DIGESTIBILITY OF MEATS.

University Professors Experiment with Artificial Digestion to Some Purpose.

The accepted notion that the frying pan is the entrance agent of indigestion is supported by two University of Illinois professors, who have been experimenting on raw and cooked meats with a view of determining the relative digestible properties of each. Be the meat raw, boiled, broiled or fried, they say, the stomach will handle it with almost equal ease, but as in most scientific treatises, there is an "if," and in this case the "if" deals with a matter of time, says the Chicago Tribune.

If you can wait 24 hours to digest your dinner, by no means be afraid of the pork chop, fried as long as you care to fry it in its own fat. If, on the other hand, you feel the need of immediate digestion it would be well to content yourself with some article of food more susceptible to the gastric juices of the stomach.

The experiments—made at the University of Illinois by Harry Sands Grindley and Timothy Mojonnier—were by artificial digestion, a solution of pepsin being used. A pamphlet has been issued on the subject, but as it is so technical that the layman would find difficulty in following it in detail, a few quotations will suffice.

With a number of tables to support their contention, the professors reach this preliminary conclusion:

"It is plainly evident that there is no difference between the digestibility of raw and cooked meats. That is to say, there is practically no difference between the amount of nitrogenous matter in raw and cooked meats that is made soluble by the action of the acid pepsin solution when allowed to act for 24 hours. In other words, the total digestibility of raw and cooked meats in acid pepsin solution of the strength used, acting for 24 hours, is the same. It is commonly believed that cooked meat is less digestible than raw meat."

Then, with more experiments and more tables, they express themselves as follows:

"It is plainly evident that there is a difference in the ease and rapidity of the digestion of the protein or raw meats and meats cooked by the common methods. This difference is best seen in the results obtained by digestion of meats with pepsin solution for one hour. Although the data here presented are not sufficient basis for definite final conclusions, it does seem that the protein of raw meat is more readily soluble or digestible than the protein of cooked meats. The experiments also indicate that the protein of meat cooked by boiling is more readily digestible than the protein of broiled or fried meats. The protein of fried meats is less rapidly soluble or digestible than broiled meat.

"These same differences are also noticeable in the results obtained after continuing the digestion for two hours, but after longer digestion these differences mostly disappear and after digesting with pepsin solution for 24 hours the digestibility of raw and cooked meats seems to be practically the same."

COAST SINKING AT NEW YORK.

Gradual Changes of Ocean Level in That Portion of Atlantic Seaboard.

The United States Geological Survey has lately published observations interesting data relating to changes of sea level near New York, says the Boston Globe.

Some tens of thousands of years ago the greater portion of the state was covered with an immense glacier. This ice sheet had gathered up in its course great quantities of sand, gravel and mud.

Part of this burden was pushed in front of the ice mass, and as the front of the glacier came to rest in the latitude of the city the material that was pushed along was deposited. When the glacier melted, owing to the advent of a warmer climate, the mass of material deposited along its front became the familiar rounded hills of Long Island—the so-called backbone of the island.

After the disappearance of the ice sheet the land in the vicinity of the city sank so far that the sea covered points that are now a hundred feet above the ocean level.

During this period of submergence the great brick-clay beds along the Hudson river were deposited. The Haverstraw and Croton Landing beds, now far above water, were, of course, deposited below water.

The next change in the geological history was a gradual rising of the land until it stood considerably higher than at present, and this rise was followed by a gradual sinking which is still in progress.

Along the coasts of Long Island and New Jersey one may see tree stumps now under water that have been covered by the sea within very recent times. The encroachment of the ocean upon the land is still going on.

Nature's Museum.

The State [illegible] are a veritable museum of nature's wonders. There are [illegible] strangely eyeless fishes that live in total darkness in their craters and their underwater homes. There are a score of hot rivers and springs. Lofty canyons, magnificent waterfalls and [illegible] of springs.—N. Y. [illegible]

For Consolation.

"I don't suppose he meant anything by it," said the young woman, "but it was a very startling occurrence."

"What did he mean?"

"Why, Harold and I got married because he [illegible] persuaded him to join a 'don't worry club.'"—Chicago Journal.

COLLEGE AMUSEMENTS.

Games Have Become Professional Performances Like Those of the Circus.

The amusements of college life have undergone a change akin to the division of intellectual interests. They have become professional amusements, like those of the circus or theater; something to be seen rather than to be shared, something labored for on the one side and paid for on the other, writes John Bascom, in Atlantic. Crowded life, the life of cities, which is at once near and remote, inevitably tends to professional amusements. They call for no participation in the spectators, and no social sympathy between them. Those idly waiting to be amused become ever more critical and exacting, less resourceful in themselves and more dependent on others. They must be pleased, and the task becomes an increasingly difficult one. The commands of the amphitheater lay as an absolute law on those whose lives were held cheap in ministering to popular pleasure. A scrub game of ball, no matter how recreative to the participants, gives no satisfaction as a spectacle. Football demands severe training, a sacrifice of every competing purpose, and incurs serious risk, simply that those who play may give sufficient excitement to those who do not play.

Young men have only about so much enthusiasm to spend, and if it is squandered in amusement it is necessarily lost to productive labor. Enthusiasm ought to run in the channels of their own lives, and so buoy up and bear forward their own achievements, like well freighted vessels. If this enthusiasm makes its claims on others, it leaves those who generate it like the Roman youth who crowded the coliseum, an ignoble band. Professional amusements mean the breaking of free, personal, communal effort, and putting in its place the strained efforts and strong passions which sway men backward and forward as mobs. The passion for sport which prevails in our universities is to be explained, in part, as an effort to regain that unity which has been lost in the dispersion of academic work.

GENERALS UNDER WASHINGTON

What Became of the Heroic Officers Who Helped to Win American Independence.

Of the major generals who served under Washington during the revolutionary war one, Lafayette, survived until 1834, says the Boston Transcript. Stark died in 1822, St. Clair in 1818, Heath in 1814, Lincoln in 1810, Gates and Knox in 1806, Moultrie in 1805, Schuyler in 1804, Mifflin in 1800, Sullivan in 1795, Putnam in 1790, Spencer in 1789, Greene and McDougall in 1786, Lord Sterling and Thomas died during the war. De Kalb was killed in the battle of Camden, Wooster was mortally wounded at Ridgefield April 27 and died October 2, 1782. Charles Lee left the army in 1780 and died October 2, 1782. Lee, Moultrie, Lincoln, Sullivan and Lord Sterling were made prisoners during the war.

After the war Knox and Lincoln served as secretary of war; Schuyler was elected to congress and afterward appointed senator; Moultrie served several terms as governor of South Carolina; Mifflin was elected governor and was also first governor of Pennsylvania; Sullivan was a member of congress, governor of New Hampshire; McDougall and Spencer were members of congress; Gates was sent to the New York legislature and Lincoln was appointed collector of the port of Boston. St. Clair was president of congress and governor of the Northwest territory. Baron Steuben received in 1790 from congress an annuity of $2,500 for life and was given 16,000 acres of land in Oneida county, New York. John Stark was pensioned in 1822 at $60 a month.

BEFORE THE ROMANS WERE.

Recent Discoveries of Works of Art of the Ancient People of Italy.

Some interesting discoveries of the pre-Roman era have been made by the various parties of explorers working in different parts of Italy for archeological treasures. One party was stationed at Ancona, where the site of a burying ground which evidently belonged to the pre-Roman era was discovered, says a London paper.

A female and male skeleton were disinterred, together with three bronze buckles, an amber necklace, some bronze chains and a bronze waistbelt with pendants, a heavy bronze spear, swords and iron daggers, and a large drinking cup.

A third skeleton, also of a man, was found with a sword, dagger, knife, some small rings, probably belonging to a watchband, and some bucklers lying near him.

In Rome, under the Quirinal, where the workmen are making a large subway, several beautiful pieces of carved marble, two fine marble tablets, adorned with bas-reliefs, representing Bacchic and other plays, and Bacchic [illegible] were found. Valuable votive offerings to the gods have been unearthed.

In the neighborhood of Segni the first discovery was made of a workman's [illegible] of a young man, his arms hanging down by his sides and his hair parted in the middle and low, grown over the shoulders. There is little doubt that this work is a piece of original Etruscan art.

Cost of Bad Roads.

It has been estimated that the bad roads of the United States cost every man, woman and child eight dollars annually.—Indianapolis News.

AN EXTENSIVE ZOO.

Seemingly Endless Collection of Wild Animals Along the Uganda Railroad.

"The Uganda Protectorate" is the title of an excellent work in two volumes from the pen of Sir Harry H. Johnston, the discoverer of that strange beast, the "okapi," and fresh from the book presses of the Macmillan company. What is of special interest to American engineers, railroad men and naturalists is the chapter in which he describes the building and operation of the Uganda railroad, from the East African coast inland to the heart of Uganda—a piece of the quickest railroad building on record. In this chapter Sir Harry relates that the British have enacted the strictest kind of game laws in Uganda; laws which prohibit the killing of giraffes, rhinoceroses, hippopotami, okapi, zebras, gnus, elands, etc., and that inasmuch as the authorities are better able to enforce these stringent laws along the line of the railroad than they are back in the remote interior, the game, with that instinct of self-preservation so well developed in wild animals, have flocked in great herds to the open prairie lands along either side of the railroad, paying not the slightest attention to the shrill whistling of the locomotive or to the rattle of passing trains.

Thus in traveling from the coast up to the capital of Uganda, the traveler observes from the car window the unique sight, to be seen nowhere else in the world, of a seemingly endless zoological garden turned out to graze. Zebras, elands, koodoos, oribas, gazelles, springbucks, beisa antelopes, brindled gnus, hartbeasts, klipspringers, invalas, harnessed antelopes, rhinoceroses (these are plentiful along the line of road, considering they are never very numerous in any locality), buffaloes, sessebys, elephants, with now and then an occasional giraffe, have all learned to look upon the railroad as a protection from prowling poachers and hunters.

Wild animals are very quick to discover and pick out protected localities, a fact which has been demonstrated in more ways than one in the Yellowstone Park, the Corbin game preserve and the Vanderbilt game preserves in the North Carolina mountains so that, after all, the fact is not a surprising one. In one respect, however, the reader must prepare for disappointment. The old story of elephants and rhinoceroses butting locomotives off the track is emphatically denied by Sir Harry. While the wild animals realize the protection afforded them by the railroad, yet at the same time they keep their distance from the track, crossing and recrossing only when trains are not in sight. In fact, the elephant and rhinoceroses are the shyest of all, the zebras and gnus taking the lead for boldness and daring.

INTERIOR OF THE EARTH.

Scientific Facts Concerning the Composition and Density of Our Great Globe.

Prof. John Milne, the well-known seismologist, has published some interesting facts concerning the crust and interior of the earth, reports the Scientific American. At the present time it is only possible to imagine the formation of the earth's crust from the strata present in the matter thrown out by volcanoes. How thick the earth's crust is we do not know, but as it is an established fact that earthquakes and similar earth tremors pass right round the world, through the interior in waves, it is possible to deduce the medium they have traversed by their quality and velocity. According to Prof. Milne, the denser the medium the greater is the speed of the propagation of the waves, varying from three kilometers to 9.3 kilometers per second, the velocity increasing the nearer the course of the wave to the earth's center. Assuming the world to weigh more than 5½ times an equal bulk of water, Prof. Milne concludes that a lighter crust of approximately 200 miles and a denser medium fairly uniform and about 5½ times the density of water would satisfy the seismological conditions. To such a core as this, which would be somewhat lighter than iron, he has supplied the special name of "gerite," and continues to explain that what seismological observations lead us to suspect is that beneath the lighter crust there is a magnetic medium of greater density, which during penetration slowly passes into a fairly homogeneous "gerite," and he anticipates that it will be possible in time to deduce the physical and chemical composition of the white-hot matter in the interior of the earth with the same certainty that we now know the composition of the various bodies of the solar system.

Costly Bugs.

An entomologist estimates that bugs cost this country about $250,000,000 a year. The grasshopper eats up $50,000,000 worth of vegetation if he is feeling well; the Hessian fly $50,000,000, the chinch bug $10,000,000, and the potato bug $5,000,000 worth. Tobacco worms, moth, squash bugs, beetles, etc., make up the rest. Entomologists have been studying the problem of bug destruction for many years, but progress toward the desired end is not as rapid as it should be.—Minneapolis Times.

A New Disease.

"Well, how do you like married life?" inquired a friend.

"Not at all," replied the man who had married money and was suffering from it. "I'm a case of matrimonial dyspepsia."

"Matrimonial dyspepsia?"

"Yes. She never agrees with me; she's too rich."—Philadelphia Public Ledger.

THE TRUE FISHERMAN.

Loves to Match His Wits Against the Wary Trout and Enjoys Nature.

The angler's art is but a pretext or rather the incentive to a ramble and not the sole object of the fisherman, unless, alas! he belongs to that too common variety the man whose sole object is his catch. Such a man fishes with a worm, hides fingerlings in the depth of his basket and photographs his catch as a witness of his crimes. He is not a fisherman, but a butcher. A yellow primrose on the river's bank is to him a primrose and nothing more, writes Dr. A. T. Bristow in World's Work.

The true fisherman loves to catch fish, to match his wits against the wary trout, but as he wanders from pool to pool the songs of the birds greet him restfully; every turn in the stream reveals a nook in which strange wild flowers nestle. The gentle excitement of the sport prevents the scene from becoming monotonous. The element of chance, the uncertainty of the catch, add the drop of tabasco sauce which gives zest to the day. And the noontide meal by the brink of the stream! When did a meal have a more delightful flavor? Delmonico never served a trout like unto those we have eaten by the banks of a mountain brook with the clear blue sky above the waving forest round about and the murmuring stream at our feet.

The hour of contemplation comes afterward with the pipe of peace in our hand instead of the relinquished rod. How far off the city seems! Are there such things as corporations, trusts, stocks bonds; electric lights that amaze the sight, harsh warnings of trolley gongs, the rumble and grind of the wheels and the brakes on the elevated road which affright the ear? The harshest note that breaks the stillness here is the boom of the bittern in the distant marsh.

Home to camp the fisherman goes, taking a cast in this silent pool in which the trout rose in the forenoon to his cast but missed the fly, or in that dark hole deep under the bank in which a vigilant eye may detect the brown sides of a trout with lazily waving fins and tail—an old campaigner not easily caught.

A HOTEL HOODOO.

Peculiar Superstition Concerning the Closing of the Guests' Register.

Most hotel clerks dislike to see the register closed. Some of them would say that their desire to have it remain open is in order that it may be ready for the signature of guests. But there are other clerks who don't mind telling the real reason, says the Kansas City Journal. It is because they have a feeling that it is unlucky to close the register. It is a sort of superstition, just as other people have against doing things on Friday or beginning a journey on the 30th day of the month. Hotels are not more given to superstition than are people, although there is no room to in most of them.

While the superstition is not generally well known among people who travel, it does not often happen that a clerk is compelled to rush to the desk in order to prevent a guest from closing the book. That is what happened at one of the big hotels the other day, and it was because the superstitious guest would have closed the book that the clerk told of the feeling most hotel clerks have about the bad luck that will follow the closing of the register. It is a good deal like the mental attitude of the small boy who crosses his fingers when a cross-eyed person looks at him.

"Of course," said the clerk, "I do not think it makes any difference. In fact, I am sure it don't, but I never allow the book to be closed during my watch if I can beat the other fellow to it. Hotel registers are to be written in, anyway, and a man can't write in them if they are closed."

POINTS ABOUT MAGNETS.

What Magnetism Really Is, Says This Authority, No One Knows.

Magnets are frequently made in the form of a horseshoe or letter U, but a horseshoe magnet is really nothing more than a bar magnet bent. As both poles will attract iron, it is apparently twice as strong as when in the bar form, writes Laurence B. Fletcher, in St. Nicholas. A piece of iron laid across the poles is attracted by both of them. In this case the poles act on opposite ends of the iron and do not destroy each other's effects, for each pole magnetizes the portion of the iron opposite it. The iron, therefore, becomes a strong magnet, with its north pole touching the south pole of the horseshoe magnet, and its south pole touching the north pole. This is popularly called a "keeper," because it "keeps," or preserves, the strength of the magnet, which becomes much weaker when the keeper is left off.

Iron, steel (which is a modified iron), the metals nickel, cobalt, and some substances which contain a large portion of iron, are the only bodies that can be strongly magnetized, though many others can be magnetized very feebly and temporarily.

What magnetism really is, no one knows. It seems to be a natural property of the particles of iron, and what we call magnetizing is only, as I have said, the act of turning the magnetic particles so that they act together. This is frequently brought about by causes beyond our control, and almost all pieces of iron, if carefully tested, are found to be weak magnets.

THE ELEPHANT'S TRUNK.

Science Has Discovered That the Animal's Present Form Is the Result of Evolution.

The recent discoveries of fossil remains of ancestral proboscideans in the tertiary deposits of the Fayum district in Egypt, combined with a careful study of the skeleton of certain species of mastodon known to science for many years, have enabled Dr. C. W. Andrews (proceedings of the Royal society) to indicate very clearly the manner in which the trunk of the modern elephant has been gradually evolved, says London Field.

The ancestral proboscideans were comparatively small and short-legged animals, which had, of course, no difficulty in putting their mouths to the ground. As the successors of these primitive forms gradually increased in bodily stature, and more especially in length of limb and size of head, it will be obvious that in order to be able to obtain food or water from the level of the ground they must either have increased the length of the neck or have developed a special prolongation of the muzzle.

But in the case of large and heavy-headed animals, whose successors were destined to carry the enormous tusks of the extinct mastodons and modern elephants, it will be further manifest that an increase in the length of the vertebrae of the neck and hence of the neck itself would, from mechanical considerations, have been impossible. Accordingly the only practicable course was the elongation of the muzzle.

In the earlier forms the lower jaw was short and heavy, with the union between the two branches (symphysis) very massive. On the other hand, in many of the early mastodons the lower jaw had become very long and terminated in a long trough-like symphysis. To accord with this prolongation of the lower jaw it is quite evident that the upper lip and nose must likewise have been elongated and they probably formed a kind of proboscis, of which the lip was most likely more or less prehensile.

For some reasons or other no sooner had the prolongation of the lower jaw attained its maximum development than the length of its trough-like sym[illegible] structure commenced to be shortened, as found in later mastodons and the modern elephants. During these changes the length of the proboscis must have continued to increase, while its flexibility and tactile power were likewise at the same time augmented till the structure attained its full development in the elephants of to-day.

In this connection it may be noticed that the trunk of the African elephant differs very markedly in structure from that of its Indian cousin, thus indicating that these two species emerged from the common ancestral stock at a comparatively early date. In addition to the well-known difference in the form of the tip the trunk of the African elephant is distinguished from that of the Indian species by its segmented structure, so that it has the appearance of being composed of a number of distinct portions of which slides on the other like the tubes of a telescope. The Indian elephant's trunk on the other hand is formed [illegible] through, and has the appearance of being composed of a tapering piece of rubber hose pipe. It is evidently a more highly specialized structure than is the proboscis of the African species.

AMONG THE TURKS.

An Englishwoman's Impressions of the People Who Are So Much Despised.

An Englishwoman traveling in Montenegro recently with a party of Turks was much impressed with the patient endurance of the Turkish women under trying circumstances. She writes to the London Queen:

"In our party were several Turkish women, whose dainty gold-slippered feet and delicate crepe garments seemed out of place in this frontier roughness; but they got bravely down from their places and started out across the malaria breathing wastes. We, with our broad-soled English footgear and our 'sensible' clothing, made better headway, but we were left far behind in the matter of temper. Flushed and perspiring, and wrathful at not having been previously warned that horses might have been provided, we were a bad match for the silent and dignified endurance of a pain which must have been horrible for the delicate unaccustomed little feet. Never were the shrouding white veils removed from their faces in the three hours which we spent together on foot and waiting in the ramshackle lodging for the lord's steamer to pick us up, though the hours were in the middle day, the time was August and the sun hot as only a Montenegrin sun can be. Never from the women of any race did there escape a word, a sigh, a look which we could perceive a gesture of impatience. The men we found courteous and gentle beyond description, doing all in their power, not only to help and make their own women less uncomfortable, but offering us such attention as we had not received since we left Italy. In comparison with the disdain of the Austrians and the brutishness of the slavs the Turks left upon us a pleasant impression."

Her Specialty.

"He [illegible] the receptions. And you neither sing nor play?

She: No.

"Then I suppose you either read or paint?"

"No; my specialty is giving imitations of the society young man."

"How's that?"

"I merely sit around and try to look intelligent."—Chicago Daily News.

FAIR HAZERS FOOLED.

The Tables Turned on College Girls by a "Freshy" of Rare Self-Possession.

A clever New York girl who recently entered a prominent Massachusetts college for members of her sex was evidently fully prepared for the hazing ordeal through which new students are compelled to pass, for she turned the tables upon the hazers in a manner that will not soon be forgotten. The girl in question is possessed of her own share of spirit and independence. Perhaps she has a little more than her share. At any rate some of the members of the sophomore class at the college decided she did not accord them the deference due from a humble freshman. They decided to give her a lesson on the evils of lack of reverence for sophomores. What they failed to appreciate was that the New York girl has more than a little histrionic ability. This led to their downfall, relates the Chicago Chronicle.

The hazing was for the most part harmless and more in a spirit of fun than meanness. But when the fair freshman failed to be impressed more drastic means were employed. She was locked up in a dark room. All was silent for a time. Then the door opened, a procession of masked figures entered and the victim was led to another room, where she was locked in a closet. Before the key was turned a skull—a trophy borrowed from the college museum—was placed in her hands.

After a sufficient interval had elapsed the hazers opened the closet door. The sight which met their eyes sent shivers through their veins. There on the closet floor was the victim of their intended harmless foolery. Her hair was down, her dress in disorder, she was holding the skull in her hands and crooning to it. The shock evidently had been too much for her mental balance.

The fair hazers were at their wits' ends. Some screamed, others tried to talk in a soothing manner to the unfortunate girl, one of two broke down entirely. Finally one of the cooler heads suggested that the only thing to do was to summon a physician and one of the professors without loss of time.

[illegible] proximity, her face [illegible] natural expression, and she drew off.

"Well, girls, is the fun about over?" It could hardly, even in its mildest form, in that particular college, for that term at least.

"No more of [illegible] me," said one of the sophomore ringleaders, "I can't see the fun in it. Why, I'll never, never forget the shock I had when I saw that poor girl on the floor as though, in fact, our nonsense had ruined her mind. After it was all over we tried to laugh and treat it as a joke, but it was too strong a scene on to make it enjoyable, [illegible] despite our relief when we saw no harm had been done."

ARISTOCRATIC INDIANS.

Tribes of Indian Territory That Have Made Wonderful Progress in Every Way.

Wealthy Cherokees, Creeks, Choctaws and Chickasaws [illegible] many of them live in luxury [illegible] years ago a more [illegible] and [illegible] Washington [illegible] to the [illegible] of New [illegible]

In such a country the [illegible] of a [illegible] there in [illegible] appears [illegible] we have these people used their resources that no nation in the world has citizens whose individual wealth is so great. I so [illegible] as the [illegible] says Woman's Home Companion. A country of such large potential wealth has, of course, offered superior advantages for the accumulation of wealth, with the result that many of these Indians are the possessors of great fortunes. This class as a rule has amassed these large fortunes in big stock or mercantile operations, and it lives for the most part in splendid country mansions, surrounded by all that culture and unlimited means can procure. At more than one of these residences a French chef, a white butler and liveried servants are a part of the regular family retinue.

In such homes a good library is always found with well filled cases of the best literature, furnishing rather conclusive evidence that the days of poor Lo's untutored mind lie very far back in the distant past. A grand piano is also an inevitable adjunct of such homes, and that they are necessary for the purpose of mere idle ornament is attested by the well filled music stands, which contain everything from the libretto of the latest comic opera to the great compositions of Mozart, Wagner and Schumann.

But, after all, such accomplishments will not surprise us when we come to know that the daughters of these wealthy men have had every advantage that money can procure. They have been educated at the best eastern colleges, provided with efficient tutors, and given every opportunity to acquire a finished education, which in most cases they have done, many of them graduating with high honors. Jerry Mauer, Oberlin, Wellesley, Smith and Vassar all number among their alumni representatives of these aristocratic Indians.

In Boston.

"Mister," [illegible] fakir, "do you want to buy a good fountain pen?"

"Why should you think I needed a fountain pen?" asked the man in gold-rimmed glasses.

"Because you look so literary. Jest like yer had written one of der six best selling books of der year."

"You don't say! How much is the pen?"—Chicago Daily News.