

without its use, as in former times, sloughing and necrosis would persistently go on until the eye was lost. You will agree with me that the electrocautery is one of the most efficient and reliable agents in rodent, indolent or phagedenic ulcers of the cornea. For persistent fistula of the cornea there is no medicament nor surgical treatment that will take the place of electrocauterization. For several years I have resorted to it in phlyctenular keratitis, especially in the recurrent obstinate forms. For the last few months I have used it repeatedly in pannus crassus, in which I usually first make peritomy, cutting through the conjunctiva with the neoplastic vascular tissue down to the sclera, and then, with the flat surface of the electrode at a white heat, I burn the pannus or vascular neoplasm down to the anterior elastic lamina of the cornea. I do not hesitate to make extensive searing, embracing the entire area of the pannus tissue. In no instance have I had any ill results from this extensive burning, but, on the other hand, without an exception, when the cornea was even so en-massed by the pannus as to hide from view the iris, the cornea so treated would clear up and good vision be regained.

In treating trachoma, which is the cause of pannus as a rule, I depend more especially on the expression treatment, squeezing and rolling out the granules with the forceps, but I always take care not to make the two operations at one and the same sitting, for fear of an adhesion of the raw lid to the cauterized cornea. I believe—from my experience—that the cautery in treating pannus is far superior to any other method yet introduced, especially where trachoma complications do not exist. This treatment can be given under the influence of cocain, without any pain to the patient.

Within the last two months it has been my fortune to have, for treatment, several cases of keratoconus as well as of staphyloma. Instead of excising a portion of the cornea and closing the parts with sutures, which is a very hazardous treatment and of little benefit to vision, leaving as it does a scarred cornea, I have found the electrocautery most efficient. Recently I operated for an extensive conical cornea with a leucoma directly in front of the pupil, with the electrocautery, gaining most satisfactory results. In this case the cone was so great that the patient was scarcely able to close her lids over it, and, even when they were closed, there was a marked protrusion. In this case I used the sharp cutting edge of the white hot blade, going through the first three layers down to the posterior elastic lamina. The incision was made vertically, slightly to the temporal side of the pupil, from near the upper edge of the cornea down to within a few millimeters of the lower edge; this had the effect of flattening the cornea to its normal curvature, and also of promoting absorption of the leucoma, and without the slightest scar visible to the naked eye. If this treatment proves to be as valuable an agent in keratoconus in other hands as it is in mine, it will certainly be an advantage to ophthalmology. I have not used it in cases of pterygium sufficiently to give an opinion as to its value or detriment in this affection. I do not believe that we should be warranted in using it in pterygium excepting to cauterize the apex or that part which has invaded the cornea. In doing this it will check and dissipate the growth.

The electrocautery is also a valuable agent in treating those most troublesome affections of the lids, namely, ectropion, entropion, distichiasis, and trichiasis. We all know, too well, how difficult it is to restore the edge of the lid, be it once distorted from or toward the eye, es-

pecially with the erring lashes irritating the eyeball. In former times an extensive, tedious, laborious operation had to be made, taking perhaps several hours and by no means with uniform good success, and besides, as a rule with little or no financial compensation, as these diseases are usually in the poorer and lower classes who are unable to pay a fee. With the electrocautery, in most of these cases, the same or better results can be obtained in two or three minutes, with no fatigue to the surgeon, than can be gotten by the tedious operation of former days.

For ectropion I incise with the white-hot blade, through the conjunctiva to the tarsal cartilage, from the external canthus to near the punctum, 2 or 3 mm. from the edge of the lid. This not only draws the lid up to its place against the eye, but reduces the hypertrophied, vascular tissue which usually exists in this affection. It is sometimes necessary to make more than one incision; the second and third should be parallel with the first and toward the cul-de-sac. The result from this treatment is more marked subsequently, because of the cicatrization, than at the time of the operation. For entropion I always use the clamp, putting the integument of the lid on the stretch, thus preventing too much contracting or puckering of the skin or the tissue, from the cremation. In operating for entropion I take care not to go too near to the free edge of the lid, lest the hair follicles of the lashes be destroyed by the intense heat, and as a sequent, lippitude. The patient being under the influence of chloroform, the clamp applied, an incision is made from the punctum to the canthus, 2 or 3 mm. from the edge of the lid, through the integument into the tarsal cartilage. Where there is much hypertrophy of the lid with a decided curvature of the mucous surface, after making incision with the cutting blade of the electrode, I occasionally use an electro-narrow knife with the flat blade searing the connective tissue down to the tarsal cartilage, taking care not to go too near the hair follicles. This procedure is quickly and easily done, and in the less complicated cases gains the desired results. For distichiasis and trichiasis I frequently resort to this treatment, limiting the incisions to the parts involved. The electrocautery thus used has the effect of not only turning the margin of the lid with the lashes away from the eyeball to its normal position, but it also reduces the thickened hypertrophied tissue and straightens the mucous surface curvature. Sometimes there is a slight scar from the cauterization, but not much more than from the old operation with the ordinary scalpel. Any slight scar existing, will in time, with a little massage, be obliterated.

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## FOOD AND DRINK.\*

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The larger part of the activities of man are spent in search of nutriment. In his diligence nothing escapes attention either in the animal or vegetable kingdom. A ceaseless and relentless hand is laid on almost every living or growing thing to provide material to appease and satisfy human appetite. Nothing great nor small, of either real or fancied value as nutriment, is missed by man, determined to have all there is to eat and drink. The animal cell has not changed in any particular during the period of its existence, and the requirements for

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growth and repair remain as ever the same. Even with the vast modifications since the advent of steam and electricity, primitive and simple limitations at this time govern a considerable proportion of the human family in its food-supply. There are whole races of men of sturdy and enduring structure subsisting on one or more natural products of the ground to the exclusion of variety or flesh. The work and patience of the rice-eating oriental out-rides the endurance of such as think strength depends on much variety and a mixed diet.

Meat eaters are not able to boast of advantages that do not also attend those whose food is a vegetable diet. In the selection of edible material taste and means to purchase it play a most important part. The habit of a varied and mixed meal of victuals thrice each day is widely taught in the homes of all classes in this and other advanced countries. There are few who stop to think whether it is useful or harmful. Sickness is nearly or quite universal among civilized nations, and less in degree among lower grades of mankind, and even quite rare in some primitive races. Eating to excess, of whatever nature of food, if frequently repeated, leads to certain unpleasant consequences. But from a failure to associate cause and its effect, it is much more than probable that much sickness and many premature deaths are directly due to the fatal error of crowding the body with more food than is safe. It is a nice point to determine as to the exact relation between the bodily need and its supply, i. e., not to under or overestimate the vital capacity under different conditions. Few, indeed, have knowledge to that required degree, and it naturally follows that the many are paying a penalty in sickness and suffering, for their mistakes.

The profession, except here and there, fails to appreciate that disease is principally self-induced through the misuses of the stomach. It would be far more helpful to the patients if greater attention were given to dietetics. Conditions of health or its absence are affected by bodily habits, and daily mistakes at the breakfast, lunch and dinner, outbalance in the long run the tendency of physiologic restitution. Let it then be clearly spoken as my experience in a practice of nearly twenty years, that pathology is a condition closely allied with the sad misfortunes of feeding the body in excess of its needs and beyond the capacity of its power of elimination. Carbonic acid gas is a directly resulting waste product and is deadly to cell protoplasm if retained in the system too long. It is reasonable to assert that it is overmuch rather than too little food which is responsible for human pain and bad stomachs. There are ample proofs to show also that it is not a need of greater variety either of vegetable, flesh or mixed diet, that is consistent with health, but the use of such diets in moderation. The organism of man is able to safely appropriate the food materials of all kinds. Any diet may be healthful that is natural, i. e., not artificial, if properly proportioned to the bodily requirements. It may be a diet of one or more substances, such as meat alone, or it may be one article day after day, as in the case of the Chinese and their rice, or it may have all the variety of the American table, if moderation governs the appetite and prudence regulates the quantity. It is a great mistake to eat too much, and it leads to frequent fatal complications. There is no precise weight of food suitable for all persons, as each is an independent consumer, and with necessities peculiarly his own. With few exceptions every class of society abuses the pleasure of appetite, and therein lies the chiefest explanation of the origin of bodily and mental diseases. The solids, liquids and

gases within are augmented in vigor or degenerated, in direct relation to the appropriateness or the inappropriateness of the food-supply. It is the refuse within the organism which, remaining in touch with the vital fluids and tissues for a too long space of time, is turned into the toxins. This toxic matter, fluid, solid or gaseous, kept too long in contact with vital tissues and nerves, induces a series of unnatural sensations. Bodily sensations, when disagreeable or painful, are the symptoms of disease. True medicine or science applies itself at this moment in rightly directed measures that stop further toxic production and at the same time also hasten a removal of such toxin as is already formed. If symptoms are wisely and promptly overcome in a truly scientific manner, little harm results to the organism and a valuable lesson may have been learned by both physician and patient. Much pitiable blundering often passes for scientific treatment, that is called "regular," but to the disparagement of the worth of capable medical science.

Two meals of food each day are safer than three, even if the quantity taken be the same. The early morning hours are accompanied with the least stomachic and intestinal resources for a satisfactory digestion. Waiting till noon or nearly the middle of the day for the first meal has, in practice, yielded benefits to patients placed on that plan. Good results are also obtained by making the first meal of fruit or some plain food, followed by a hearty lunch. It is my wish to especially emphasize this fact, learned in years of practice, viz.: It is not so important what is eaten as it is *when* and *how much*. Seasoning of food encourages overeating; the same is the rational objection to sauces and vinegars and all sorts of dressings. The needs of the stomach are easily satisfied, but the artificial appetite created by the cooks, and tradesmen who have everything conceivable to tickle the palate, is hard to satisfy. In the attempt to give it what it craves, sickness, pain and death are sometimes the logical conclusions. It takes much experience and discrimination on the part of physicians to save patients from over-indulgence. It is pleasant to gratify the natural demands of a healthy organism, but moderation is needful at all times to keep in check tendencies that grow unawares into self-injury.

#### DRINK.

An ocean of water and not a drop to drink is now and then one of the most pitiable of human sufferings. Could all the dwellings in any large city be open to view there would be a sight of wholesale anguish, for nearly every house has its quota of sick and dying. Yet, strange as it may seem, but few are aware that a cool drink of water has virtues superior to any and all saving agencies. There are everywhere attempts made to cheat human nature of its just heritage. There is no substitute for plain water for the animal economy. Anything added to pure water must be regarded as an adulterant. Some such mixtures are slightly injurious, while the largest number comprise positively deadly ingredients. Water drinkers, according to what may be expected, are seldom sick and are the longest lived, other conditions being equal. The wide-spread habit of drinking liquors, mild or strong, is a custom cultivated in a manner similar to that of acquiring a taste for highly seasoned food. Men everywhere are trying to find how to keep well and live happily and long, but continually miss the essentials. Few persons take an adequate amount of water to meet the daily wants of the system. A very large number are actually falling behind in health for the lack of a little more pure water to cool and re-

fresh the overheated blood. Water is frequently repudiated by men and women, wholly unmindful that it has advantages for them beyond price. There are no known counterindications to water as a drink, and the quantity may be whatever the stomach and intestines are able to absorb. It is safe to say that pure water may be drunk at any time and with hardly any limitations save such as might appeal to anyone. In many cases, covering seventeen years of observation, drinking of water freely with meals, immediately before or after them, has not been attended with bad effects, nor does it justify the numerous precautions generally given against mixing water and food in the stomach. Rightly considered, drinking with meals ought to be a benefit. It holds the food in better solution till acted on by the juices, supplying fluid to the blood-stream, and, most important, forming a natural safeguard against gluttony. It is possible to keep well for a certain length of time without attention to physiology or dietetics, but it is a mistake which comes in for compound interest at the end. Moderately used, it is reasonably safe to indulge in coffee, tea and even alcoholics, but it is a hazard which a first-class life risk should avoid. Water is universally man's sweetest and safest drink, and rightly used would in itself largely help to extend his life well toward the century mark. Food tastes better and is more agreeably relished by the water drinker than by those who drink wine at table. Liquors confer no useful assistance in passing the dangers of life, and in self-interest it would be nearer to safety to let Nature's provision for drink have full credit, as being the best, and accept no tradesman's substitute. The best drink for man is pure water, and the ordinary drinking water of a country is always superior to any of the so-called health waters or bottle drinks.

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### A SULPHOSALT OF THE ALIPHATIC CREOSOTE-ESTERS, AND ITS THERAPEUTIC USEFULNESS.\*

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Early in May, 1898, Dr. G. Wendt, of Berlin, the manufacturer of a series of sulpho-acid salts of the aliphatic creosote-esters, through his American agents,<sup>1</sup> placed some of his products in my hands for therapeutic investigation. In responding to the kind invitation of your secretary, I grasped the opportunity to report at this meeting the therapeutic qualities of one of these salts.

Besides the lime salt, of which I shall presently speak, a salt of silver, argentum eosolicum,  $C_6H_7OCH_3OC_2H_3OAg_3(SO_3)_3$ , resp.  $C_9, H_7, Ag_3, S_3, O_{12}$  and one of quinin, chininum eosolicum,  $(C_6H_7S_3O_{12})(C_{20}H_{24}N_2O_2)_3$ , were given to me in order to determine their therapeutic usefulness. Experimental work of another nature, however, prevented me from taking up the latter combinations on a larger scale.

The calcium salt was the one most experimented with by me. Three distinct therapeutic elements enter into its composition, viz., sulphur, creosote-ester and calcium.

Sulphur stimulates the mucosa of the alimentary tract and its administration is frequently followed by a slight increase of intestinal secretion and peristalsis. Besides its valuable antifermentative properties, it seems to exhibit an especial affinity for one or the other components of the tissue albumin. Thus, I think, it facilitates the resorption or the deposition of the creosote derivative into the glandular system.

The therapeutic value of creosote or its esters is too well known to be discussed here at length. Undoubtedly creosote is gradually split up into more simple bodies, in which forms it is carried to the different organs. The neutralizing and antiputrefactive powers of creosote are comparatively limited if tested in the laboratory; in the body, however, it exerts these qualities in a greater measure than the majority of the more energetic so-called antiseptics. This fact I attribute to its non-coagulating of albumin. Mercuric corrosive chlorid, carbolic acid, salicylic acid, alcohol, beta-naphthol-sulphonate, resorcin, zinc chlorid, zinc sulphate and other antiseptic agents are coagulants of albumin, and as such may become tissue destroyers. In consequence thereof great caution is exercised with most of these antiseptics when administered internally, and only small doses of them, in many instances insufficient for the purpose, are as a rule prescribed. Moreover, as is the case with corrosive sublimate for instance, Koch's "strongest antiseptic," the mercury coagulates and throws down the albumin occurring in the medium to be disinfected, combining to mercury albuminate, also possessing antiseptic qualities but which, by its formation, deprives the supernatant fluid almost totally of its contents of mercury. The internal administration, therefore, of mercuric chlorid, and the antiseptics belonging to its class, should be restricted to certain specific and well-defined pathologic conditions, and their employment as disinfectants or germicides, if not otherwise combined, should be abandoned altogether, both on account of their toxicity and their relative inefficiency in all those chronic affections, characterized by progressive systemic decline.

Calcium, finally, that is the form found in this salt, lessens the acid degree of the material contained in the alimentary organs, thereby preventing or allaying undue irritation and neutralizing certain substances of toxic tendencies.

The eosolate of calcium considered as a guaiacol derivative has this formula:  $(C_9H_7S_3O_{12})_2 \cdot Ca_3$  and contains, therefore, in the neighborhood of 25 per cent. of creosote. It is a grayish powder, feeling to the touch like finely pulverized pumice-stone. Its odor is slightly pungent and somewhat ethereal, its taste a little acid and leathery. It is soluble in from eight to ten parts of cold, and in seven parts of hot water. It is very slightly soluble in alcohol, and insoluble in chloroform and turpentin, but is readily dissolved by hydrochloric and by citric, and by some other organic acids, while it dissolves only slowly in acetic acid.

In a dog, weighing 16 kilog., 3 gm. of the eosolate of calcium produced severe vomiting and catarrhal condition of the nasal and pharyngeal mucosa. In a dog weighing 7.5 kilog., 3 gm. of the salt brought on vomiting, intense purgation and marked emaciation. In the healthy human organism 0.33 seemed to exert but little influence; 0.6 has produced a fulness in the epigastric region, slight constipation and diaphoresis; 1 gm. has produced griping pains in the intestines, and the ingestion of 2 gm. was followed by a profuse diarrhea.

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<sup>1</sup> The Fischer Chemical Importing Co., New York City.