of interiors. In a technical college classroom 25 by 66 feet in size, with large windows on The street side, the illumination of the best lighted deak at five o'clock on a Beptember day was ten foot-candles, while that of the poorest seat was only 2.6 foot-candle, and the illumination of the blackboard varied from five tootmandles, at one end to 0.5 at the other. In one of London's underground tubes the horisontal illumination was 1.1 to 1.2 foot-candles with the train at rest. falling to 0.7 to 0.9 foot-candles on enrefing the tunnel.

A STATE

History vs. Noncones.

Little Robble came heme one day considerably agitated over a question gthat had come up in school. Rushing Into the house be demanded of his father:

"Say, pa, who was Demosthenes?" Robbie's father was one of those individuals who was dissatigfied with the general trend of modern educational methods, and frowned on the so-called frills and frivolities injected into the classroom work.

"Demosthenes," he answered sharpily, "was one of the early kings of Egypt. I don't see why the schools 'den't cut out some of their nomense and teach history."

Wemen and Dress.

In the matter of dress variety is to the civilized woman what finery is to the savage. The more civilized women become, the more variety they must have. Things have come to such a pass now that the daily papers must tell the news of the fashions; the gravest journal dare not ignore them. Side by side with the affairs of the realm and the annals of court and of crime stand the kaleidoscopic details of colored stuffs and fantastic styles which delight the feminine public.-London Spectator.

A Nevel for Tennyson.

Tennyson would have scouted the idea of a limit of 150,000 words for novels. William Allingham notes in his diary on August 28, 1880, when on a visit to Farringford, "Tennyson is a constant novel reader, and says, What I dislike is beginning a new novel. I should like to have a novel to read in a million volumes to last me my life. "-London Chronicle.

Morely an Exception.

A man in Massachusetts, fired fiftytwo, has been sent to the workhouse because a woman, aged seventy, complained that he kissed her. And yet Benjamin Franklin said that old women were so grateful for little attack

LITTLE BOY HAD A POSER

School Superintendent Could Not Tell Sammy Whether a Duck Has Eyebrows.

"Do not sneer at the juvenile intellect," said John T. Chickering, district superintendent of school in New York. Sometimes a boy can ask questions that a man can't answer." And he) went on to tell of an experience he had when he was principal of one of the New York schools. He was called on by a teacher to come to her aid.

"It's all right," said she, "until natural history hour comes. Sammy Jones lives on a farm, and he thinks he knows more about natural history than the man who invented it. He keeps esking me questions-and if I answer them Sammy laughs, and if I don't the children do. The children would give up their recess if I would lengthen the natural history hour by five minutes."

"So," said Mr. Chickering, "in the pride of my manhood I told her I would come to her rescue. 'One short, sharp answer will denote to Sammy that the matinee is over.' The teacher welcomed my aid. That afternoon I dropped in and took charge of the exercises. I told the children I would allow them just one question each. And Sammy stumped me. I had hardly made the announcement before his hand was up.

"What is it, Sammy?" I asked. "'Has a duck eyebrows?" asked Sammy."

CERTIFICATES FOR BRIDES

Campaign That is Boing Carried on by Swiss Society of Public Utility for Women.

If the influential "Swiss Society of Public Utility for Women," which has branches in every large town in Switzerland, and has done a great deal of good work, has its way, young Swiss women, both married and unmarried, will be physically and medically examined, like their brothers, who are obliged to enter the army.

The society calls upon Swiss women to undergo the test voluntarily, and hopes to inaugurate the service next year. "We feel ourselves responsible," says the society, "for the health, homes and character of our people," and calls upon Swiss young women to undergo a temporary ordeal for the sake of herself, her husband, her children and her country.

"If every young man before his marriage asked for a health certificate of his bride," said a supporter of the scheme to me, "it would be in force tomorrow. The scheme wants the support of both men and women, old. and young, of every class, for the benefit of not only Switzerland, but mankind. Every government in the world would be glad to support the movement when once launched. We

Father's Fortune III Luck to Child. As an indirect result of a fortune inherited by John Caser of Passaic, N. J., his four-year-old son Joseph died recently after two days of suffering. Casier was born in Budapest, and a relative who died there two months ago left him the bulk of a comfortable fortune. Cazer went to Hungary to claim his inheritance.

The family, which had been poor, was preparing a welcome for the father, and among other things to be included in the feast on his return were two large hams. The pot con taining the hams had been removed from the stove, and the mother left the room temporarily, when little Joseeh stumbled into the big pot and was terribly scalded.

A physician was called and remained with the boy almost constantly, but could not save his life.-New York Herald.

Those Dangerous Hatpins.

One of the many objections to the big hats which the women are wearing nowadays is that they need to be secured by pins of proportionate mag nitude, and that the points of these pins protrude in a manner which renders them, a meance to all who come within their reach. No one can ride in a crowded car without incurring the risk of being jabbed by one of these formidable weapons, and it really is time that the public were protected from this by no means negligible danger by the adoption and enforcement of legislation appropriate

The Veciforated Phrass. "You do not seem much impressed by fervent oratory."

"Nope," replied Farmer Corntossel. "Did you ever notice a poll parrot's vocabulary?"

"What has that to do with R?" "The words a poll parrot picks up show that it's human nature to frequently be most emphatic when you're sayin' the wrong thing."

Very Much So. "Don't you think the old stories of wife killers so far from being horrible, are really in their allusions,

highly amusing?" "Yes, indeed, particularly the one where the man just tickled his wife

The Mode. "Mah lady fren' jee' done cut me st the ball, sah."

"That's too bad, Sam. Did she out you with acerbity?" "No. sah. She done out me with a rasab, sah."

ODD GRAFTING EXPERIMENTS

Prolific Result of the Union of Temato With Egg Plant and Red Pepper.

A Michigan gardener has been grafting tomatoes on to egg plants and red peppers. He began his experiments in 1898, and named his first achievement -Crimson Cushion tomato grafted on to an egg plant—the Kaiser. He then went further and grafted a Trophy tomato on to an egg plant, naming the resulting tomato the Roosevelt.

The lagenious gardener, however, made a listake in using that name so early in the game. For soon another inspiration came to him, and he grafted the Kaiser tomato on to a red pepper. Here, indeed, was a combination vegetable really worthy the name of Roosevelt. But, owing to his unfortunate precipitation in the use of that cognomen, he was obliged to fall back on the feeble substitute, Triple Alli-

Both the Kaiser and the Roosevelt tomatoes responded with alacrity to this particular form of graft. The Kaiser often produces fruit weighing one and a half to two pounds, and will yield a bushel to the plant on suitsable soil. The Roosevelt yields quite as heavily.

Both are pleasing in shape and color, have a fine flavor and solid flesh, and even in the largest specimens there is no waste. They are excellent for all cooking purposes; e. g., canning, catsup, jelly, etc., since they are not watery, and contain few seeds.

They are admirable for eating raw, since they lack the acid taste of ordinary tomatoes and are remarkably mild. Also they retain their juice after being cut. They ship well. In short, so far as known, these are su-

perior to any tomatoes in existence. The gardener believes that he has succeeded in introducing the blood of leggplants into tomatoes, and thinks that the eggplant is responsible for the great size of the new fruits, their mild flavor, solid flesh and deep red color.—Country Life in America.

HE DOESN'T LIKE HOLIDAYS

Methodical Man Says They Interfere With His Work and the Routine at Home.

"I don't like holidays," said the methodical man; "they interfere with my work. I recognise fully the fact that days off, days of abstinence from laber, are necessary for our bodily and mental welfare and I take a day off weekly, my day being Sunday, but for many years I have worked on every other day in the week regardless of holidays. Anything that breaks in on me in this observance is disturbing.

"To begin with, we get up and have breakfast an hour later than usual. There's an hour lost for me. And then on holidays we have dinner in the middle of the day, this being a further disruption of our usual routine, and then who can work after a hearty midday holiday dinner? And then, besides, the whole atmostphere of the day is changed.

"So I am glad to have the day over and to get back to work in my systematic, orderly, methodical way. It is in work in my regular, accustomed manner that I find my great pleasure, with my regularly recurring day of rest on Sunday. Even after that day I am glad to take up work again, and I have no use at all for holidays."

French Fashions in Danger. Is Paris losing the lead in feminine fashions? The alarm is given by the French chamber of commerce in Milan. It seems that Milanese ladies are no longer enticed to buy by the notice, "Latest Paris models." Paris no longer leads. The first place is being taken, of all capitals in the world, by Berlin! The chamber of commerce in question calls upon the Rue de la Paix to bestir itself lest it be beaten by the Linden. In the meanwhile, the Rue de-la Paix, at this precise time crowded with American buyers come over to pay enormous sums for the models of next winter, if not already of next spring, seems unperturbed by the warning received from the French trade in Milan. At all events, the idea that Berlin should ever oust Parts to one met with derision. It will also be, at least, doubted politely even by the layman, if he has lived in Berlin. At the present moment why do the ladies all over the world tie their skirts round their ankles? Because it was the Parisionne who first shackled herself. If a Berlin dressmaker had first thought of the trammeled akirt. would the Parisienne ever have worn it !- Paris Correspondence London Telegraph.

Individuality in Musicians. The musical performer has a twofold duty to the music; he must supplement and must not contradict. Supplement because no composer can indicate on paper more than the mere shell of the music, but, also, never imagine anything that the composer might have indicated, but did not. Might not this train of thought be perhaps carried further? It seems arguable that it applies not only to rhythmical problems, but to the whole field of musical interpretation. -London Times.

Not Always. "Artists" are generally temperamestal."

"Yet I know one who is as cold and calm as a clam." "I know another of that type, too, yet be is always making scenes." "How is that?"

"He paints em for theaters."

SHALL CHINESE OUEUES GO?

Criental Nation Agitated by Proposition to Discard the Ancient Cuatom of the Manchu.

The great question now agitating Chine is the proposed abandonment of the queue. It is a matter of pigtalls, with which not even threatened partitions by Japan nor the "open door" ranks in importance. Prince Tsai Tso is responsible for the controversy, which has assumed a formidable phase. The fact that he is a brother of the regent gives his argument weight, in brief, that the Chinese so dong as he wears his hear in a queue is at a disadvantage compared with men of other nationalities. The prince proposes that the members of the imperial house sever the cherished appendage, after which compulsion should be exerted upon high officials, students, policemen, soldiers and the common people. The regent at first strenuously opposed the suggestion. but later advices indicate that he may consent to the innovation. Meanwhile the mandarins are in revolt. They see in the proposed abandonment of the queue signs of revolt against the Manchu dynasty.

The fact is that the pigtail is not of ancient origin. It began to be worn when Nurhachu invaded the middle kingdom and captured the city of Lac-Tang. Many Chinese deserted to his standard, and in order that they might be recognised by his army and not put to death by mistake, the conqueror ordered that they should adopt the Manchu custom of shaving their foreheads and wearing the queue. Thus it was that the gueue was not altogether a bedge of sonquest, for it savors of a humane concession to the conquered. Soon after, however, prisoners of war had the alternative given them of adopting the queue and suffering decapitation, and a choice between losing the head or the hair, the hair won. In the end the entire nation accepted the change, and it was not long till every Chinese not only took kindly to the innovation, but grew so proud of the advantage that he bitterly resented an abbreviation of any kind. So it is today that only the more progressive Chinese are disposed to listen kindly to the proposed abandonment of the queue and are disposed to fight, rather than to consent.

SLINGING RED HOT RIVETS

Daily Show in Skyscraper That is Being Erected Attracts Crowds in . New York

At the northwest corner of Broadway and Reads street, New York, they are erecting a new skyscraper. The ironworkers who are putting up the steel framework give a free show every day to people on Broadway by slinging red hot rivets.

The rivets are red hot when the easily be followed by the eye, even though the ironworkers are working five or six stories in the air. The men who tend the furnace and heat the rivets have to keep moving lively to keep the riveters supplied with rivets. As soon as a rivet is red hot one of the furnace tenders removes it with a pair of long handled tongs. With a quick underhand sling he sends it flying through the air to another fronworker 25 or 30 feet away, who catches it in a small keg. Then the receiver takes the rivet out with a pair of tongs and passes it over to the ironworker, who hammers it into

place with the compressed air riveter. From constant practise the men who sling the rivets are able to throw them from any position or to any reasonable distance or height without missing. They cannot afford to miss or the red hot rivets might drep down on somebody's head. It requires skill to sling the rivets. The man on the receiving end must be quick too if he wants to catch the rivets and he must have his nerve with him all the time, for usually be is sitting astride a steel beam perhaps 100 feet above the ground.

Tobacco and Theology.

It was a Frenchman who discovered a vital connection between English tobacce and English theology. M. Misson visited these shores during the closing years of the seventeenth contury, and in 1697 he wrote a book entitled "Memoirs of Travels Over Eagland." Everywhere he went he found men and women smoking. It was this, he asserted, that made "the generality of Englishmen so taciture, so thoughtful, and so melancholy. Smoking makes men profound theologists, for no men in the world will smoke a pipe better than an English clergyman, and all the world knows that the English theology is the most profound theology of all."-London Chronicle.

Made of Galoshes. In a local restaurant the other day a clerk, when ordering his lunch, made up his mind to try a dish of Hungarian golash perika. He ate part of the stew in silence, then he observed to the man who sat on the stool next to him: "Odd dish, this golosh."

"Yes." replied the other, "what is it made out of?" "I don't know exactly," was the reply, "but judging from the name and the taste, it's principally old over-

Out of Date. "Hopelessly out of style, you say?" "Why, I saw bor yesterday in a gown that was a week old, as sure as

ONLY ABOUT COLLAR BUTTON

Spaniards Become So Excited and Angry Over Every Small Topic of Conversation.

Two Spaniards were conversing earnestly, then excitedly, at last angrily. The young American woman who passed them looked with frightened eyes toward her Spanish guide. "What are they talking about, Senor Jose?" she asked timidly. "Do you

think they will fight-or, maybe kill?" "Ah, no, Senorita Marie," replied Jose, smiling and showing his pretty teeth. "One man-that one, you see, Senorita, with the long mustachioshe is saying: 'Me, I prefer much the collaire button which is steel,' and the other one-look, Senorita-he is running his fingers through his hair now, and his sombrero has a gold cord-he is saving: 'Ah, no. Senor, the button which is of gold-si, Benor, that is the button for me.'

"But as for myself, Senorita-the bone collaire button-that I prefer above all the others.

"Do I not speak with good sense. Senorita? Listen. If the button is of steel, it will cut; if it is of gold, one cannot afford to lose it; but if it of hone—it does not cut, and if it goes, what matter? I have a dozen at home in my little top drawer."

"You speak with great sense, Don Jose, but tell me-were the men really angry?"

"Oh, not at all, Senorita; it is only our southern way of being interested in what we discuss. If it had been two Germans, Senorita, or maybe two Englishmen, you would never have noticed them."

WHAT MISS LIBERTY SAID

Verbatim Report of Her Protest Against the Flying Machine That Whirled Around Her Head.

"These queer flying machines make me so nervous," said Miss Liberty, according to the Cleveland Plain Dealer. "I don't like 'em. They haven't any right to be whirring and chugging around a lady.

"I may be French, but my standing in this community has never been impeached.

"The other day three of these impudent things came whirling around my head, one after the other. If I hadn't been busy holding up my torch I might have done something I'd be sorry for. Really, I never saw such a reckless disregard for common politeness. When the first of the sassy things came toward me I just closed my eyes and shivered. How did I know he wouldn't stuff the nose of his flying contrivance into my ear?

"I may be bronze, but I won't tolerate any familiarities.

"And there's another thing, I strongly object to being made the maypole in any foolish cloud dance. Why don't a center shaft? I don't want the honor -this is sarcastic-and, what's more, I will not permit any sporting gentlemen to run rings around me.

PNo, indeed! *Liberty isn't license. "So there, now!"

Founding of the Red Cross.

The world owes a vast debt of gratitude to the aged Henri Dunant, founder of the Red Cross. M. Dunant acted as a volunteer nume at the battle of Solferino in 1859, and his discription of the awful sufferings of the wounded on that occasion, published under the title of "Un Souvenir de Solferino," caused a profound stir throughout Europe. The Geneva Society for Public Utility invited M. Dunant to propose a scheme for the relief of the miseries of the fallen in wartime. He responded by proposing that corps of trained nurses should be established in every country, and that a system of neutrality between warring nations should be instituted whereby those engaged in tending the sick and wounded should be protected by wearing a distinctive badge. The direct result was the summoning of an international conference and the signature of the famous Geneva convention in August, 1964, whereby the neutrality of doctors and narses in wartime was established. The Red Cross on the white ground—the Swins fing-was adopted as the badge of newtrality out of compliment to the country of Dunant's birth.-London Chroni-

The Right Spirit. "A painter," said Robert Henri, Inone of his luminous addresses in New York on art, "should have something of Constable's feeling. "I hear you sell all your pictures?"

said Constable to a younger artist. "'Why, yes,' was the reply. I'm pretty fortunate that way. Don't you cell all yours?

"'No,' said Constable, " don't sell any of them, and I'll tell you why. When I paint a bad picture, I don't like to part with it, and when I paint a good one, I like to keep it."

No Tragedy Sitting Down. The queen of Prussia received me on the tragic note. At last to shift the ground I asked her to sit down, There is nothing that cuts into a tragic scene better, for when people are seated it becomes a comedy.—Napoleon (Quoted. from the "Corsican.").

Blissful Ignorance. "Were you servous when you proposed to your wife?" asked the senti-

mental person. ""No," replied Mr. Meekton; "but if I: could have foreseen the next ten years I would have been."

SOME DANGERS OF ARSENIC -

Drug Used by Thousands of Women to Bleach Their Skin is an Accumulative Poison.

"You no doubt have observed the lily white complexion of some women. These women are sacrificing years of their lives for that beautiful skin by the use of arsenic," said D. V. Duvail,

a chemist of Manchester, England. "It is a well known fact that thousands of women in all countries of the world use the poison in small quantities to bleach their skin. It is an effective means of whitening and clearing the complexion, but the complexion given by its use has no permanency unless the absorption of the drug be continued.

"Arsenic, as science has long told us, is an accumulative poison. When one takes it either by prescription for the upbuilding of an appetite or for the bleaching of the skin he does not feel any ill effects for several years. The effect of the drug is bracing and makes a person feel like eating. It also aids the digestion. The average user of the poison takes it is such small quantities that he does not shalize how much of it will accumulate in his system in the course of four or five years.

"Being an accumulative poison it often takes that length of time to see the results of the drug. Then the user may complain of not being able to control his fingers or toes. Subsequently he loses control of his hands and arms.

Arsenical poisosing is the result. "Five years ago in Manchester there was an epidemic of paralysis. Several thousands of persons were stricken. Several hundred died and the medical profession of England made a thorough investigation of the malady and traced it to beer. The investigators discovered that the brewers were using glucase in the brewing of their product, which was found to contain a small quantity of arsenic. This drug, imbibed in small quantities in beer, had gradually accumulated in the bodies of thousands of persons, had impoverished their blood and left a great percentage of them helpless."-Washington Post

SOME FAKES OF CHINATOWN . 44-1

"Heiress to Enormous Fortune" Talks Freely of the Way in Which Gullible Tourists Are Fooled.

The "beiress to an enormous fortune" walked out of the dive in Chinatown, New York, the other night, and stretched her arms widely. She had scrubbed the painted lines off her face. and had abandoned the kimono of histrionics for the close-fitting tailormade of Broadway. She looked like what she is-a "wise" person, but neither degraded nor deprayed. Once abe was an actress in a burleague 1 00 22 show, and, because of illness, failed to the "lost betress" in one of the # 43.55 shows put on in Chinatown for the 7.80 dejectation of gullible tourists.

"On the level," she said frankly, over a scuttle in what used to be "Nigger Mike's," "I'm glad the cope have closed this Chinatown dump to the come-ons. I'm a sort of an actrees, all right, and I played my part the best I knew how. But I got mighty tired pretending to smoke opium, and handing out that talk about being the daughter of wealthy parents, who had fallen for life in the Chink village. It was two-e-day for me for the past year, and I've made money at it. What's more, I've saved it. These heathen Chinese, that the yaps come down here to see, aren't the worst in the world. When they found I was on the level they sure treated me white. I'm going to take a trip to Europe before I go back to work. I've got the

gitter all packed away." "No doubt," said the man who bought the beer, "your surroundings during the year have been unpleas-

"I didn't mind that," said the "heirees," candidly. "I was brought up in an alley. What sinds me sick was to see these rubes stand for the bot air the guides shove at 'em. Hopest, I want to get out where I can see 'wise' people if I have to go to the island."

Some Netlenst Anthoms

The Portuguese will have to seek a new national anthem, for the one hitherto in the is by no means suited to a republic. It was composed by an emperor, Dogs Pedro of Brasil, and, like the British anthem, is an invocation on behalf of the covereign. Possibly the new anthem will be shorter than the old one, which drags somewhat toward the end. The length of most national anthems is in inverse. ratio to the size of their preprietary countries. There are only 16 bers in the Russian anthom, and 28 in "Hall Columbia." But in the Siamess anthem there are 74 bars, and the inhabitants of Sen Marino require 97 bars to express their patriotic fervor.—London Chronicle.

Rate Digite Retrol. Rate appear to have a strong objection to petrol. Not long ago a visitor exploring the Lendon sewers was told by his guide as they walked hinder Long Acre and Soho that the sawers in this neighborhood are almost entirely free from rats. This immunity has been noticed only since the development of the motor our fadustry and the establishment of its beadquarters to Shaftsbury avenue and Long Acre. A a large quantity of petrol thus finds its way down the drains, and this, in the enision of the sewer men, effectually keeps the rate away.--London Chroni-

L'ABEILLE DE LA NOUVELLE-ORLÉANS Tours on Lorustentin tens up; but Bust in Backlife auditate of a ideas fat commerce indicates and interested in the Contract of the Contract o