Especially in the consideration of the psychical effects the previous state must be taken into account. Often the suffering has been so intense and long continued, and the general environment has been so depressing, that the patients are eager to submit themselves to a dangerous operation that offers any prospect of relief. The immediate rise in spirits may be simply a result of convalescence. As a rule the improvement develops only gradually as in the natural menopause, which is often introduced and accompanied by mental depression.

A weakening of the memory is frequently complained of. This may be simply a momentary forgetfulness of immediate occupation or an increase in the difficulty of recalling past events and experiences.

Severe nervous disturbances may result from the removal of the ovaries even in the forties.

Insanity does not follow castration any more frequently than it does other surgical operations.

Therapeutic Results.—In most cases the results are good, and in a few cases even ideal. The large majority of the patients lead an endurable life after years of suffering. Most of them are able to work after being in a state of partial or complete disability. As a rule they are satisfied with the results of the operation and often express their gratitude for their restoration.

The results of course differ with the indications for operation. The least complicated results follow in cases in which castration has been performed for inoperable myomata. Almost without exception atrophy of these tumors takes place and they may even entirely disappear. Myomata are poorly vascularized and their disappearance is no doubt due to the decreased blood supply. The results are equally beneficial in cases of ovarian or mechanical dysmenorrhœa caused by displacements of the uterus and atrophy of the vagina.

Hysteria appears to be practically unaffected, even when the organic disease is relieved. The same is true of hystero-epilepsy.

The death rate from the uncomplicated operation is practically nil. The pathological conditions which necessitate castration are so frequently complicated, however, that the mortality is raised somewhat. The death rate then becomes that of the complication.

Kelly,* in making a plea for conservatism in gynecological operations, speaks of the effect of unilateral ovariotomy. He presents an analysis by Dr. J. H. Durkee, of 228 cases of unilateral castration, in women under 40 years of age, and draws the following conclusions: "The comparison of the advantage and disadvantage of leaving in an apparently sound ovary is—in each case the average chance of having one child as contrasted with the risks of a recurrence of the disease in 2.6 per cent. of the cases. If the mortality of ovariotomy is 5 per cent. then the risk of death is thirteen to one against it even if the disease recur."

"Ovulation and pregnancy under suitable conditions, are, to a degree unappreciable to the male mind, essential elements of woman's happiness. To dwell upon this point would be but to reiterate what any attentive surgeon may gather from his daily experience in the consulting-room, and to rehearse well-known facts in the history of womankind.

"C. Schroeder stated that one of his reasons for the preservation of part of an ovary was to preserve the function of ovulation, *even if it were accompanied by but a theoretical possibility of conception.*"

After unilateral castration pregnancy may occur if only the tube of the opposite side is present.

As in the case of other bilaterally symmetrical organs, the removal of one ovary results, in the rabbit at least, in a compensatory hypertrophy of the opposite organ.

Interesting experiments in ovarian transplantation have been reported by a number of investigators. Normal pregnancies are said to have followed the operation performed on castrated animals. It has not been shown whether all of the functions of the ovary are performed under these abnormal conditions. Schultz † performed transplantation experiments upon guinea-pigs. Corpora lutea were formed in the ovaries under the new conditions. He showed that the female organization is not necessary for the growth of the ovary, but that ovaries transplanted to the male animal will adapt themselves to their new habitat. He found no evidence of the formation of corpora lutea, however.

Many reports of the beneficial results of organotherapy after castration have appeared in the literature, but no such brilliant results as in the case of athyria have been obtained. Favorable influences upon almost all of the unpleasant symptoms have been claimed, but reports vary considerably. Ovarian and thyroid extracts have been used.

The beneficial effects of castration in cases of osteomalacia have been referred to above.

The question has also a sociological aspect. "My own continued experience only serves to confirm my opinion that the castration of women is often a direct cause of domestic unhappiness and that it has been repeatedly used by men as a good reason for breaking off engagements, and for the violation of marriage vows, and the abandonment of wife and children."† Many of the effects upon society in general are readily conceived.

H. S. Steensland.

CATALEPSY.—The cataleptic state, or one analogous to it, has been observed in a number of living beings in ascending the scale of evolution from the *Drochocephale Virginiana* to man. Owing to the protean forms assumed by catalepsy, and the presence of frequent complications, not to mention the strange theories advanced by ancient authors, and the comments thereon, it is difficult to define the malady with clearness and precision. But among the more important writers of the present age, whose tendency is to substitute the scientific interpretation of morbid phenomena for the sciolistic rendering of apocryphal knowledge, the cataleptic condition is understood to mean a remittent neurosis of the cerebro-spinal system, unaccompanied by fever, and characterized by attacks of variable duration, during which there is almost always suspension or perversion of consciousness and of sensibility, and always interruption of voluntary motion, with general or partial tension of the muscular system, and aptitude of animal life to receive and to keep different degrees of contraction impressed by extrinsic force or assistance.

General Characters.—Much of the present obscurity concerning this curious neuro-muscular trouble is owing to the theories of a mythical pathology when the study of hysteria was but little advanced or the diagnosis of the neuroses was vague and only depended upon the stigmata described by the school of Salpêtrière. Some regard catalepsy as a malady, others as a symptom, while still others deny its existence outside of alienation. Since the time of Galen, who appears to have been the first to recognize its coexistence with mental troubles (Comm. ii., in Hipp. Præd. edit. Kuhn, t. xvi., pp. 682–684), three successive theories relative thereto may be noted: 1. A neurosis that may complicate certain mental maladies. 2. A simple symptom that may supervene in all mental diseases. 3. One of the principal motor troubles of tension characteristic of a special disease, as katatonia or stuporous melancholia.

Idiopathic catalepsy, as wonderful as it is rare, is an apyretic brain malady manifested by remittent attacks separated by intervals of health. Its special physiognomy is owing to the waxy position and plasticity of the limbs, and it is the only neurosis in which muscular contractions are possessed with abolition of the will. Either sex may be attacked, and the disease may occur in childhood or occasionally in advanced age, a case being noted in a man of seventy-five years; but women are more subject than men, and it occurs mostly about puberty or between the twentieth and thirtieth years, generally in persons of dull minds and sluggish physical organization. Cataleptic paroxysms may be spoken of as atypical. The fantastic characters of the cataleptic state render all clinical description absolutely obscure; so that the actual observance of a single case, or the study of a series of well-reported histories, will do more to throw light on the question than all the symptomatic enumerations that form the basis of these descriptions.

Symptoms.—Systematic observance of cataleptic symptoms relates chiefly to the three orders of pathological phenomena of the mind, sensation, and motion. An attack coming on in a nervous or melancholic individual may be sudden and all the functions of the life of relation appear entirely abolished. There is complete suspension of mental action, with cutaneous anæsthesia, loss of thermic sensibility, and rigidity and inertness of the limbs, which retain the position given to them. This rigidity is described by the old Latin authors in such picturesque locutions as *stipitis* or *trunci instar*, and *mortui ritu jacens*. In some cases the attack may have such precursory symptoms as headache, insomnia, vertigo, hiccough, epigastric pain, a feeling of constriction in the throat, trembling of individual muscles, an undefined sense of discomfort, and different hysteriform nervous troubles. When suddenly attacked the patient remains motionless in the attitude had at the moment when struck. Patients have become cataleptic while drinking tea, playing cards, ascending a ladder, during attitudes of devotion, and the like, and have retained the position held at the time of attack. The various positions a cataleptic may be made to assume have been compared to those of a manikin, to a statue with springs or with limbs of soft wax, which preserve any constrained position or inflexion given to them for a comparatively long period. The muscles of the breast and the inspiratory muscles are unaffected during a cataleptic seizure; and it is probable that the digestive functions go on regularly, although the phenomena of absorption and nutrition operate with extreme slowness. The secretions and excretions are lessened, and even suspended, cataleptics having been known to go for twenty-five days without a voluntary evacuation and to undergo long abstinences, leaving them in the condition of hibernating animals. Consciousness, though mostly abolished, is not so in all cases, the suspension of sensorial function being more apparent than real. With the general disturbance of the vital processes there is almost entire abolition of the functions of special sense. The mucous membrane of the nose, however, retains its sensitiveness slightly, and the act of swallowing may be performed when the substance to be ingested is placed deeply in the pharynx. Reflex irritability is sometimes lost, but the electric contractility of the muscles remains. Respiration is slow and tranquil; the pulse normal in rhythm, though sluggish and at times almost imperceptible. The pupils are dilated, and the fundus of the eye shows paleness of the choroids, with straight and attenuated retinal vessels. The temperature being lowered two to four degrees below the normal, the patient becomes icy cold, deadly pale, and expressionless—a condition that may easily be mistaken for death. In fact the annals of medicine record illustrative cases of apparent death from this cause, in which the victim has narrowly escaped burial alive. The old schoolman, Duns Scotus, is an instance of a resuscitated cataleptic. A case often quoted is that of a woman who was placed in a family vault, presumably dead, and having regained consciousness during the night, and fortunately finding the vault unlocked, returned home to her husband, and after this strange episode lived to bear a large family of sons and daughters. The event is commemorated by a monument and an inscription in the Lutheran cathedral at Magdeburg; and it is suggested that the possibility of such occurrences may account for the custom that obtains in some parts of Germany of placing a bell above the public receptacles for the dead, and fastening the hand of the ostensible corpse to the rope, that it may be rung in the event of consciousness being regained. An instance is related in France of a cataleptic who was on two occasions the chance victim of hastily rendered funeral honors. Now and then one reads in newspapers of women being taken away for burial while in a cataleptic trance, and only recovering consciousness when being lowered into the grave. A woman in a trance having been buried alive in Naples, the court sentenced both the doctor who signed the certificate and the mayor who authorized the interment to three months' imprisonment for "involuntary manslaughter." Such mistakes could hardly happen nowadays, provided ordinary precautionary measures are taken to discriminate real from apparent death, such as the auscultatory signs, the indications furnished by the thermometer, the electric contractility of the muscles, and the ligature of a finger or a toe.

The attack over, the patient suddenly regains consciousness, sometimes after epistaxis or the appearance of the menses, and there is usually no recollection of what has happened during the attack. Headache and general lassitude generally follow for a short time. The attack may disappear and be transferred into another neurosis or into a vesania. There is great variability in the number and duration of the attacks, which may last for minutes or hours, or entire months. The malady has been known to disappear after one attack; while in another patient as many as seven hundred paroxysms have been counted. The attacks may, moreover, be very irregular in manner, or they may be periodic, and even occur during sleep. There is no mental disorder in the intervals of simple catalepsy; but when the catalepsy is a symptom of profound nervous disease it may be associated with ecstasy and somnambulism, or the occurrence of hysterical convulsions, delirium, maniacal attacks, and hallucinations. For this reason it is generally held that cataleptics are responsible for their acts during intervals, except when there is a complication.

The condition represented by the picture outlined in the foregoing remarks is often modified or softened down into the incomplete form, which, though not having all the symptoms of what may be called ideal catalepsy, exhibits nevertheless, in a different degree, the motor and sensory disorders, and electrical reactions characteristic of the disease in question.

Complications.—Catalepsy may be associated with another nervous affection, such as hysteria, ecstasy, somnambulism, tetanus, mania, hypochondria, and lypemania; or with a disorder of an entirely different nature, as pneumonia, typhoid fever, meningitis, rheumatism, intermittent fever, etc. It is complicated and mixed in *hystero-catalepsy*. Without doubt hysteria developed independently of mental alienation is the neurosis with which catalepsy affects the most frequent relations and narrowest affinities. As one and the same morbid state they proceed from a common origin, and doubtless are closely related. Muscular rigidity in this form varies as to the degree, not being in positive relation with cutaneous anæsthesia, but almost always proportional to the depth of lethargy and to the volume of the muscles concerned in the movements of the articulations. Persistence of muscular tension, with absence of sensibility and fatigue, are spoken of in connection with this state as a new variety of perturbation of voluntary motility. Systematic writers describe hystero-catalepsy as general or partial, complete or incomplete, and transitory or permanent. In rare cases it is unilateral.

Ecstatic catalepsy has been often observed in ecstatic women and in priests. The records of sorcery and demonography abound in instances, historic and modern, of women becoming cataleptic during certain religious observances, of priests who become so at certain stages of the mass, and of monks who throw themselves into prolonged cataleptic ecstasies. No less a writer than Balzac speaks of profound meditation and fine ecstasy as catalepsy in the bud. Doubtless many of the queer sects mentioned by Dr. Hepworth Dixon, in "New America," are made up of individuals whose mental condition is more or less influenced by this disordered state. Anthropologically and pathologically speaking, the same remark would apply to various so-called religious ceremonies that

* *Op. cit.*

* Schultz, Centralblatt f. allgem. Path. u. path. Anat., xi., 200, 1900.
† Kelly, *Op. cit.*

have obtained among all races in the times of all the prophets, from Moses to the Latter-Day Saints of Salt Lake City, and in the worship of all the gods from Jupiter to the latest theosophic misconception; and however much we may respect the courage implied in the expression of a sincere opinion, it is impossible not to detect the further existence of this disordered state as shown in numerous sciolistic writings, notably those of Dale Owen, Swedenborg, and the theosophists. Moreover, it needs but little observation to trace the prevalence of the same morbid influence among clairvoyants, spiritualists, and even the ardent admirers of Madame Blavatsky.

Catalepsy with somnambulism is a complication in which the phenomena of catalepsy and the symptom of somnambulism are bound one to the other, and succeed in a regular order in such a manner as to form a single attack. They are sometimes distinct, independent of each other, and separated often by long intervals.

The disease may occur with other accessories, as catalepsy with tetanus, catalepsy with epilepsy, and with chorea, the chorea happening in the daytime and the catalepsy at night during sleep. Catalepsy may also exist with permanent contraction of the feet and hands; with delirium and melancholy, with acute and chronic mania, and with dementia and idiotism. It is a frequent complication of paranoia, and is sometimes, though rarely, associated with hypochondria. We may occasionally see in the subject hysteria, catalepsy, ecstasy, and somnambulism succeed, turn by turn, and mix one with the other, with a frequency entirely out of the regular order of things and an intensity unheard of. This extraordinary mixture of cerebral neuroses was met with in its highest degree in the great convulsive epidemics of the Middle Ages, during the sixteenth, seventeenth, and eighteenth centuries: and their occurrence having become a matter of history and common hackneyed observation with writers on kindred subjects, it suffices to give them merely a passing mention. Catalepsy is met with in acute dementia, stupidity, and other non-determined cerebral affections. The cataleptic states may still be manifested in the greater part of the neuroses, and in diverse affections of the brain, and with such acute diseases as pneumonia, typhoid fever, acute articular rheumatism, intermittent fever, and worms. Verminous catalepsy has been noted and commented upon by various writers.

Epidemic catalepsy, like many of the neuroses, may become contagious by imitation under mesological circumstances favorable to its propagation. Such circumstances exist when the disease occurs in an assemblage of impressionable subjects, as a school or a convent, a camp-meeting, or a spiritualistic gathering, where a two-fold predisposition is to be found in the nervous temperament and in certain questionable hygienic and moral conditions. In former epidemics, the disease seen in its most startling and complete expression exhibited a terrible spectacle and mixture of all the neuroses and all the vesanias. It was common for celibate and ascetic persons to show the strangest nervous symptoms; to fall cataleptic at mass or during other religious observances, and to exhibit the complex symptoms of hysteria, demonopathy, and catalepsy.

Catalepsy and cataleptoid phenomena may be provoked artificially in hysterical or other predisposed, impressionable and nervous persons, through mental suggestion, or by intense light, the sonorous vibrations of a tuning-fork, and by pressure on the ovaries. These artificially induced conditions have been studied by various persons, who think the condition should properly be called *syggignostic*.

Pathological Anatomy.—The physiological cause of this and of allied conditions is presumed to be inhibitory arrest of activity of certain tracts of the ganglion cells of the brain cortex. It is, however, impossible to say in the present state of scientific observation whether inhibitory lesions exist or not in catalepsy; but it is probable that there is, in addition to muscular inhibition, a morbid element, the essential nature of which is unknown. Such superficial alterations as considerable development of the Pacchionian bodies and injection of the meninges found after death from catalepsy are insufficient to explain the symptoms during life; and the inflammatory exudation or alterations found in the central organs, with softening of the optic thalamus and corpus striatum, are lesions rather to be associated with other diseases than with catalepsy, since they were present as complications in the observed cases; therefore, until something more complete is known of the morbid anatomy of catalepsy, it must be regarded as a violent excitement, a sort of tension, a cerebral cramp, the result of a purely dynamic lesion of the cerebro-spinal nerve centres whose function is to preside at the determination and co-ordination of movement.

Causation.—If the pathological nature of catalepsy is obscure and unknown, its causes are extremely numerous, and present a particular interest. Nervous exhaustion is the most common predisponent, and of all the etiological moments hysteria is the most prominent. Catalepsy and insanity usually march together. Many authorities declare that no catalepsy can exist unless accompanied or followed by a psychosis. Acquired or innate predispositions are found in persons of great nervous susceptibility and unsteadiness, or in those of a nervous and melancholic temperament with a previous neurosis, and rendered more susceptible by chlorosis, masturbation, or progressive spinal paralysis. Tumors, tuberculous meningitis, and other chronic cerebral diseases, may also give rise to cataleptic manifestations. Atavistic influences seem to account for some cases of catalepsy. It does not appear that the disease is ever directly transmitted, although heredity as a general cause seems to preside over its development in many observed cases.

The causes that may provoke a cataleptic crisis are numerous and varied, and it often follows diverse circumstances, as excess of work, religious excitement, violent fright, deep chagrin, an attack of anger or indignation, gastro-intestinal irritation, sudden cessation of the menses, unrequited love, and worms. It may result in a transitory form from diffused encephalitis, or as one of the sequels of typhus or malarial fever, of acute articular rheumatism, uræmia, the puerperal state, auto-intoxication, and pneumonia. Partial catalepsy may also be in consequence of the narcotic inhalation of ether or chloroform, of poisoning by lead or carbon dioxide, hashish, or alcohol, and it may result from being struck by lightning. In fact, any toxic substance or any concomitant psychosis may put into activity the cataleptic state. The production of crises, by looking fixedly or for some time at a bright object, and vividly riveting the mind on the image is one of the proceedings of Braidism or Mesmerism. Among the hack observations of medical writers are those relating to the Franciscan friars, who became cataleptic at mass during the elevation of the host. It is known that the monks of Mount Athos go into a state of cataleptic ecstasy by looking fixedly at the umbilicus; Indian fakirs fall into catalepsy by looking a quarter of an hour at the end of their nose; Egyptian sorcerers procure sleep and insensibility by similar details; Arab sorcerers of Cairo, by looking steadfastly into the palm of the hand; and it is related of Cagliostro that he brought on somnambulic crises by similar means. Instances of psychic shock, like that of a woman who became cataleptic every time she saw a certain man who had insulted her, or that of an indignant French judge, who suddenly became cataleptic when insulted in court, incline one to the opinion that such expressions as "petrified with indignation," "motionless with surprise," and the like, though merely implied comparisons, are not always to be taken in the metaphorical sense.

Diagnosis.—The marks that constitute the essential and pathognomonic character of catalepsy, as complete or partial aptitude of the limbs to preserve during a relatively long time the position given to them, and the impossibility of the patient to modify this attitude, along with unconsciousness, anæsthesia, and analgesia, should make the matter of diagnosis easy. Embarrassment is most likely to occur in cases of simulation, or when it is

a question of discriminating between hysteria, tetanus, ecstasy, coma, lethargy, syncope, congelation, and cadaveric rigidity. In the matter of simulation it is only necessary to test the sensibility, the reflex irritability, and the electrical contractility of the muscles, and to try the influence of mental suggestion. In cases associated with hysteria the distinction is a matter of no therapeutic importance. It may be well to question whether the condition is from a cerebral lesion or of toxic cause. The neuro-muscular system of animal life being alone affected during an attack, that of vegetative life is without loss, as is shown by the persistence of circulation and respiration, which distinguishes catalepsy from syncope or asphyxia. The general history of the case should cause no confusion in diagnosticating catalepsy from the affections with which it may be associated.

Prognosis.—Many regard catalepsy as the index of a predisposition carried to a high degree and by itself not dangerous to life, but a disease in which recoveries are rare. Some recent authorities think otherwise in regard to the prognosis, and Hammond pronounces it favorable even in severe cases, as all his patients recovered under treatment. In cases resulting from malarial infection the prognosis is better. The same may be said of acute attacks resulting from injury, from worms, or from mental shock in comparatively healthy persons. The retention of smell and taste is indicative of returning health. Cases complicated with hysteria or the psychoses are most grave. Death may be in consequence of anæmia or of inanition.

Treatment.—To arrest an attack of catalepsy efforts may be made to arouse the patient by peripheral irritation, as that caused by a pinch of snuff or the inhalation of a few drops of amyl nitrite. Quinine and morphine in combination are recommended in periodic cases of malarial origin, and vermicidal remedies are called for in catalepsy caused by intestinal parasites. Tonics, iron, ergot, and apomorphine hypodermically—gr. $\frac{1}{10}$—have all been recommended. The most efficacious medical treatment yet reported consists in the administration of one of the bromides in combination with zinc oxide, and the simultaneous use of strychnine and other tonics. Acupuncture, faradic electricity, hydro-therapeutics, and change of air are useful adjuncts to the treatment. In addition to meeting symptomatic indications, moral hygiene of the most rigid kind should be enforced, and it is of prime importance that all emotional or religious excitement be avoided. The mind should be disciplined; home influences are to be broken up; and every effort should be made to establish the general conditions of health, which must prevail before the morbid action can really be effaced. *Irving C. Rosse.*

CATALPA. See *Poisonous Plants.*

CATAPHORESIS.—If two fluids of different density are separated by a membrane, the fluids diffuse through such membrane until they are of equal density. This process has been called osmosis. If the two electrodes of a galvanic battery are placed in two compartments of a fluid separated from each other by a porous septum, the fluid particles pass in the direction from the positive pole to the negative pole, so that the fluid in the one vessel increases, while it decreases in the other. The amount of fluid thus conveyed in a unit of time is larger the stronger the current and the smaller the conducting power of the fluid. This phenomenon has received many names, among which electrical osmosis, electrical diffusion, and cataphoresis are the best known, but the last one bids fair to remain in general favor. Cataphoresis, as Billings tersely puts it, is the power of the galvanic current to induce osmosis from the positive to the negative pole.

Cataphoresis, which, scientifically speaking, means merely the action of the galvanic current, has in medical language acquired the meaning of introducing medical substances into the body through the unbroken skin, and is now almost exclusively used in this sense. If a definite quantity of medicine in solution is placed on a disc or sponge electrode at the positive pole of a battery, and applied to a certain spot of the body, while the negative pole is placed anywhere in contact with the body, a local anæsthesia is produced around the positive pole if the substance experimented with is cocaine, while the entrance of quinine, strychnine, and many other drugs into the body by this method can be demonstrated by their presence in the urine or the saliva. Mention of attempts made in this direction date back as far as 1747, but not until 1853 do we find scientific demonstrations of the fact. From that date until to-day the matter has been investigated by physicists, physiologists, and physicians, in both Europe and America. Electrodes have been invented suitable to the different purposes of administering the drugs, but while cataphoresis is beautifully simple in theory and to the physicist, its practical application to every-day medicine is almost exclusively confined to members of the dental profession, who use it most successfully to anæsthetize sensitive dentine and gums with cocaine, and for the bleaching of teeth.

In medical practice cataphoresis has found but scant favor. Neurologists have produced deep local anæsthesia with cocaine cataphoresis where before large doses of morphine were needed to produce the same effect. The substitution of the former drug for the latter has been advocated enthusiastically in cases in which a possible morphine habit loomed up threateningly; but whether a cocaine habit is preferable to a morphine habit is a subject open for discussion. The discovery of cocaine and the ease with which local anæsthesia can be produced by its hypodermic use have undoubtedly reduced the importance of further investigations of cataphoresis for such purposes, and to the busy general practitioner the subject remains more or less a medical curiosity.

How far the action of the cataphoric current in itself can induce or produce nutritive changes in the living cells is a question which opens an unlimited field for research. The so-called Porret's phenomenon shows that its action on living protoplasm closely resembles that on fluids outside of the body, for if applied to muscular fibres the current induces a streaming movement from the positive to the negative pole in the protoplasmic contents of the fibres, so that they swell at the negative and decrease in size at the positive pole; and if the electrodes are changed, the action is reversed. Only a very arbitrary opinion may be ventured in deciding whether such compulsory rearrangement of the protoplasm can be looked upon as beneficial or harmful, and until we have more definite knowledge of the subject, the application of the cataphoric current as a mere stimulus to any part of the human body, aside from its electrolytic action, must remain, from a scientific standpoint, mere guesswork. Whatever beneficial results are reported must be accepted as due to chance, or perhaps to the imagination of the patient. It is, however, safe to predict that when medicine becomes a science, and we know the specific medication necessary to stimulate or rebuild certain definite organs or parts of organs, cataphoresis will receive its due share of attention and assume its proper place. Attempts to force iodine into goitres and lithium salts into gouty joints are crude experiments in the right direction. While we know that such medicine can be forced into a definite part by cataphoresis, we must wait until further investigations demonstrate that the cells of that part will and do assimilate the medicines driven into their substance; for unless such assimilation and subsequent excretion do take place, which change the worn-out or diseased cells into healthy ones, the medical substances introduced will act as foreign bodies and produce irritation instead of improvement. *Julius Pohlman.*

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CATARACT is the morbid impairment of the transparency of the crystalline lens, or of its enclosing capsule, and is lenticular or capsular, according to its situa-