CAUSES OF TUBERCULOSIS

Latest Theory Lays Stress Upon Size and Condition of Heart.

THE CONSUMPTIVE TYPE

Prevalent Among Cattle — Horses Practically Immune Due to High Ratio of Heart to Body Weight—Post Mortem Examinations Confirm That Statement.

The results of a long and patient series of investigations of victims of consumption, both in the human and lower animal kingdoms, are set forth by Dr. Woods Hutchinson of Redlands, California, in the New York Times. Exhaustive comparisons are made with previous theories, and the biological side of the question is fully dealt with.

Without detracting from the important lessons learned, because from the days of Hippocrates physicians in studying the consumptive have centered their attention on the lung, Dr. Hutchinson points out that with the increase of knowledge concerning the disease, an uneasy feeling has arisen in the mind of the medical faculty as to the necessity for locating a potent predisposing factor, other than the bacillus and its localization in the lung tissue. This factor, he declares, is none other than the undersized, undeveloped heart. It is now recognized, as the result of post-mortem investigation, that whereas it used to be thought that some time in life the lungs of but 30 per cent. of the human race were invaded by the germs of tuberculosis, it is now known that the percentage is between 70 and 80. The majority of these persons never develop consumption; that, according to Dr Hutchinson is because they have hearts proportionate to the rest of the anatomy.

The consumptive type has been so variously and confusedly described in past ages, that with but slight exaggeration the entire human race might be included in the category. Sometimes it was described as the type "with clear skin, bright, expressive eyes, aquiline features, abundant, light, wavy hair, tall slender figure, tapering fingers, and blue veins;" again, it was a type "swarthy, thick-skinned, dark-haired with heavy features, squat build, and stupid;" another time the type was that with red or tawny hair, clear or freckled skin, and dark eyes, eyebrows and lashes.

"One general physical characteristic may perhaps be said to be a predisponent to the attack of tuberculosis, and that is unusual tallness of stature. This, of course, applies only to those who have reached somewhere near the maximum height at, say from sixteen to eighteen years of age and upward; for tallness in children is, in a safe majority of cases, a sign of vigor.

"Almost every observer who has paid attention to the point has expressed an unhesitating opinion that men over five feet eleven inches, and women over five feet seven inches in height, are distinctly more subject to the attack of the disease, and succumb to it more rapidly than the average of the race. In all the giants and very tall men, whom I have examined, the heart is relatively undersized.

"My attention was first called to the size of the heart in tuberculosis," continues Dr. Hutchinson, "from the point of view of comparative pathology. I was engaged for nearly two years in making autopsies upon the bodies of the animals dying at the gardens of the London Zoological Society, where, of course, I found large amounts and almost infinite variety of tuberculosis and tuberculosis lesions. While tuberculosis can be found in both animal and vegetable feeders in captivity, it never becomes a common or frequent cause of death except in herbivora or mixed feeders. It reaches the level of a pestilence in the herbivorous cattle, apes, and monkeys, fowls, pheasants, and turkeys. But there are curious variations among vegetable feeders. For instance, cattle and antelopes are exceedingly subject to the disease, while the equally purely herbivorous sheep, goats and deer, as well as horses, zebras and asses, are almost exempt. Practically all of those who were susceptible were found to have heart weights far below this proportion.

"The deer, with a heart weight of 1-90 of its body weight is almost absolutely immune, while the antelope, in the same group, with a heart weight of 1-200, is exceedingly susceptible. The cow, with a heart weight of barely 1-250 of its body weight is, as every one knows, exceedingly subject to the disease, while the sheep, placed under even more unfavorable and unnatural conditions, with a heart weight of about 1-160, is almost completely immune. The same relation explains the marked immunity of the horse, ass, and zebra, even under domestication, for their hearts range from 1-90 to 1-100 of their body weight."

Dr. Hutchinson's conclusions as a basis for further investigations are:

That a weak, undersized, muscularly deficient heart, indicated by a weak, rapid pulse and defective first sound, is one of the most constant and significant conditions present in consumption.

That this condition in a considerable percentage of cases precedes the development of tuberculosis; the earlier in the disease this condition is presented and the more striking its degree the more serious the prognosis.

LIFE AND DEATH IN CHICAGO.

The One Is Too Often Cut Short by Violent Forms of the Other.

One of the pleasing features of Chicago as a place of residence is that one stands a better chance of coming to a violent end there than anywhere else in the world.

Dr. Thomas Grant Allen has been keeping tab for the last ten years and now presents the following facts about Chicago. It has:

One violent death for every 950 living.

One violent death for every thirteen deaths from all causes.

One hundred and five deaths for every 100,000 of the population.

Six violent deaths every day.

Forty violent deaths every week.

Four Iroquois Theater disasters every year.

Fifty miles of funerals every year.

Loss to the community, 2,000 lives at $1,000, $2,000,000.

Loss to families, 2,000 funerals at $100, $200,000.

Loss to insurance societies, 2,000 at $1,000, $2,000,000.

In Chicago suicides come first, railway accidents second, falls third and murders fourth. In other cities railway accidents are first, suicides second, and murders ninth.

Of all the forms of violence suicide contributes the greatest number to the death roll in Chicago. Previous to 1894 railway accidents caused more deaths than suicide. Throughout the country this still holds.

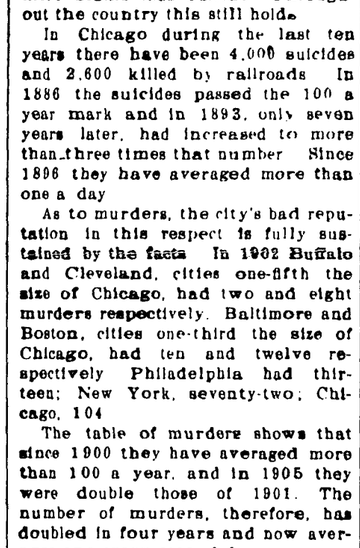
In Chicago during the last ten years there have been 4,000 suicides and 2,600 killed by railroads. In 1886 the suicides passed the 100 a year mark and in 1893, only seven years later, had increased to more than three times that number. Since 1896 they have averaged more than one a day.

As to murders, the city's bad reputation in this respect is fully sustained by the facts. In 1902 Buffalo and Cleveland, cities one-fifth the size of Chicago, had two and eight murders respectively. Baltimore and Boston, cities one-third the size of Chicago, had ten and twelve respectively. Philadelphia had thirteen; New York, seventy-two; Chicago, 104.

The table of murders shows that since 1900 they have averaged more than 100 a year, and in 1905 they were double those of 1901. The number of murders, therefore, has doubled in four years and now averages one every second day.

Contrast this state of affairs with that which obtains in other countries. In 1903 there were twenty-four murders in London, fifteen in Paris, while in Chicago there were 142—that is, nine times as many as in Paris and six times as many as in London, although London is three and one-half times as large.

In Chicago in nineteen of the murders no arrests were made, and in fifty-three others no convictions were secured, and only one convicted was hanged. That is, more than half the murderers escaped entirely, and of those convicted only one paid the extreme penalty.



Mrs. Ella Reeves Bloor,
the wife of Richard Bloor, a Trenton, N. J., potter, and the mother of six children, gained considerable prominence by the fact that she was the one who first furnished the most damaging evidence against the Chicago packers. She acted as the detective advance agent of President Roosevelt's investigating committee.

Modest French Salaries.

Figures recently showing the daily salaries of certain Magistrates have astonished some of our readers. The Judge of the Seine receives, in fact, 8,000f. ($1600) a year, and the Procurator of the Republic 20,000f. ($4,000.) But in the small tribunals the salaries are as follows: Judge 3,000f. ($600;) paid substitute, 1,500f. ($300;) substitute (juge suppleant,) nothing. How many strikers are better paid!

Selling Baptismal Water.

A company has been formed in Berlin for the purpose of selling water from the River Jordan for the purpose of baptism. The water is to sell at 15 marks ($3.60) a bottle, and every pastor who sells a bottle of it is to be entitled to a discount of 4 marks.

Drinking Health With Oil.

Some peasants in Russia will pledge their friends in a goblet of unrefined oil, and not so long ago dwellers on the American prairies esteemed a glass of buffalo's blood the richest drink on earth.

Large serpents, like the anaconda, have long intervals of from 20 to 200 days between their meals.

THE DAYS OF POWDERED HAIR.

French Nuns Set the Fashion Quite Unwittingly.

The custom of powdering the hair dates back as far as the sixteenth century and was first introduced by the nuns in French convents. Those who had occasion to leave the cloisters for any reason were wont to powder their hair so as to make it appear gray and give them a venerable look. The fashionable dames were so struck with the novel effect of white powder on dark hair that they soon appropriated the device as one of the arts of the worldly toilet. Out of this grew the use of tints in the hair. The Roman women often used blue powder and later, in 1860, Empress Eugenie set the fashion of using gold powder.

Rome, under the empire, and Greece, during the time of Pericles were seized with a mania for golden hair. The belles and fops of the lady devised several methods whereby black locks might be changed to golden yellow, but bleaching did not always succeed. Consequently quite a trade was established with the fair haired tribes beyond the Alps, who sold their locks to Latin merchants, to be worn on the heads of Roman dandies.

Many a dame dampened her raven tresses in the strongest muriatic acid and sat in the sun to bleach her hair to the coveted yellow. Others used lye and afterward anointed their heads with oil made from goat fat, ashes of the beech tree and certain yellow flowers.

The itinerant barber, who passed down and out when people ceased to use powder, in their hair was quite a personage in his day. He went from house to house armed with a soap bowl to fit the chin, powder boxes, pomatum and puffs, was always a newsmonger and a gratuitous scandal bearer.

When wigs were in vogue the Roman dames had in their wardrobe as many wigs as costumes, and when the choice of a wig was made it was necessary to arrange the eyebrows, lashes and complexion in harmony. It was then that the slaves were specially charged with the make-up of the face a delicate operation called by Cicero "Medicamenta candoris et ruboris."

There were some cunning devices in vogue among the belles of the Old World for giving of them were wont to place a single drop of that deadly poison, prussic acid, in the bottom of a wine glass and hold it against the eyes for two or three seconds. Or, more rashly still, they would take a small quantity—a piece not larger than a grain of rice—of an ointment containing that mortal drug, atropia, and rub it on the brow. Each of these was supposed to give clearness and brilliancy, expand the pupil and impart a fascinating fulness and mellowness to the eye. Certain slightly pungent and volatile perfumes, such as oil of thyme, were occasionally worn on the handkerchief, causing the eyes to glitter and sparkle. The eye was made to appear large, full and almond shaped by the use of a fine pencil dipped in antimonical sulphur of Egyptian black, rubbed upon the lids along the angle.

But, after all, the surest means by which a woman may acquire and preserve the gift of pleasing is to be young in spirit if not in years and every bit as pretty as is possible with all the legitimate means at her command. If she is always kind and gentle, always ready to give to others the sunniest side of her nature.—Chicago Chronicle.

Modern Miniature Painting.

Character, and freedom from convention in pose and costume, distinguished the modern mode. Present workers aim to set forth the same breadth of feeling in the confines of their ivory surfaces that oil painters place on their wider canvas. The desire to eliminate detail without brutality, and to hold lasting qualities with personality and dignity, has supplanted the search for affected odds and ends.

The miniature painters of today learn caution in their quest for novelty, though a modern, yet by no means cheap animation inspires their sincere purpose and creative ability. They believe that their art should not develop into a matching of eyesight and magnifying glasses, nor should technique become finical when meant to be delicate. To their understanding of the problem, grace includes dignity in conception of form and color.

A "pretty" miniature need not be a thing of beauty, yet the new school realizes that "prettiness" in its best sense should be regarded, and consequently the results never deliberately appear severe. The contracted field demands care of composition with colors that are simple and orderly in arrangement.

To replace ingenious eighteenth-century cloudy effects the present artists substitute ordinary garments and definite backgrounds. Though it may reasonably be believed that many more difficulties stand in the way of reproducing texture with water colors on ivory than with oils on canvas, yet today the miniaturists have succeeded so well in their efforts in the former direction as to have their results pass without comment.

When all is said and done, however, the very nature of the size and fragile material of the little objects lends itself to the touch of romance and suggestion of preciousness. If such a sentiment remains within proper bounds, surely it may pass without a scoff.—Homer Saint-Gaudens in the Critic.

Too many people wait until time is bald headed before taking it by the forelock.

TOBACCO SEED SELECTION.

Method Practiced by the Maryland Agricultural Station.

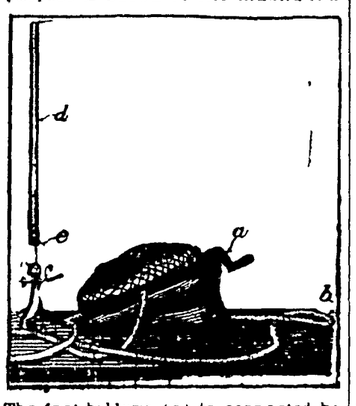
During the cultivation of the crop and the suckering and topping processes a constant search for good plants is made.

A 12-pound manila paper bag is placed over the flower heads of the selected seed plants before the first flowers open. The bags are inspected every few days for the first two weeks and raised up farther on the growing stems, arranged so as to prevent any injury from crowding in the bag during this period of growth.

At the end of the season, when the seed pods are ripe, the plants are cut off near the ground without removing the bags and hung up in a dry place. The bags serve to catch the seed which may fall out of the capsules in drying.

After the seed has thoroughly dried, it is shelled out of the capsules and the heavy seed are selected.

The most satisfactory means of separating the light from the heavy seed is by using a current of air. A simple and effective device for the purpose is shown in the illustration.



The foot bellows (a) is connected by means of a rubber tube (b) to the valve tube (c). The glass tube (d) is fitted with a rubber cork (e), in which the valve tube is inserted. The top of the cork is covered with a piece of finely woven gauze, in order to prevent the seeds from entering the valve tube. About an ounce of seed for separation is placed in the glass tube, and a current of air is injected by means of the foot bellows. The strength of this current must be regulated by the valve (c), so that only the dirt, chaff, and light seed will be blown out of the top of the tube.

Irrigating the Orchard.

When an apple orchard has been thoroughly soaked during fall and winter no irrigation will be needed until the first spraying has been accomplished, says Field and Farm. This is important because the heavy tanks of spraying material and machinery must be hauled through the orchard to do the work. Like cultivated crops an orchard is better if irrigated in furrows during the summer but flooding the entire surface in winter is all right and is more easily accomplished. Flooding the surface in summer is bad practice on account of a tendency to draw the feeder roots too near the surface where they may be injured by drouth during exceptional seasons. Deep spring or early summer plowing, together with thorough soaking of the subsoil, will induce a strong root system.

Wounded Fruit Trees.

An Eastern fruit grower says: Wounds of any considerable size should be given a coating of paint or some other durable substance. A suitable dressing must possess two distinct properties. It must check the weathering of the wound and prevent the growth of bacteria and fungi, and it must be of such a nature as not to injure the surrounding bark. The dressing is of no value in the healing of the wound, except as it prevents decay. For general purposes, a white lead paint is most satisfactory. It is an antiseptic, and it adheres closely to the wood. Wax, shellac, tallow, etc., are lacking in both respects. Bordeaux mixture would be an admirable material for this purpose if it were more durable.

When to Feed the Horse.

Many horses are injured by being fed first and watered afterwards, often the last thing before hitching up for a hard day's work. A horse should always be watered first and fed afterwards and this is a good rule to follow when coming in from work. It will not hurt a horse even if a little warm.

The Hog to Keep.

The Ruralist says: "The pure-bred hog in the hands of a scrub owner has 'gotten into the wrong pew,' and is to be pitied. The time may come when the owner, as well as his swine must possess a pedigree to be able to enter the show ring." The above is pretty tough, to say the least, but let him who disagrees speak up.

The Milking Machine.

Milking machines are becoming so common that a new one is sprung on the public every week or so. Most of them have the usual air suction arrangement and none of them have yet emblazoned the earth in a halo of glory or in other words, set the green grass on fire.

Sharpening Harrow Teeth.

When my harrow teeth become dull I sharpen them like a cold chisel and then set them in the harrow frame with the edges forward. I find that they do as good work as when pointed. We too frequently work with teeth that are dull when there is little call for it.

PLANTS FORCED BY FIRE.

Conflagration Extending from Village Caused Second Blossoming.

A curious instance of the forcing of flowers by accident happened near a small village in France recently. A large fire broke out in the village, which nearly destroyed it. Swept by the wind the flames consumed the last house toward the country side and then attacked the neighboring trees of a pear and apple orchard. The first two rows were entirely destroyed, the three following, being somewhat protected by the first rows and the distance, were not destroyed, though badly damaged. Though the branches of the sixth row were many of them scorched and unable to resist the heat the remainder of them subsequently exhibited a strange phenomenon. A second flowering began at the end of September, and in October all the branches of the trees, except those which had been scorched, were covered with blossoms. They appeared as they would in the month of May, those being most heavily laden with blossoms which had been most exposed to the heat. Some lilac bushes and plum trees in another direction near which the fire had stopped flowered again, the lilacs especially being covered with blossoms.

The fire had lasted but four hours, so in that it did not at all resemble ordinary forcing. All the species which blossomed were those whose buds for the following year are formed in the month of August. From the facts which are gathered from an eye witness it would seem that it is possible to produce a second flowering from the action of a momentary but strong heat. Whether this exerts a local influence, a certain desiccation of the organs of the trees, is an interesting problem. It may be possible, for it is has been proved that a previous desiccation is necessary for forcing, just as it is for the parthenogenetic development of the egg of certain birds. At any rate, this phenomenon ought to suggest a starting point for experiments which might be valuable in the forcing of plants and trees.

World's Oldest Beauty Shops.

Beauty shops are to be found in every street to-day, it is not generally known that the oldest one in the world was kept by the monks of the Santa Maria Novella convent in Florence 400 years ago. Famous for beauty, balms and perfumery, it was patronized by popes, princes and dukes, and all the recipes were made from herbs cultivated in the convent gardens. There were waters for whitening and softening the skin, cures for tooth and other aches; even the health and beauty of the hair were studied by these old monks, who were at once doctors, chemists, and perfumers, and whose work was the cultivator of human health and beauty. The orris powder of Santa Maria Novella is the finest in the World.—The Tatler.

Mistakes of Authors.

Our notes on the inaccuracies of illustrators and authors have brought forth an interesting article from a writer in a provincial paper, who cites several errors we had overlooked. The author of "Don Quixote" makes the party at the Crescent tavern eat two suppers in one evening. Scott in one chapter of "Ivanhoe" gives the Christian name of Malvoisin as Richard, subsequently altering it to Philip. Pope makes a weasel eat corn. Kingsley makes John Brumblecombe read the prayer for "All sorts and conditions of men," though in the time of Elizabeth the Prayer Book did not contain it. Sir Archibald Alison speaks of Sir Peregrine Pickle" when he means Sir Peregrine Maitland; and the same author translated "droit de timbre" as timber duty, "a howler" which is only equalled by Victor Hugo's translation of "Firth of Forth", "premier de quatre."—The London Academy.

A Navy-Less Power.

Belgium is, despite its forty-two miles of seaboard, one of the few states of the world without a navy. There are only two other navyless powers in Europe—the landlocked Switzerland and Servia. Even Bulgaria can boast of a torpedo gunboat and a few small steamers, while Roumania is proud in the possession of "twelve small vessels." Holland Belgium's neighbor, has quite an imposing fleet of eight ironclads and a flotilla of a hundred steamers. If Bulgaria has the smallest navy in the world, the tiny principality of Monaco has the smallest army—126 men, all told.

Strange Sequel of a Dream.

A remarkable story of a dream is reported from Penge. Mrs. Howlitt of Penge, dreamed that her eleven-year-old daughter had been washed ashore at Hastings and that the body was removed on a tarpaulin.

The child was run over by a pantechnicon close to her home, and the wheels went over her chest, causing very serious injuries. She was picked up by some persons who witnessed the incident placed on a tarpaulin and removed to the Beaukennam Cottage Hospital, where she lies in a very serious condition.

Items of Interest.

The Pope's gloves are of the very finest wool, embroidered in pearls.

The United States raises three-fourths of the world's cotton supply.

A meteor whose weight is estimated at 50 tons recently fell in Mexico.

Chrysanthemums were cultivated in China before the eleventh century.

CHINESE SCHOOL CHILDREN.

Girls as a Rule Do Not Attend—Boys Hours are From Eight to Sunset.

Writing of schools for Chinese children a resident of China says: "Usually the father teaches his sons the first rules of arithmetic, reading and drawing. But when his son is 6 years old he sends him to school, so that the teacher can be tormented with him. The school is in most cases the private undertaking of some better situated Chinese or of a small community; the government has rarely anything to do with it. The teacher, a former disappointed expectant official, does his best to pour into his scholars his own scanty knowledge. The value of such a school education is of course very small. In spite of this, many well-established Chinese merchants in the treaty ports have had no other school education and have attained at most only to some pigeon English, and yet they are in active and successful dealings with the Europeans, knowing well how to count and to hold their own. We have to admire the gift of perception and the business capacity of the Chinese under such circumstances.

"School lasts usually from eight o'clock in the morning till sunset, with one hour's break for the midday meal. Chinese boys have no Sunday, but on the way to and from school there is as much rushing about and playing as with our schoolboys at home. Then the primer and the slate wrapped up in a cloth, are quickly laid on the ground when it is the time to give a cuff or a blow. We see boys enjoying the games of ball, blind man's buff, soldiers, robber or horses, where the pigtail serves as reins, flying kites and many other well known games.

"Girls as a rule are not sent to school, the mother superintends their training in housework. As soon as the girls are old enough they are taught to cook, sew, make and mend clothes and indeed to do all domestic work. But the enlightened Chinese sends his daughter to school when the nearness of a mission or some other school gives him an opportunity."

Australia's No-Man's Land.

Practically the northern territory is a sort of no-man's land—the least known and the least developed section of Australia. Its capital, Palmerston, contains more Chinese than Caucasians, and is the only place in Greater Britain where the Mongolian is the master, and the white man the servant. The climate is very trying to whites, and the aboriginal blacks are of a fierce and sanguinary disposition. Vast herds of buffaloes, the descendants of a few experimentally liberated a century ago, roam over the plains, and the place will some day be a sportman's paradise. There is also good reason to believe that the northern territory will be found to be as rich in mineral wealth as the southern part of Australia. Indeed, "Terrors," as shares in northern territory gold mines were slangily styled, have already had a flutter or two on the London Stock Exchange.

Queenly Possessions.

American millionaires always value possessions which are in one way or another surrounded by historic interest, and many a costly jewel, necklace or tiara is owned by Transatlantic notabilities which at one period decked a queen. Much of the ill fated Marie Antoinette's jewelry may now be traced to American ownership, the string of pearls she wore almost invariably for instance, and a coronet set with priceless gems. Her lace, too, has been scattered far and wide, among enthusiastic collectors willing to bid any amount for its possession, says Woman's Life. A well known American millionaire gave a fortune for a crown made for Queen Isabella of Spain, and it is one of his most treasured belongings, not only for its immense value—the jewels being of magnificent size—but for the fact that a queen once owned and wore it.

Unearth Old British Cannon.

Howard Wilson, one of the men employed at the Red Bank battle monument site, recently struck a hard substance two feet and a half below the surface, and, summoning help, unearthed a six foot cannon weighing 700 pounds.

The cannon is of English make, smooth 4 inch bore and has five ribs. There are faint letters on it, but they cannot be distinguished. It was probably used in the famous battle at this point in 1777. It lay within only a few feet of the battle monument site.

Sentenced Dog to Death.

There has recently concluded at Delemont, in Switzerland, a trial which vividly recalls the customs of the Middle Ages. Two men, a father and son, named Scheref have, after a trial full of exciting incident, been condemned to imprisonment for life for murder and robbery.

A dog which the two guilty men had employed was dealt with even more sternly. The Judges took evidence as to the dog's share in the crime as carefully as to that of the men, and then ordered that the corrupted beast should be put to death.

Transportation of Live Fish.

Fish caught on the coasts of France and Italy are now transported alive by rail to Germany and Russia for the market. The living fish are placed in covered cisterns, running on wheels, and the water is renewed continually by means of a motor pump and a system of pipes.—Exchange.