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The Legal Crime of Madness

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There is a bill before the State Legislature at present that is designed to mitigate the cruelty of the existing laws of the State governing the handling of cases of insanity. The necessity and advisability of such a humane bill is best appreciated when we consider the present methods of "committing" our sick people who are afflicted with the disease called "insanity." This bill is approved by such bodies as the California Psychopathic Association, whose president is the Hon. Thomas C. Gould, of the Superior Court of Los Angeles County.

It is reported that some of our legislators look askance at this bill—"are afraid of it." Afraid of what? Fearful that they will take a step that will tend to mitigate the suffering of helpless fellow mortals!

Well—there is no denying that the Law boasts of "justice," not of Mercy.

In the Cause of Mercy?

California is one of the States where the old, old-fashioned insanity laws prevail. Despite our boasted progress, in this particular field we certainly have not made what the rest of the civilized world considers steps forward to any great degree.

It isn't because the subject lacks importance, for insanity is the most important of all diseases. More than half the hospital beds of all kinds in the United States are occupied by insane persons. More than one sixth of all hospital beds are occupied by cases having a single type of insanity. The lives of more people are affected, directly and indirectly, by each case of insanity than by any other form of disease.

Which would seem to suggest that insanity is really a condition for medical treatment. It is so considered by physicians of all kinds. Indeed, this is the one point of agreement be-

tween "medical" practitioners of every school—Regulars, Homeopaths, Osteopaths, Chiropractors, Naturopaths, and Mental Healers.

The Law thinks otherwise. In every state of the Union at present, the final diagnosis of this disease and the determination of treatment, rests with either representatives of the law, that is, with laymen. In the last analysis, a judge or jury decide whether or not any person is afflicted with the illness called "insanity," and what is to be done about it.

It is true that in most states the law waives its right to the extent of permitting physicians, of one kind or another, to diagnose and treat this class of sick persons. So that, even though the actual authority for such things still rests with the law, a working arrangement practically eliminates the legal activity in favor of the physician. Thus, in most states it is no longer good form to drag the accused maniac into a courtroom and submit him to the usual legal machinery. Yet, curiously enough, in one great state—a state well in the van of progress in most fields, particularly in its care for its otherwise sick and unfortunate—in the great State of California, the primitive attitude toward insanity is still the vogue.

These legal methods used in California to accuse, incarcerate, and bring to trial the unfortunate insane person are barbaric and cruel, to say the least. Bear in mind that insanity is a disease, not a crime. Also that the afflicted person is usually somebody's nearest and dearest relative. Yet it is the California law that, in order that this sick person may receive proper medical treatment, a relative must go before a court representative and "swear out a complaint"—a "complaint" which results in the issuing of a "warrant" for the arrest of the sick person.

Just apply that in your own case—to one of your near and dear relatives, if you please—and think what it means. It is not enough of a catastrophe to have your dear one ill and in dire need of medical aid, but you must go before some lay official and give him the exact details of that illness—relate the queer and unfortunate things your relative has been doing and does, things that often must pull at the heart-strings of sacred secrecy. But you must give these, else the official will not issue the necessary order for arrest. Not only relate them, but set them forth in writing, these things that all the world may read, that your sick relative may read in the typewritten copy that the law forces into his hands.

Meanwhile, as likely as not you are under suspicion of trying to "railroad" your unfortunate relative into an asylum. And if your story is not convincingly exact and tragic, the warrant of arrest will be refused.

It is a tragic situation, to say the least. But this is merely the beginning, the very least unpleasant part of the entire procedure. The warrant that you have sworn to having been issued, is passed on into the hands of the group of deputy sheriffs who apprehend your sick relative, arrest him, take him into custody, and deliver him to a psychopathic hospital where he is locked up. "Throw him into the Psycho," in the vernacular.

It is realized by medical men that this procedure in itself is not particularly soothing to the nervous system of a person whose nerves are already frazzled. And, of course, it is wholly unnecessary, as proven by the fact that other states—Massachusetts, New York, Illinois, Kansas—that use less barbaric procedure get on just as well with their unfortunate insane persons. But this is California's present-day method.

Unfortunately, the worst is yet to come. Landing the accused insane person in the psychopathic hospital after the arrest and transportation, under officers' supervision, are simply steps in the preliminaries. The next legal step is when a Judge of the Superior Court appears before the patient in the hospital—the raving maniac strapped to his bed, the senile dement, the moribund,

dying of lingering disease—and solemnly proclaims:

"You are charged with being insane . . . you are informed that you have the right to make defense to such charge, and to be represented by counsel and produce witnesses in relation to such charge, and to have subpoenas issued to compel the attendance of witnesses, and you are further informed that if, at such hearing and examination of said charge of insanity, you should be ordered to be committed, you may, five days after the making of such order of commitment, demand that the question of your insanity be tried by a jury before the Superior Court of this County."

Picture this scene—a stricken creature shouting replies to imaginary and torture-some voices, or one convulsed with fear of imaginary forces that are tearing at his vitals, or another already in a state of morbid dejection over some imaginary wrong he has committed—picture a learned and dignified Judge, the most important official in any community, being party to the enactment of such a farce—a bitterly cruel, and tragic comedy! The Aboriginal American savage was more humane: he treated his mental sick with awe and respect.

Yet the Judge must do this, just as I have described it, else he has not carried out the law. And he does do it several dozen times every week day in California.

Also, the Judge appreciates probably more than almost any other individual the injustice, the cruelty, and the lack of necessity for this act. And usually he mollifies his grim duty as much as possible. But he must and does use the words as I have given them. And if he slurs and perhaps conceals them a bit, as I have heard him, it is out of the kindness and sympathy that is in his heart. For most of the Judges feel that sympathy, and no blame attaches to them for the cruel ordeal into which the law forces them. Indeed, the proposed legislation to change this ordeal, is sponsored by a Judge who has more practical knowledge of the situation than any person in the State.

However, the legal processes just described are still merely in the preliminaries.

On the third or fourth day following the arraignment by the judge the accused sick person is brought to trial. Please note the term, "trial." He isn't brought into a hospital for treatment or diagnosis, but into an officially established courtroom presided over and controlled by court officials, for the purpose of determining by legal procedure whether or not he is guilty or innocent of being—sick.

And this, the twentieth century in the year of our Lord, in the very center of alleged civilization!

In the courtroom the torture ordeal gets into full swing. Here in open court, the accused sick person is placed in the witness chair after the manner of accused persons. He may have attorneys if he chooses, to help him prove that he is or isn't sick, and he may call as many witnesses as he pleases. The same privilege is extended to the "accusing" relatives, of course. So that frequently the courtroom is crowded with friends, relatives, enemies, attorneys, and partisans. All of them there, if you please, for the purpose of making a medical diagnosis.

I wonder who would feel the more at home in this diagnostic gathering, Dr. William Harvey, the father of modern medicine, or Torquemada, Generalissimo of the Inquisition!

What follows immediately is in some respects the most harrowing part of this entire ordeal. It is the taking of the testimony of the complaining witnesses and relatives, testimony that must be given in the presence of the alleged sick person, given in detail. Sitting face to face with her accused sick daughter the mother must relate her child's peculiarities in open court—how she has attempted to poison the family, how she stays out nights with strange men, has contracted a

loathsome disease, how she does one of a thousand different things—things that are the sacred secrets of motherhood, but that must be here related in detail in open court so that the daughter may be adjudged sick and be accorded the privilege of receiving medical treatment.

Is it any wonder that people refer to lunacy-courts and insane hospitals as "mad houses" and absolutely decline to submit themselves and their relatives to such an ordeal until forced to by dreadful and frequently tragic circumstances? And yet, failing to do so, and should their ailing relative commit some act that brings him in conflict with the law, they immediately lay themselves open to the accusation of resorting to the lunacy court simply as a subterfuge that the relative may escape punishment.

"You never thought of having your relative declared insane until she was accused of this crime, did you?" the Magistrate, or the accusing attorney, inquires. And frequently he scores apparently a very important point by that question. Yet it is unfair, unjust. For, just in proportion as the friends and relatives of the insane person are familiar with the legal machinery necessary to having her declared insane, will they shun that ordeal.

What should we do about it?

The answer is perfectly simple. Leave the whole matter discretionary with the judges. It is no experiment. It is done even now in all the great states of the Union, in all the civilized portions of Asia, Africa, and South America, in Australia, and in all Europe. Indeed, in all the civilized world, California stands alone in its barbaric practice.

Think of it!

910 Pacific Mutual Life Bldg.

Physical Therapy in Europe

BY SAMUEL J. ROSE, M. D.
LEXINGTON, KENTUCKY

HAVING recently completed a clinical tour of many of the important centers of medical activity of England and the Continent, it has occurred to me that possibly some of our American physicians may care to know something first hand of the work of their European colleagues.

The tour was sponsored by the American College of Physical Therapy—and allow me to state parenthetically, that I consider physical therapy, as we in the States view it, to be nothing more than the general practitioner of old, who, we feared, had practically disappeared, returning, better prepared with more and newer weapons with which to attack the ever present enemy, disease.

The strikingly apparent fact that condemnation without investigation is not the attitude of the European physician, is an outstanding first and last impression made on the visiting physician. Each of them seems to have that "nothing is impossible" attitude towards anything and everything. However, it should be distinctly understood that, simply because he does not condemn a given theory or claim made by some other physician, neither does it mean that he is going to adopt it without first having proven its claim personally. This he goes about quietly and in all probability engages the assistance of one or more able colleagues to carry on a similar investigation, each working independently of the other.

Dr. Cumberbatch, London

Dr. Cumberbatch's work in St. Bartholomew's Hospital, London, (this hospital is 810 years old), with his combination treatments of internal medicine, surgery, (where indicated) and his chemical, thermal and mechanical treatments is worth serious investigation by any physician, no matter in what branch of medicine he may be interested.

One example of his work is well worth mentioning here. In cases of rheumatoid ar-

thritis, particularly in women, where no focal infection can be elicited, he finds a very large percentage having endocervicitis. This condition he clears up with great celerity and efficiency by means of diathermy.

He uses a block-tin belt around the abdomen as the dispersing electrode. The active electrode inserted in the urethra for ten minutes merely as a test of the patient's heat tolerance, which is usually found to be about 116 °F. The electrode is then removed from the urethra and inserted into the cervix for ten minutes with the machine setting unchanged. No other treatment except a douche of 1-percent lactic acid is used. Where there is no endocervicitis, he uses general pelvic diathermy, by means of a belt of block-tin about the hips and the temperature used here is about 114° F, for twenty minutes. His results are more than satisfactory, using as an indication the many cases seen, examined and interviewed. The end in view is to normalize endocrine disturbance, which is usually an ovarian dysfunction.

Dr. R. H. Jocelyn Swan, London

Another physician whose work should be of interest to all surgeons, radiologists, dermatologists and physical therapists is Dr. R. H. Jocelyn Swan, surgeon-in-chief at the London Cancer Hospital, in which were 810 malignant cases.

The following illustrates the manner of handling of one of his cases of carcinoma of the tongue. His first step is to imbed needles, each containing 1 mgm. of radium, not in the mass, but around it. From eight to twelve are inserted and, where possible, are sutured in place with linen. These are allowed to remain from three to five days, depending on the number of needles inserted, and the size of the growth. The case is then placed under observation, for possibly six weeks. If there is any suspicion of metastasis, the cervical glands are dissected carefully and then follows x-ray radiation.

He treats cervical cancers by radium alone. He has found, by microscopic examination of supposedly known benign prostates which he had removed some years previously, that between 14 and 17 percent of cases contained malignant tissue. His findings correspond almost exactly to those of his colleagues. The interesting point regarding Dr. Swan's work is that he is not only a surgeon, but combines and uses personally other agencies that his American cousins, with but few exceptions, do not use. He also suggests that possibly many more prostatitis cases than we, at present, believe to be so are malignant, Dr. Swan has been at London Cancer Hospital for twenty-five years.

*Lord Mayor Treloar Hospital,
Alton England and Finsen Institute
Copenhagen, Denmark*

In discussing the work of Sir Henry Gauvain, at The Lord Mayor Treloar Hospital, at Alton, England, it is well to compare it with that of Dr. Carl Sonne, at the Finsen Institute, in Copenhagen, since the methods are



Dr. Sonne, Dr. Rekling, Finsen Institute

practically the same.

The Lord Mayor Treloar Hospital is better designed for the treating of surgical tuber-

culosis, especially of the skin, than is the Finsen Institute, lupus cases predominating



Finsen Institute; treating lupus by quartz compression with carbon arc lamps—2 hours duration

in both hospitals. Both use Finsen carbon arc lamps, by compression of the area to be treated. The time of exposure is the same—two hours at a single sitting. Both use general radiation with Finsen lamps, and the London hospital is able to add fresh air and light, due to the fact that the establishment is purposely constructed so that this can be done.

The Treloar Hospital treats only children; while both children and adults are treated at the Finsen Institute. The officials of the latter institution are greatly handicapped, in that their patients, once discharged and returned to their homes, cannot or do not carry out instructions, given them regarding hygienic measures.

*Dr. Thibonneau, Hospital Salpetriere
Paris*

One of the outstanding features, in my judgment, in the manner of technic which produces real results, is that of Doctor Thibonneau, of the Hospital Salpetriere, in

Paris. This method he calls iodine and calcium ionization by means of galvanism. The principal points to bear in mind regarding his technic are as follows: Iodine or potassium iodide is used in cases of arthritis, joint involvement and infections as a solvent. Where pain exists, calcium chloride, 1 percent, is his drug of choice. A few examples as to exact application follow:

Sciatica—He applies the active electrode over the nerve roots, using the positive pole, the gauze beneath the electrode is saturated with a 1 percent solution of calcium chloride. The dispersing electrode is placed over the inguinal region. Duration of treatment is half an hour; amount of current, ten milliamperes. Treatment is given daily for six days, then three times a week until a course of fifteen treatments has been given. Discontinue for a week. If there is no improvement he applies the negative electrode over the eyes instead of the inguinal region. The reason for the latter technic is that the eye, being largely fluid, conductivity is better. The dose is, roughly, 5 milliamperes.

From a historical point of view it should be said, parenthetically, that Hospital Salpetriere derived its name, when first constructed in 1608, from the fact that it was here that gunpowder was made. In 1870, Louis XIV converted it into a hospital and a part of it was used as a prison for prostitutes.

It was likewise in this same hospital that Dr. Duchenne de Boulogne (1806-1875) made and used successfully the first faradic apparatus for the testing of nerve reactions. It was this same Dr. Duchenne de Boulogne who was associated with Charcot, and co-worker in the same hospital, in neurologic work. It was about this time that Charcot, with his thousands of cases, principally prostitutes who were prisoners, did the excellent work on the disease which bears his name.

Dr. J. Beloit, Hospital St. Louis, Paris

To pass on without devoting some space to the work at the Hospital St. Louis, under the direction of Dr. J. Beloit and his co-worker Dr. F. Lepennetier, would be unjust to those who are interested in this branch of med-

icine. Here excellent work is being done with massive doses of x-rays, in deep-seated and small doses in superficial malignant tumors. Their work includes the use of other agencies, such as phototherapy, galvanism, ultraviolet radiation, both from mercury-quartz and Finsen arc lamps, as well as diathermy.

Their technic, briefly, follows: In deep-seated malignant disease, the technic is: Filter, copper, 1mm., aluminum 2 mm., and wood 18 mm., in the order given, the skin being next to the wood; distance, 20 to 40 cm; time 20 minutes; dose, 200 kilovolts and 5 milliamperes.

In superficial epithelioma, as on the face or lip, they use no filter. The distance, in this type of case is 3 inches (7.5 cm.). From end of a 12 inch (30 cm.) cone; dose 15 K. V. The reason for using no filter is to allow these soft rays to reach and be absorbed in the lesion. One treatment is all that is required on the superficial cases.

Much stress is also placed on the use of galvanism in case of various nerve involvements. The type of apparatus used is the wall plate. Diathermy (medical), phototherapy and ultraviolet rays are all used in conjunction, where indicated.

Mme. Curie's Radium Laboratories, Paris

The next place visited needs no preface nor introduction to the American physician—the laboratory of Madame Curie, at the Paris Institute of Radium, where she and her late husband, Pierre Curie, astounded the entire medical world with their brilliant achievements in the discovery of radium. As it well known Pierre Curie was killed by being struck by a horse-drawn vehicle, only a short distance from his laboratories, some fifteen years ago.

The laboratories, as they are today are more interesting to the pure scientist than to the physician. Innumerable highly complicated and technical instruments are everywhere in evidence. The massive equipment for measuring the speed and other characteristics of alpha particles; and the other appliances for making a scientific top of ultraviolet rays can only cause the observer to gaze at these things in profound awe.

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Dr. A. Rollier, Leysin, Switzerland

Establishing his clinic in 1903, in the Swiss Alps, Dr. Rollier has given the world ample proof that the sun and the air of high altitudes will produce cures than can neither be surpassed nor equalled by any other known methods, in all forms of surgical tuberculosis. His treatments are based on his own belief that tuberculosis is a local manifestation of a systematic condition—a general disease involving the whole organism.



Men at work while undergoing sun treatment on a gallery at the Rollier Foundation.

He exposes the entire body to the rays of the sun, beginning by acclimating each patient by fractional radiation, the feet first, including at successive treatments the knees, thorax, etc., and carefully noting any idiosyncrasy or untoward symptoms in each case, until at last the patient spend several hours daily with his nude body exposed to the sun and air at an altitude of 4,700 feet above sea level. At such an elevation the layer of moisture, dust and smoke which constitutes what one physician described as an "atmosphere of slime," as found in low altitudes, is wholly eliminated, and more of the rays of sun, both visible and invisible, are able to reach the patient.

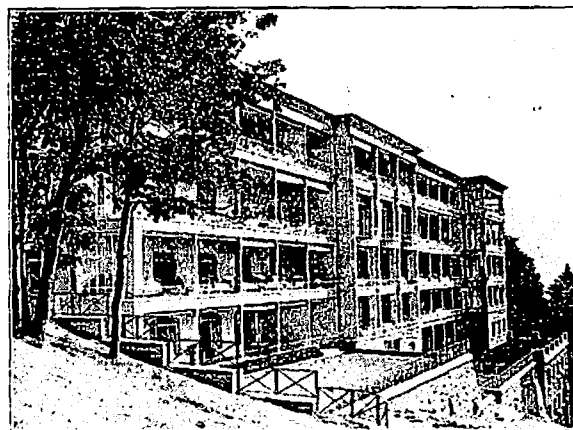
His work daily proves that, by the combination of an unvitiated atmospheric and solar radiation to the nude body, vital energy is restored to the organism. The skin is being returned to its natural medium—sun and air—of which it has been deprived too long.

Dr. O. Veroguth, University of Zurich Switzerland

A very interesting clinic is that at University of Zurich, where Roentgen was a student. Dr. Veroguth combines internal medicine, surgery and physical methods and uses any one or all three, as may be indicated.

One example worth mentioning here is that of a woman, age 40 years, unable to walk, with loss of control of bowels and bladder. By spinal injection of lipiodal he found that the disease extended from the second to the ninth dorsal vertebra. He performed a laminectomy, removing the laminae of the second to the ninth, inclusive, where he found a fibromatous mass. The pressure being removed, the function of the parts previously involved began to return. X-ray therapy, with volitional movement of the limbs accompanied by sinusoidal and galvanic currents, completed the treatment in this case.

Dr. Veroguth is a staunch advocate of thermal, chemical and mechanical currents, as well as of hydrotherapy, and radiation therapy.



South view of Dr. Rollier's Foundation.

Dr. Josef Karwarschik, Hospital of the City of Vienna

Very interesting and instructive is the work of Dr. Karwarschik, combining galvanism, faradism, hydrotherapy, diathermy, ultraviolet radiation, radiant light, massage, internal medicine and surgery.

The high points gained at this clinic were

his technic in pelvic diathermy, with a vaginal electrode and belt of block-tin about the hips, the current averaging 1,500 milliamperes, for a duration of 20 to 30 minutes.

In his galvanic treatments, in trifacial neuralgia, he uses a "goose foot" electrode over the three branches, with the indifferent electrode between the shoulders, the dose being 10 to 20 milliamperes.

In sciatic involvements he uses two pieces of block-tin, three inches wide and sufficiently long to reach from the spinal exit of the sciatic nerve to the ankle. One electrode is placed on the back of the leg, over the sciatic nerve, the other on the front. Under these electrodes he places twelve thicknesses of bath towel, since his current in such cases, is pushed as high as 150 milliamperes, using the galvanic current.

Including a department for old men, there were 6,000 patients in this hospital, which is very efficiently managed by its director Hof-rat Dr. Arnold Baumgarten.

Dr. Eugene Stienach, Vienna

After having been received by Dr. Stienach and having grasped his own ideas of his vasoligation operation, I have deduced that the following is correct: He does not claim that his operation, in itself comparatively simple, will or is aimed to restore lost sex vitality, but merely to conserve that hormone which, by nature, is present in that particular individual, be it weak or strong. In other words, his operation is aimed at giving the patient's body an opportunity to become benefited through regenerated strength by physiologic chemicals, enabling him to regain his resistance.

In regard to those who have done work along similar lines, and as to the lasting effects of the operation, he had this to say, in brief: Benjamin, Cardenal, Eiter, Schmidt and Uspensky have all kept careful check on their cases, and the beneficial effects from the operation last from three to four years. But Steinach warns that, even yet, the combined data of the men who are working along these lines is of no conclusive importance.

His work in vasoligation began about seven years ago, and it is by no means a rarity to

have many of the patients who are still improved, call to see him. He gives Dr. Chas. Chetwood much credit for his valuable data as to lasting results, but he emphasizes that the period of observation is too short, at yet.

Apparently the whole aim of Dr. Steinach, by unilateral or bilateral vasoligation, is merely conservation of hormones and graduating the endocrine impulse, thereby extending the effect over a longer period of life.

In the younger man, unilateral ligation is the rule, especially with those in whom potentia generandi must be preserved. Should the effects begin to abate after a few years, the operation may be repeated on the opposite side.

There is one operation in which I shall give his technic briefly. This he calls albugineotomy.

To increase internal secretion, in patients who have had a bilateral vasoligation and whose strength is failing, Dr. Steinach operates as follows: Make a small opening in the scrotum: expose the testicle and have an assistant keep it in position; select a place in the tunica albuginea having few blood vessels and make a 2-to-3-cm. incision whereupon a small piece of testicular substance will protrude. This piece, about the size of a date kernal or small olive, is carefully trimmed away with scissors. Wait a few moments for bleeding; if it occurs, arrest it and close the albuginea with a fine needle. He requires ten minutes for the operation under local anaesthesia. The patient may get about in a week.

What are the biologic consequences? The tightly-stretched albuginea keeps the entire convoluted mass of the seminiferous tubules under pressure. When pressure is removed, the tubules separate a little, the interstices enlarge and their enlargement causes an extension and proliferation of the interstitial cells. This process extends over the entire testicle, without causing even transient disturbance in spermatogenesis.

*Dr. Franz, Nagelschmidt
Berlin*

The clinic of Dr. Franz Nageleschmidt is as interesting as the man himself. Dr. Nag-

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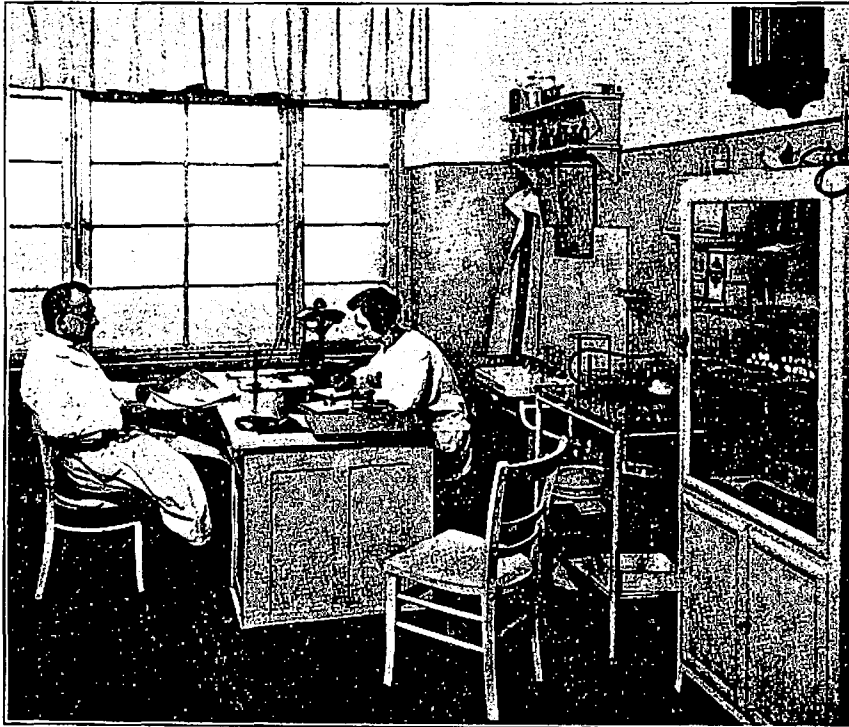
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elschmidt is a happy combination of an outstanding physicist, electrotherapeutist and inventor, as well as being a thoroughly practical physician and teacher.

The first diathermy machine ever constructed, which made possible the so-called discovery of its method of application, is to be seen, still in use in his clinic. This old machine, which he first demonstrated in

part of his armamentarium. Radium emanation is used both intravenously and by mouth as may be indicated.

In treating pneumonia with diathermy, his results are well worth recording. In many cases he gives as high as 1500 milliaperes, for one and a half hours, the electrodes being placed front and back of the involved area repeating twice daily as may be indicated.



Dr. Otto Kaiserling, Berlin, Germany

Dresden, in 1907, and later in London, at St. Bartholomew's Hospital, Dr. Nagelschmidt intends placing in a museum some day.

As to the methods used by Dr. Nagelschmidt, it is somewhat difficult to enumerate them, much less to describe the technic, due to lack of space. A brief general description of some of his methods follows: Neon light is one in which there are no ultraviolet and no infra-red rays—a perfectly cold ray. This he uses in inflammatory conditions, such as boils, carbuncles, etc., for twenty to thirty minutes, repeating daily as indicated.

Ultraviolet rays, faradism, x-ray therapy, desiccation, coagulation, medical diathermy, radium and radium emanation are only a

In tonsil coagulation, he prefers leaving some healthy tonsil tissue, unless the patient insists on complete destruction. His reason for so doing is that it is his belief, with which many of us thoroughly agree, that a healthy tonsil performs functions necessary to the body.

There is one machine in his clinic that as yet, he himself is unable to describe but calls "an electro rhythmic apparatus." It is neither galvanic, faradic nor sinusoidal, but it is most nearly an interrupted sine. This he uses in all cases of infantile paralysis and other paralytic conditions, as a nerve tonic, as an obesity reducer, etc. Muscle contractions, as strong as may be desired, may be obtained

with this apparatus without the skin or tissue irritation found in using faradism, galvanism or the sine wave.

Dr. Otto Kaiserling, Berlin

Dr. Kaiserling's Diagnostic Institute of Brotherhood, of the City of Berlin, is a unique institution, so far as the American

how the practice of medicine in Germany is conducted: Briefly it is this: There are, roughly, two classes of physicians: the men who are nationally or internationally known, such as Nagelschmidt, who are able to command fees such as those of our leaders in America (this type constitutes forty percent of the physicians); and the other physicians,



A quartz light room: clinic of Dr. Otto Kaiserling, Berlin

physician is concerned. One might compare it to our contract practice, lodge or state compensation plan. The employer pays three-fifths of the cost of the treatment or service rendered and the employee the other two-fifths. All services have a set price which is arranged by a non-medical board. For example, a medical diathermy treatment costs one mark and fifty pfennings, or about thirty-seven cents in our money. An X-ray examination costs about eight marks, or approximately two dollars.

There is a central hospital and executive building combined, elaborately equipped with actinic, mechanical, electric and hydrotherapy apparatus, a drug department, operating rooms and X-ray department. This establishment represents the best combination of internal medicine, surgery and physical therapy that the writer has had the opportunity to inspect.

It might interest the reader to know just

who may and usually do place their names on a register, signifying that they will make calls on the poorer people, in which case the physicians cannot charge in excess of the regular schedule price set by a non-medical board, where the fee for a call or given type of treatment may be as low as twenty-five cents. Incidentally the physician, when called, is compelled to render service. The same applies to the physicians of Austria.

Any physician who has read this article has by this time probably made many deductions and comparisons. He has probably arrived at his own conclusion as to the greater or smaller amount of merit possessed by the several men herein mentioned. Personally, one is reminded of a dozen or more strong men starting on a long journey to a common destination, but each by a route somewhat different. They succeed in reaching their destination. So it is with these men in their clinical work. Rollier is favored by natural

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facilities—by altitude where he has the very important advantage of fresh, uncontaminated air, together with a broader band of the sun's spectrum, sufficient to assure his 3,500 patients that ray-filters, such as dust, smoke, fog, etc., are practically eliminated.

Knowing that he possesses possibly the best of all method for his particular specialty, surgical tuberculosis, he sticks to it and refuses to complicate matters by adding artificial means, which are necessary to those phy-

sicians who are not so fortunately located as he. His work is a monument to himself and to the medical world.

The others have more in common, but their technic or method of application vary somewhat. The various methods consist simply in using, singly or combined, all of the following: electro therapy, radiant energy, fresh air, dietetics, hygienic and occupational measures, medicine and surgery.

124 E. Main St.

*Glioma of the Brain

MILTON E. HUBBARD, M. D.
ASSISTANT SURGEON
LOS ANGELES, CALIFORNIA

TUMORS of this group comprise the largest single class of intracranial new-growths, there being 593 out of 1,398 verified tumors reported by Harvey Cushing. They are the tumors which arise from the different types of brain cells proper. Heretofore they have been considered on the whole as practically hopeless to deal with surgically, unless they happened to be cystic.

Although instances of survival for long periods have been noted, it was not until the painstaking classification of the individual forms of these tumors, together with the clinical correlation of their survival (by Bailey & Cushing) that it was learned how considerable a proportion were benign.

We may classify two large predominating groups; one the blastomas which constitute the malignant type of gliomas and usually run their course in twelve months. The second, the astrocytomas, which are extremely benign and generally continue for a period of six years. This means that one out of every four gliomas is amenable to surgical treatment.

Gliomas of one kind or another may be found in any part of the cerebrum, cerebellum, middle brain, pons, or medulla. On the whole they are tumors of relatively rapid growth with the exception of twenty-five per cent of the astrocytomas group.

Clinically gliomas give rise to any or all the phenomena of intracranial pressure or ir-

ritation. Since they are more apt to be sub-cortical than on the surface, they are less likely to occasion focal convulsions than other tumors. On the whole, gliomas tend to give pressure symptoms as their first manifestation, followed later by focal phenomena, if the growth is not in the silent area; whereas in other types of brain tumor, such as the meningiomas, pituitary tumors, and acoustic neuromas focal manifestations are much more likely to precede general evidences of increased intra-cranial pressure. Hemorrhage sometimes occurs in gliomas and give rise to the sudden exacerbation of symptoms of apoplexy.

On the basis of chance, some form of glioma may be expected with much greater frequency than any other types of intracranial new growth. They are diagnosed most often perhaps by the process of elimination of other kinds of tumors. They do not give the bony changes which are seen often with meningiomas. Tuberculomas may be ruled out by the absence of history or physical signs of tuberculosis; and syphilis by the history and positive wassermann reaction.

The relative rapidity of growth of glioma is another feature in determining the diagnosis, and with the exception of suprasellar cystoma, gliomas are more apt to show calcification areas (X-ray) than any other intracranial growths. Occasionally gliomas of diffuse form are situated directly with such areas as the motor or speech centers,

*Presented at the regular staff meeting, United States General Hospital, February 17, 1930, service of Internal Medicine.

and yet have no demonstrable localizing signs of their presence.

X-ray examination of the skull in the great majority of cases of glioma shows merely a thinning of the bone, caused by increased intracranial pressure. We may also notice a deepening of the vascular channels, and the finger-like expressions due to atrophy of the bone by the cerebral convolutions, secondary erosion of the sella turcica may occur from a general increase in pressure.

CASE REPORT

Two facts are outstanding, first the duration of the symptoms and, second, the atypical nature of the malady.

Case Number 13646, age 30, a white male, was admitted August, 1929, complaining of "Fits at night." Had had influenza while in service, September, 1918; on February, 1928, his brother, who was sleeping with him, noticed that he had a fit with loss of consciousness. From February to April he had three fits during the day, lasting three to four minutes (evidently from cerebral cortical irritation); occipital headaches began in April, 1930 and were accompanied by tingling and numbness of his left hand; the headaches were often preceded by, "Flashes of light" and a tingling sensation of the left side of the tongue.

Examination found: blood pressure 150/90; an adenoma of the thyroid; chronic infected tonsils; and epileptiform seizures were observed.

John W. Shuman, Medical Consultant on August 22, 1929, dictated, "Agree with diagnosis," "Infected tonsils"; teeth should be x-rayed, ruling out impactions; paroxysmal tachycardia, moderate hypertension and underweight evident. The enlarged right lobe of thyroid and the adenomatous tissue in the isthmus speak for toxic-goiter even though the basal metabolic rate is minus 12. Recommend clearance of his focal infection and medical management. History fairly accurate for epilepsy, (grand mal type?)"

Tonsillectomy was done with uneventful recovery. He was transferred to Company August 31, and later that fall drove to Denver, Colorado. For one month he evidently had a remission from intracranial pressure.

He was admitted to the Fitzsimmons General Hospital September 4, 1930, complaining of, "Occipital headaches and roaring in ears." He was found to be serologically negative as to blood and spinal fluids. X-ray examination of skull was essentially negative. The eye-grounds at that time showed, "Slight pallor of the temporal half of both discs. Diagnosis: Constitutional psychopathic inferiority, discharged with maximum improvement."

December 8, 1930, patient was re-admitted here, again complaining of pain in back of head and roaring in both ears. Shuman dictated (January 15,

1931): "Chief complaint, headaches, thyroid two plus, hoarseness one plus; tachycardia but no tremor; moderate hypertension; slow cerebation; reflexes present and equal; choked disc; recheck eye-grounds and vision fields. Have Doctor Victor Parkins, consultant in neurology, see him at once. He is a brain tumor suspect. Have trephine for relief of headaches due to intracranial pressure."

Victor Parkins found, "Patient dull; has some confusion; is disoriented as to time, says he has some difficulty in concentrating attention. Some past pointing shown in left hand; other coordination tests well done. Wait for report on spinal fluid tests, and for further observation."

He grew steadily worse; headaches were constant; gait became unsteady; speech was slightly retarded; but he was well oriented and his memory was clear.

January 20, 1931, transferred to Ward 1, under Doctor Anderson's care where occipital headaches were persistent; spinal puncture relieved intracranial pressure and headaches. Anderson noted, "Exaggerated knee jerks, bilateral ankle clonus, positive bilateral Babinski; sensation was intact.

By February 2, 1931 he had lost ground steadily, and that night had for the first time, projectile vomiting. Spinal puncture was made and the spinal fluid was under increased pressure; cell-count normal. At 3:35 A. M. February 3, 1931 he died.

Autopsy by Anderson and Hubbard found a brain neoplasm of the right parietal lobe; the dura slightly injected; the right cerebrum anemic, and the left had a hyperemic appearance with distended blood vessels; no gross hemorrhage visible; the right cerebrum was raised but had not made any abnormal visible marking on interior of vault; brain sent to laboratory intact for further study. Diagnosis, brain-tumor, possible glioma. Dr. V. Andrews, pathologist reported, "Glioma—infiltrating type."

CONCLUSIONS:

Summarizing, this patient presented definite focal symptoms as early as 1928, in the form of epileptiform seizures. It was noted at Fitzsimmons General Hospital, September 8, 1930, that eye-grounds showed a slight pallor of the temporal half of both discs. The outstanding symptom was headache.

The tumor which, being back of the fissure of Rolando did not present focal manifestation. Had it been nearer this area, diagnosis might have been made earlier. Cushing states that gliomas may follow around the different pathological ways without breaking or interfering with impulses. The localization of brain-tumors should be made early as early surgical treatment may offer a chance for recovery.

National Military Hospital.

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Electrocoagulation of the Tonsils With Typical Case Reports

BY JEAN DUPLESSIS, M. D.
CHICAGO

Technique

IN the treatment of the tonsil cases reported here, the biterminal diathermy current was used. It was not supplemented by mono-terminal dessication or by fulguration, as is the custom with some operators. These latter currents add nothing desirable, and they unnecessarily complicate the technique. "Progress consists in simplification."

For tonsils which were not too badly infected, and which were of average size (barely protruding beyond the anterior pillars), the following technique was used:

At the first treatment, one third of the worst tonsil was electrocoagulated. This required the penetration of the needle for about 0.5 Cm. Five or six or seven punctures were made, to coagulate the entire surface of the tonsil without overlapping, and without leaving uncoagulated islands of tonsil tissue between the punctures.

At the second treatment, a week later, the other tonsil was similarly treated.

At the third seance, the balance of the first tonsil was coagulated. This extensive treatment was followed by less reaction than the first treatment, because the entire tonsil was sterilized by the first treatment.

The fourth treatment was similar to the third, and was given on the second tonsil.

For large or for badly infected tonsils, a third treatment was given on each tonsil.

Finally, a "touch-up" was sometimes necessary on each side to coagulate the occasional islands of tonsil tissue which still survived. The motive was to leave no tonsil tissue whatsoever.

The coagulum dissolved in the saliva during the course of the next week. Some of it was expectorated, and the rest of it was swallowed unnoticed. Sloughing occurred only when the tissues were over-coagulated, or when coughing, sneezing or clearing the throat were too forcibly done, or when too-coarse or too-hot foods were eaten.

Reactions

The average patient developed a mild edema involving the pillars and the uvula. There was also a moderate discomfort for two or three days upon coughing, sneezing or clearing the throat. This, however, was not enough to interfere with talking or eating or with business and social life. The reactions following the second and the third treatments were always less severe than those following the first treatment, because the first treatment sterilized the entire tonsil.

Apparently the degree of reaction following diathermy, varied directly with the degree of tonsillar infection.

About one patient in every five had sufficient pain upon swallowing to make eating unpleasant for two or three days after the first electrocoagulation treatment.

Possibly the infection in these cases was at the blind ends of the crypts while the surfaces of the tonsils appeared relatively innocent.

When such a reaction occurred, the inflammation was first cured and then the other tonsil was treated as follows: At the first treatment the needle was inserted only about 0.25 Cm. This was followed by no reaction, and it destroyed about one fifth of the tonsil. The balance of the tonsil was safely removed by two more treatments.

Many doctors, using diathermy, follow a similar technique in all their cases.

Diathermy can be used throughout the winter because it is not followed by the sore throat which is observed after surgical tonsillectomy.

The use of electrocoagulation was considered imperative in cardiac, pulmonary or renal diseases, in arteriosclerosis, diabetes, profound anemia, hemophilia, or in other poor surgical risks.

Diathermy was found particularly effective for the removal of tonsil stumps. According to Rhoades and Dicki¹ even appar-

ently insignificant pieces of tonsil tissue may harbor more pathogenic bacteria per gram than tonsils removed for the first time.

Operative Hemorrhage

Bleeding during the operation was due to two causes:

1. Elevating the tonsil too forcibly from its bed with the curved needle, to bring the punctured area into view. This lacerated the tissues around the needle and caused oozing. Such a procedure was soon found to be unnecessary, because a pillar retractor brought the tonsil into much plainer view.

2. If the patient gagged after the needle was inserted and before the current was started, a laceration was produced followed by oozing. Gagging did not occur after topical application of 10 % cocaine.

Even the slightest oozing masked the operative field, but it was promptly controlled by a few sparks. This was best done by holding the point of the needle about one millimeter from the bleeding surface.

Postoperative Hemorrhage

1. Over-coagulation. This resulted either from keeping the needle in too long, or from placing the punctures so close together that the adjacent coagulated areas overlapped, thus searing the tissues. The over-coagulated tissue came off en masse before the tonsil below it had time to heal, and oozing followed.

2. The strain of forceful coughing, clearing the throat or sneezing often dislodged pieces of the coagulum thus exposing an oozing surface. Patients were therefore taught to cough, sneeze and clear the throat "in a whisper." It was conclusively shown that if the correct technique was used, as described above, not a single drop of blood escaped.

Most patients began to notice improvement in their systemic symptoms after each tonsil had received one treatment. This suggested that diathermy had a sterilizing effect even on the tonsil tissue which underlay the coagulated layer.

Before the secondary foci had time to subside, the following improvements were noticed: Clearer complexion, increased hemoglobin, less tendency to fatigue, better appetite and less nervousness.

CASE REPORTS

In all the following cases, well developed secondary foci were present. It was apparent that the results obtained in such cases, would be much more convincing of the efficiency of electrocoagulation for removing tonsillar infection, than the results obtained in cases which had diseased tonsils without secondary lesions.

Although each report describes one case only, several other similar cases under each heading followed essentially the same clinical courses.

Brachial Neuritis

Female aged 47. Right brachial neuritis two years. Almost constant pain. Hot fomentations gave only temporary relief. Extreme tenderness entire arm. Superficial and deep reflexes absent. Moderate atrophy of right trapezius and deltoid muscles.

No focal infection in teeth, sinuses, ears, pelvis, or alimentary tract.

Two or three attacks of paratonsillar abscess each winter. Both tonsils ragged. Crypts wide open. Both anterior pillars bright red. Numerous pus cells, long and short-chain streptococci in cryptic excretion.

After one electrocoagulation on each tonsil, the pain began to subside, and two weeks after the last coagulation it had entirely disappeared. The reflexes, however, did not return until about three months later.

Exercise and massage were prescribed for the muscular atrophy which soon responded.

Patient still well eighteen months later.

Arthritis

Obese male aged 51. Both knees swollen, painful and nearly rigid. Gradual onset for three years. Bones and joints roentgenologically normal.

Five or six attacks of acute tonsillitis throughout the year, regardless of season. Arthritis aggravated during and after each attack. Tonsillar foci only.

No appreciable improvement until about two weeks after removal of tonsils. Then rapid improvement of swelling, pain and rigidity with apparent complete recovery in four weeks. Patient still normal after ten months.

Gastric Ulcer

Female aged 38. Ulcer type. Progressive loss of weight for five months. Now sixteen pounds underweight. Rather severe gastric pains, not definitely related to meals. Occasional nausea and vomiting. No visible blood. Prepyloric ulcer according to roentgen ray.

Lower left third molar tooth surgically removed for periapical abscess six months ago. No ulcer relief.

Several attacks of acute tonsillitis in girlhood but none since. Throat reasonably comfortable. Tonsils completely submerged, anterior pillars adherent and severely injected.

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Smooth diet and viosterol during electrocoagulation treatments.

Prompt moderate relief. Complete cure of ulcer, confirmed by roentgen ray, eight weeks after beginning tonsil treatments.

Weight now four pounds above normal. Patient on general well-balanced diet. Only slight delay in emptying time of stomach, probably due to scar.

Parenchymatous Nephritis

Male aged 39. Lower dorsal backache and highly colored urine following pneumonia seven months ago. Moderate secondary anemia.

Urine: Albumin 1.5%. Numerous granular and few blood casts. Pus cells seven per highpower microscopic field.

Chronic "sore throat" during winter but no history of acute attacks. Few peaseized necrotic areas near surfaces of both tonsils. Culture showed mostly pneumococci with considerable numbers of long-chain streptococci.

Backache disappeared during diathermy treatments, but urine showed very little change until one month later: Albumin 0.5%. Few granular and no blood casts. Pus cells two per field. At end of next month urine was normal, although total solids were somewhat low, probably due to kidney damage.

Secondary Anemia

Male aged 42. Gradual loss of weight past two years. Now nineteen pounds underweight. Always tired. Fickle appetite. Pronounced cachexia. Hemoglobin 60%, red cells 3,200,000. No history or present evidence of organic disease.

Tonsillar history indefinite, but adherent chronically inflamed anterior pillars aroused suspicion. Culture showed abundance of hemolytic streptococci.

No perceptible change in blood or in clinical picture until six weeks after last diathermy treatment. Then rapid improvement, so that after three months blood was normal, complexion was florid, and weight was six pounds over.

Chronic Bronchitis

Female aged 26. Chronic bronchitis since influenza five months ago. Profuse muco-purulent sputum, blood-tinged after strenuous coughing. Numerous bronchial casts, large and small. Total amount of sputum over one pint in 24 hours, exclusive of saliva. Breath foul and fetid.

Tonsils fully one third larger than average. Wide, gaping crypts spewing quantities of dirty creamy excretion upon pressure. This consisted mainly of pus cells with unusually large numbers of pneumococci in almost pure culture.

After one electrocoagulation on each tonsil, sputum began decreasing. It cleared up completely during the following three weeks, leaving the breath sweet and clean.

After two winters the patient reported that she had not had a single "cold in the chest."

Hemophilia

Male aged 33. Son of ten years died of hemorrhage two years ago following dissection-snare tonsillectomy.

One year ago patient bled continuously for three days and nights after resection of nasal septum. Severely exsanguinated. Hemorrhage finally arrested with blood transfusion.

Coagulation time before electrocoagulation, 34 minutes with Lee-White method on venous blood. Poorly formed clot.

Having witnessed the deaths of two hemophilic cases from minor wounds and in spite of blood transfusions, I accepted this case with much trepidation. A blood donor was typed and kept on hand.

Great care was taken to avoid over-coagulation. While the needle was in the tonsil, and before the current was on, the patient gagged and a few drops of blood escaped. Immediate sparking promptly arrested this.

After the first treatment the patient was told that his very life might depend upon his coughing, sneezing, blowing his nose, clearing his throat in a whisper, so as not to dislodge the coagulum and cause bleeding. There was no postoperative hemorrhage.

Two other hemophilic tonsil cases responded equally well. Coagulation time 20 and 26 minutes. Definite hemophilic family history for three generations back.

The outcome of these three cases seemed truly sensational to me.

Tonsil Stumps

Female aged 28. Two attacks of paratonsillar abscess three years ago. One on each side. Arthritis of knees and ankles developed soon afterwards. Marked swelling, moderate pain, very little stiffness.

Dissection-snare tonsillectomy one month later under ether anesthesia.

Temporary relief from arthritis in two weeks. Sudden severe aggravation. Joints almost immobile. Right shoulder also involved.

Peaseized eroded stumps on each side, low in tonsillar fossae. Almost constant "irritation" of throat, causing wakefulness at night. Culture showed streptococci in abundance, but very few other bacteria.

Electrocoagulation, one side at a time, ten days apart. Severe reaction for three days after each treatment. This is usual after the coagulation of a considerable amount of badly infected tonsil tissue.

Complete relief from throat symptoms by end of first week. No change in arthritis until five weeks later. Remarkable progress during next month. Apparently cured two months later. No recurrence after nearly two years.

* * * * *

NOTE: The dissection of the tonsils in adults, under general anesthesia invariably produces enough bleeding to mask the field

of operation. When the snare is applied, there is great difficulty in determining just how much tonsil tissue is or is not included in the snare. The result is an incomplete tonsillectomy in 73% of the cases according to Rhoades and Dicki.¹ In addition, one or both anterior pillars may be injured, and part or all of the uvula may be amputated. Serious injury is therefore done to the operator's

reputation, to the patient's health as well as to his purse.

Surely, a technique which places even the most skilful operators at such a disadvantage, should be discarded without further delay.

Reference:

1. Rhoades, Paul S., and Dick, George F.: Efficacy of Tonsillectomy for the Removal of Focal Infection, *J. A.M.A.*, 91: 1149 (Oct. 20), 1928.
17 North State Street, Chicago.

Diathermy Technic

LOUIS K. POYNTZ, M. D.
PORTLAND, OREGON

EVERY technician has been annoyed with the problem of electrodes. She has been told by someone that a wetted towel will serve; by others that a dry sheet of block tin is good enough and again that this tin must be thoroughly wet. In a dispute of this kind there is one final authority and that is experience. It permits of a degree of dogma that is not warranted by any other method.

The use of wet clothes as electrodes is not safe. While you may get away with it for a time the inevitable result will be that the electrode dries out and the patient is burned. Burned in a way that may not cause any distress at the time but which may cause you very considerable worry before it heals. Therefore as a matter of ordinary common sense wet clothes should be discarded unless you are well insured.

Then comes the matter of dry block tin electrodes. Personally I dislike them and never use them unless to demonstrate that they are unsatisfactory. Of course if you have a toy machine that does not produce real diathermy then use what you like, because the very ineffectiveness of the instrument is your protection. However if you have exercised good judgment in selecting a proper machine and do use to produce deep heating then you must use wet metal electrodes. The wetter the better.

To prepare the patient for a diathermy treatment it seems sensible to have the skin in a receptive condition. Soap and water with a vigorous rubbing is the starting place. Then a thorough warming with an infra-red lamp

to flood the surface capillaries with blood and promote sweating. That means that the resistivity of the skin is reduced to the minimum and the diathermy application is more apt to be safe, comfortable and effective.

Of course no person now believes the dream that was once promulgated as fact that by selecting electrodes of a certain size one could locate the maximum heat at some mythical point between them. Let it be understood that the fundamental laws of electricity apply when electricity is brought into the hospital. Therefore the greatest heat is generated where the greatest current density is. This is directly under the electrodes but chiefly at their edges. Check up on this and see, I have done so repeatedly. If your instrument has sufficient capacity the larger the electrode you use the more likely will your efforts be successful and the less likely will there be a burn. The object is to produce heating and the larger the electrode the more heat you can evolve with safety.

One other point that I believe is practical. A few years ago we searched for some material to give the electrodes rigidity and yet permit moulding to the part. A dozen materials were tried and discarded. Eventually we made use of small pieces of ordinary floor linoleum and after three years trial they are still utilized. Select a piece of linoleum that is not old and cracked. Cut it to the size and shape you desire. Bevel the edges on the side that is to face the patient and round the corners. Then cut a piece of heavy block tin three inches larger in both directions. With

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the tin lying on a table place the linoleum on the center and turn up the edges carefully. If you are dexterous and have a little patience you can mold this to shape by cutting in on the corners to permit bending the tin back over them. If you have used heavy metal (24 gauge or heavier) they will be rigid enough, but if you want them finished have the engineer run a little solder over the cut edges to maintain them as you have them. They may not be just as beautiful as some

you have seen but they are practical and they are cheap. They may be placed in a basin of hot water before the treatment and so warmed. A connector soldered to the back permits of secure contact and the rigidity of the linoleum allows for satisfactory pressure without wrinkling. Try it. It will cost you only fifteen minutes time and if you like them you can make several pairs of the sizes you use most frequently.

—Boyer Bldg.

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EDITORIAL

The Unfit and The Misfit

EVERY physician, and more especially every attendant in charitable clinics and hospitals, occasionally suffers attacks of depression when thinking of the seeming uselessness and, in fact, the hopelessness of much of the salvaging that physicians are doing. We force the unfit, the incurables, to live and encumber the earth. Although they are not assets but liabilities in the inventory of the body politic, although many of them are a burden to themselves and to their families, we care for them in hospitals, clinics, and homes for the incurable, for backward children, for the insane, etc. We force these unfortunates to keep on living, even though their death would be an advantage to the survivors economically, it would not hurt them in any way, and would, indeed, solve a difficult and unpleasant problem in

the simplest possible way. We do not mean to be callous or brutal. We are keenly sensitive to the distress that we see so often, and we deplore the uselessness of it all.

It is quite true that occasionally the world has benefited from the work of people who were seemingly unfit, of cripples, for instance, or of people afflicted otherwise with incurable diseases. Our attack of blues was aroused more particularly by the large number of defectives, such as Mongolian idiots, hydrocephalics, incurable epileptics, all of them children whom it was recently our fate to see and for whom life seemingly holds nothing, at least not according to the standard of our present-day civilization.

Then there are the misfits, mainly morons—in newspaper language. They cannot adjust themselves to existing restrictions, their minds are childish and undeveloped, they re-



bel against restraint and, not realizing the justice of the law of mine and thine, they help themselves to what pleases their fancy, although belonging to others, and come in conflict with the law. And then they crowd reformatories and jails and penitentiaries. The unfortunate thing is that these misfits, often degenerates, propagate more freely than the responsible and respectable citizens do, which means a constant and continuous degeneration of *hoi polloi*. The outlook is serious, because these undesirables will in time become dominant. Their children grow up somehow, and they continue to increase the number of the misfits, and, because of poor antenatal and postnatal conditions, the number of the unfit.

The fact that we tax ourselves heavily and spend large amounts of money for the care of these people, whether in clinics and hospitals, or in reformatories and jails, does not mean curative therapy, to use medical language. It is not even good symptomatic treatment. There is nothing done to attack the evil at its root, and to practice a reasonable and rational prophylaxis. We have tried sterilization of the unfit, which would be an excellent measure if it were practiced with any degree of thoroughness, and if it were applied universally. Those people who, according to the laws of heredity and because of unfavorable environmental conditions, will probably produce degenerate or at least

unfit offspring, should not be permitted to propagate. But our attempts to stem the constant multiplication of these undesirables are resented not only by the unfit themselves but by a lot of pseudo-philanthropists who object to sterilization on the plea that it violates the personal liberty that is guaranteed in the Bill of Rights. The reasoning is fallacious, because persons who use their boasted personal liberty to encroach upon that of their fellow-beings by stealing and maiming and murdering are not entitled to their liberty, and should have it curtailed.

If sterilization of the unfit were carried out universally, it would help much. It might perhaps pave the way to improve the unfavorable environment in the tenements in the present unsanitary surroundings. It might have other far-reaching and favorable consequences. But a haphazard, sketchy, and incomplete sterilization is sadly inadequate.

There is a temptation to say: "Oh, well, conditions are bad, and it looks very much as though the Caucasian race were doomed to be exterminated by the yellow races in course of time, but it won't come in our time, so why worry?" The idea of *après nous le déluge* is a pernicious one, and needs only to be mentioned to be condemned.

Our remedy? We have none to propose. We realize that, Cassandra-like, we bemoan conditions, but when it comes to pointing out a remedy we are at a loss.—H. J. A.

ABSTRACT SECTION

Diagnosis and Treatment of the Acute Abdomen

IN an address given before the Research Hospital Clinic, St. Louis, Mo., Dr. William Thomas Coughlin expressed an opinion that results in the care of acute abdominal crises are poorer now than they were a decade ago.

"Improvement will depend on early diagnosis" said Dr. Coughlin.

If we should call all abdominal crises "appendicitis," we would be about 50% correct. We should remember that the patient with

appendicitis does not press on his abdomen to obtain relief. There is often a history of light attacks—frequently severe attacks; he has soreness or tenderness but little pain, and pressure makes the pain worse.

The patient with gastro-enteritis, contrary to appendicitis, presses firmly over his abdomen. His position is such that he can make firm pressure and procure relief by so doing. These patients commonly have diarrhea—appendicitis patients usually do not have diarrhea.

Acute perforations—gastric or intestinal—are usually attended with much rigidity. However, if such patients are in severe shock, rigidity may be absent. If in shock, these patients perspire freely and are limp. Some of these cases of severe shock prompt one to feel that one is dealing with angina pectoris rather than with an intra-abdominal condition. These patients are desperately ill and the doctor must be alert. He had better open several abdomens than miss one perforation.

We should be alert for lesions, as pleurisy, in the right chest. One symptom is a warning—up and down rigidity of the abdomen on the side involved.

Acute intestinal obstruction requires haste. "It is not very important that a diagnosis of acute appendicitis be made the first day, but it is very important that a diagnosis of the acute intestinal obstruction be made in the first four hours." Generally, it is more important to make an early diagnosis in the case which has generalized pain in the abdomen than in the case where pain is clearly localized. In intestinal obstruction, the temperature often goes down; in appendicitis, it goes up. In obstruction, the patient vomits early, and continues to vomit; in appendicitis, he vomits late and stops vomiting when the stomach is empty. In intestinal obstruction, do not be deceived by the patient passing gas. He may even have a bowel movement from the segment below the obstruction. Often the doctor is misled by obtaining a good result from an enema. In cases of obstruction, if a second enema is given two hours after the first, no results will be obtained.

In paralytic ileus, after spinal anesthesia, gas passes and often a good defecation takes place.

Do not wait for a barium meal. Have a flat plate made. It will usually show gas above the obstruction, and this will be your guide.

In aged patients, there may be an acute obstruction superimposed upon an old one. In such cases, constipation has usually been gradually increasing.

"If you are going to have a consultation when intestinal obstruction is suspected,

have it *NOW*. Do not wait until the next morning.—*J. M. B.*

The Sigmoidoscope

THE information obtained by the use of the sigmoidoscope cannot be appreciated until one has used it many times. It reveals pathologic conditions in their incipiency and admits of treatment when recovery is possible rather than depending upon surgical intervention at a time when most cases may be only palliated. In *Annals of Internal Medicine* (Nov., 1930, p. 498-499) Dr. Moses Paulson, of Johns Hopkins, presents a plea for its use.

The proctosigmoidoscope brought into being the surgical specialty of proctology much the same as the stomach tube gave birth to gastroenterology and the electrocardiograph to cardiology. As a result, sigmoidoscopy became a surgical procedure, an instrument to be used mainly by proctologists and general surgeons. The method, in its earlier days was, and in many places still is, attended by preparation which rivals that of a major surgical procedure. Indeed, even at this late day it is not uncommon to note the posting of proctoscopic examinations upon the operating room schedules of many of our large hospitals. This state of affairs has passed from one medical generation to another and as a result few internists employ proctosigmoidoscopy as a diagnostic procedure. It is felt that this is a mistake, that proctosigmoidoscopy is an essential medical diagnostic procedure to be used by internists because of the very nature of the conditions in which its employment is indicated.

Concretely, however, the reasons for the necessity of the employment of the proctosigmoidoscope by the internist as a diagnostic method, are more cogent. It is felt that an examination is incomplete without submitting the patient to proctosigmoidoscopy when there is a history suggesting even the slightest deviation from the usual bowel habits. Besides, usually cases are seen first by the internist, and if there be any virtue in the establishment of early diagnoses, then many opportunities for so doing are lost if

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one waits until manifestations become more pronounced or until the patient reaches the proctologist or surgeon at a later date. Also, many of the problems encountered within the intestine are primarily medical in nature.

The importance of proctosigmoidoscopy by the internist will be appreciated further, when it is realized that most of the intestinal involvements, functional and organics, evidence their earliest manifestations in the rectum and lower sigmoid and consequently are within reach of the instrument; and also that the roentgen-ray as a method of diagnosis in colonic disorders, is least satisfactory in rectal and lower sigmoidal conditions.

In recent years, the proctosigmoidoscope has assumed other usages which are purely medical in nature. The securing of material for bacteriological study directly from the suspected or involved rectum or sigmoid through a proctosigmoidoscope has been found superior to that obtained from defecated feces, for when the material is obtained through the instrument it is fresh and is procured directly from the site desired.—*J. M. B.*

To Destroy Putrefactive Bacteria

DR. J. H. KELLOGG (*Bull. Battle Creek Clinic*, Oct., 1930) lays great stress on milk sugar as the chief factor in combatting putrefactive intestinal bacteria and the establishment of colonies of acidophilus bacteria within the colon. Dr. Kellogg said that the character of the diet is the controlling factor in the determination of the character of the stools, since the residues left in the colon are the culture medium for the bacterial flora.

Lactose and dextrin are the only agents capable of producing and maintaining an aciduric intestinal flora. So long as lactose is present in the intestine, putrefaction will be inhibited. In the absence of lactose, there will be putrefaction, even with the most restricted diet, because of the putrescibility of bile, mucus and unabsorbed residues of digestive fluids.

The administration of cultures without lactose or dextrin is useless, as bacteria will

not grow without food. At least a large part of the benefits derived from the use of acidophilus milk is due to the lactose which it contains. The addition of lacto-dextrin to a milk culture much more than doubles its efficiency. But milk with the addition of lacto-dextrin is practically almost as efficient. The change will occur just as certainly with or without the culture and even without the milk. In some cases, in fact, milk delays the change.

The efficient dose of lactose was found by Rettger to be 300 grams, or ten ounces, taken in three doses. The objection that this large amount of sugar might cause glycosuria in cases with low sugar tolerance, led me to combine dextrin with it in such proportions as to bring the amount of sugar easily within the range of minimum normal tolerance. The lacto-dextrin combination removed the sugar hazard.—*J. M. B.*

The Heart in Hypertension

THE theory that hypertension causes an increased output of the heart, and thereby leads to ultimate crippling of that organ, is held by many practitioners. This question is well presented by Drs. E. T. Bell and A. H. Pederson, of Minneapolis (*Ann. Int. Med.*, Sept., 1930, p. 227).

The energy required to maintain or elevate the systemic blood pressure is furnished by the contraction of the left ventricle. When the peripheral resistance is increased the blood pressure must be raised, if the tissues are to receive as much blood as they did before the increase of resistance occurred. When the tissues require more blood, as during violent exercise, an increase of blood pressure is needed to force the blood through the vessels more rapidly. The heart raises the blood pressure by stronger or more frequent contractions. A compensatory hypertrophy of the left ventricle occurs when the functional demand upon the heart persists for some time.

A strong myocardium is necessary for the maintenance of a high blood pressure. When the nutrition of the muscle is lowered by disease of the coronary arteries or general mal-

nutrition, the heart may be unable to keep the blood pressure at a high level, even though peripheral resistance is increased. A large heart that has maintained a high blood pressure for years may finally become exhausted and allow the pressure to become subnormal.

The heart suffers more than any other organ from the effects of hypertension since it is exhausted by overwork; but hypertension is not a primary disease of the heart. The blood pressure is not elevated unless the resistance in the arterial system is increased. There is no increased output of the heart in hypertension.

Summary

The physiologic mechanisms concerned with the regulation of blood pressure in health and disease are discussed, viz., the heart, the arteries and the arterioles, the capillaries, the vasomotor center, the vasomotor nerves, the depressor nerves, and the adrenals.

Hypertension has been produced experimentally in animals by pressor substances, increase intracranial pressure, removal of the depressor nerves, urinary obstruction, röntgenray atrophy of the kidneys, and stenosis of the renal vein.

Secondary hypertension of acute type occurs in man from physical exertion, sensory stimuli, increased intracranial pressure, and adrenal tumors.

Secondary hypertension of acute or chronic type occurs with glomerulonephritis, nephrosis of eclampsia, bichloride nephrosis, polycystic kidneys, urinary obstruction, advanced amyloid disease, and degeneration of small renal arteries and arterioles.

Secondary hypertension of chronic type is seldom seen except in association with renal disease.

Obstruction in the renal circulation or obstruction of the outflow of urine seems to cause hypertension, probably through a reflex mechanism. Renal insufficiency alone does not cause a rise in blood pressure.

Acute fulminating hypertension is probably a primary renal disease.

Primary hypertension has its basis in in-

heritance. The defect inherited is an inferior vascular system which either reacts excessively to ordinary environmental stimuli or degenerates from inherent weakness.

—J. M. B.

Another View Point on Goitre

SOME day when the returns are all in, we may know goiter in all its manifestations. To-day there is still a divergence of opinion, based on observation, which calls for a philosophic view of opinions. Dr. M. L. Kors, (*Am. Med.*, Sept., 1930, p. 545) gives an angle worth considering.

Those who talk of a "lack of iodine" apparently never consider the self-evident fact that about twenty females have goiters to one male, although the food and water supply is the same. Acknowledging the fact that a lack of iodine does act as a factor in the causing of goiters in the young, we can, by taking in consideration the action of the thymus gland, clearly offer an explanation why goiters are found more commonly in the female than in the male.

In exophthalmic and toxic type of goiters we have the picture of fear. I have compared them to a jackrabbit that has been run by the hounds. Eyes protruding, tremor, rapid heart, free perspiration and a brain threshold lowered until the least excitement stimulates to an almost uncontrollable state. The heightened excitability of the sympathetic nervous system is further shown in the liability of diabetes, neuroses and psychoses.

Why should a bad tooth, tonsil or colon cause such a violent reaction in one, when in a thousand other people it does not? In the one there is a heightened excitability, a hypersensitive condition of the sympathetic nervous system due to the activity of the thymus gland, so, when there is a call for thyroid activity to combat the toxemia due to the infection, the thyroid responds far beyond all need. Its hormone is deficient due to iodine being extracted, the call for gland activity is there and nature responds nobly by developing a great hypertrophy of the thyroid to meet its requirement. The gland drives on and on under this stimulus—until

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inferior excess-nuli or the thyroid secretion overflows in great excess into the blood-stream and destroys the patient unless checked.

These cases respond beautifully to surgical operations for a short time following the operation. But if the cause still remains the thyroid gland is stimulated and hypertrophies until it again produces an excess of secretion.—*J. M. B.*

Emetine in Gastric Ulcer

DR. D. L. WATSON, of New Orleans, (*Am. Med.*, April, 1930, p. 239), reports good results following the use of emetine in ulcer of stomach and duodenum. He concludes as follows:

Early in 1928, after due and careful experimentation, I determined to use emetine hydrochloride intravenously. Not only did I find that it was not dangerous, but that it was not painful when used by this method.

The method of treatment for all four diseases is practically the same. I use one grain of emetine hydrochloride intravenously daily for four days. Then one to three doses per week, according to symptoms until cured. Other symptoms may be treated as they arise. All intravenous injections should be given in a lying position.

In my medical college days I was taught that ipecac was a specific for chronic dysentery. Throughout my forty years as a general practitioner of medicine, pulverized ipecac was used in the treatment of chronic dysentery.

Germs which produce disease live by eating some element or elements of the human body. These germs can be destroyed by poisoning the food which they eat.

The remedy is regarded as a specific, according to Dr. Watson, in amebic dysentery, amebic abscess of the liver, varicose veins of the leg and gastric ulcer.—*J. M. B.*

Intra Gastric Photography

FOR the past three to five decades, which might be termed the renaissance of gastro enterology, as projected by Ewald and Boas, we have felt ourselves on fairly solid ground regarding diagnosis and treatment.

Yet upon the horizon appears another factor which may help in making diagnosis more accurate—intra gastric photography. Dr. Rueben Finkelstein, of Brooklyn, N. Y. (*Ann. Int. Med.*, January, 1931, p. 804) reports preliminary work done by this method, which appears most promising.

For many years gastroscopy has been used in an attempt to visualize the lesions of the interior of the stomach. But the natural limits of the field of available vision and the unwillingness of many patients to submit to the difficult procedure involved, has prevented the full use of the gastroscope. Consequently, there has long been a feeling among gastro-enterologists that some method should be devised to picture the interior of the stomach on a photographic film, by means of a camera inserted through the esophagus into the stomach. Naturally, such a camera would have to be no wider than an ordinary stomach tube and be in some way connected with a proper source of light of adequate intensity so that photographs could be taken. Such an instrument has actually been devised by Mr. Bach working under the direction of Professor Porges and Dr. Heilpern at the Wenckebach clinic in Vienna.

This instrument, consists essentially of a semiflexible tube carrying at its distal end a double camera, an upper and lower, between which is a small electric bulb so constructed that when activated by a transformer it yields a bluish white light of 12,000 candle power for 1/120 of a second and is then destroyed. The transformer takes its energy direct from the house lighting current. Each camera contains four small films regularly disposed in a circle; and by means of two pinpoint holes, an upper and a lower, a stereoscopic picture is taken by each film of a 90 degree arc of the circumference. Thus at one exposure eight double stereoscopic views are taken. These eight films are so marked that when developed one can readily tell which part of the circumference of the stomach is pictured on the film.

These pictures are, of course, best taken on the fasting stomach which should be further evacuated from its overnight secretion.

This is accomplished by introducing a double stomach tube and placing the patient on the left side in the trendelenberg position. Through this tube the stomach is first filled with air, then one side of the stomach tube is released and through the other side air is continually pumped so as to keep the stomach from collapsing. The tube is then withdrawn slowly and in this manner the stomach is completely emptied. In cases of overnight food residue the stomach is first thoroughly washed out and then emptied as outlined above.

The patient is then placed before a fluoroscope, the gastro-photor camera is introduced and its position localized. The stomach is then inflated with air through a special opening in the tube. The shutter is opened, the transformer button pressed, the shutter closed and the camera is withdrawn. The whole procedure from the moment of introduction of the camera to the time of its withdrawal should not be more than 1/2 to 1 minute. The films are then removed from the camera in a dark room, developed and enlarged to about ten times their original size.—*J. M. B.*

Surgical Clinic

OF LOUIS RASSIEUR, M.D., DEPARTMENT OF SURGERY
ST. MARY'S HOSPITAL, ST. LOUIS, MO.

Recurrent Appendicitis

THE patient is a boy nine years old. His present illness dates back to February 19, 1930. At that time he had been operated upon elsewhere for appendiceal disease. I presume it was an abscess. He bore a scar in the lower part of the right semilunar line. I will recite his history since then. He remained in the hospital seven weeks. Two weeks after leaving the hospital he developed a "boil" at the site of the scar. This condition recurred the last time in the month of August. He entered our institution on October 17, 1930, because he had had an attack of sharp pain in the lower right quarter of the abdomen for five days. No nausea or vomiting was associated with these pains. The sharp pain lasted only fifteen minutes at a time, coming and leaving suddenly. My

impression was: Chronic Recurring Appendicitis.

He was operated upon October 21, 1930. Fibrous adhesions were around the cecum and the ileum concealing the appendix. The mass of adhesions was adherent to the old laparotomy scar. The appendix was a little over an inch long, and adhered to the back of the cecum. The distal one-fourth inch was separated from the rest of the appendix, forming a sort of bead. At the base of the appendix where it joined the cecum was a coprolith, oval in shape, its largest diameter one-fourth inch. I separated the ileum from the cecum, removed the coprolith, tied off the appendix, and after cauterization with phenol and alcohol, fastened the stump to the peritoneum in a stab incision at McBurney's point. My operative incision was near the midline. The additional stab incision was made to insure drainage in the event that the base of the appendix should break down and discharge. Two small rubber dam drains were used and removed within six days. The midline incision had become infected from the operative procedure, forming an abscess. The latter was treated with antiseptics for several days and then resutured.

St. Louis Univ. Bull. Dec., 1930.

Spray for Catarrh

Thymol10 grs.
Eucalyptol10 drops
White Oil 4 ozs.
Mix and dissolve.

Carbolic Healing Salve

Carbolic acid2 drs.
Lanolin1 oz.
Resin cerate4 ozs.

Melt together and stir until cool. This is an excellent salve for old sores.

The best things are nearest: light in your eyes, flowers at your feet, duties at your hand, the path of God just before you. Then do not grasp at the stars, but do life's common work as it comes, certain that daily duties and daily bread are the sweetest things of life.—*Selected.*



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THE ENDOCRINE SURVEY

CONDUCTED BY
H. J. ACHARD, M. D.

GLENDAL, CALIF., APRIL, 1931

The Role of the Pituitary Posterior Hormone in Fat Metabolism

WHILE many authors deny any importance of the hypophysis for the physiologic regulation of fat metabolism and for the development of obesity, results obtained by Cushing (*Am. Jour. Physiol.*, 1910, xxvii, p. 6) and by Biedl ("Physiologie und Pathologie der Hypophyse," 1922, Bergmann, München, Wiesbaden) suggest a very close relationship between the pars intermedia and posterior lobe of the hypophysis and the mesencephalon, not only in local but also in functional respect. According to W. Raab (*Endocrinology*, Nov.-Dec., 1930, xiv, p. 385), who quotes these authors, Biedl assumes a stimulating action of the middle and posterior-lobe hormones upon certain metabolism centers in the midbrain. Raab reviews the work of various other investigators whose experimental facts "give clear evidence that the pituitrin posterior lobe hormone has doubtlessly a definite influence upon fat metabolism and it seems justified to draw the conclusion that pituitrin favors the absorption of circulating fat by the liver by a nervous path starting in the tuber cinereum and ending in the liver." If then a certain quantity of fat is normally destroyed within the liver tissue, quite evidently disturbances in the cooperative activity of the "pituitary mesencephalic system" will leave these fat amounts undestroyed. They will then be stored in the tissues and lead to obesity.

While thus the posterior-lobe hormone is of some influence in preventing the excessive storing of fat in the tissues, there are known cases of purely mesencephalic obesity caused by encephalitis, tumors, hydrocephalus, etc., without any lesions of the hypophysis, and

Raab points out justly that any attempts to treat cases of this kind with pituitary extract must fail because of injury and inactivity of the responding nervous organ. Also, he continues, "in purely hypophyseal or other cases one cannot expect any considerable therapeutic effect with pituitrin since the subcutaneous route offers no possibility of contact with the midbrain tissue in effective concentration, while the adequate intracranial way is not, of course, suitable for a continuous treatment. Besides, pituitrin does not seem to remove fat after it is once deposited in the tissue stores." In Raab's own experiments he found that very small amounts of pituitary extract (about 1/10 of the subcutaneous doses) are fully effective in bringing about a fall in the blood fat (petroleum-ether-fraction) if injected into the brain ventricles, thus demonstrating the local action of pituitary extract in the midbrain.

A Case of "Acute" Pituitary Obesity

IN the article by Dr. W. Raab which was mentioned in the preceding abstract, the author relates a case which he had observed in Professor Biedl's clinic in Prague, and which illustrates the possibility of obesity developing by a pure pituitary lesion.

"A male patient, 31 years old, was healthy until two weeks before admission. Within this latter time headaches, loss of sexual potency, and sudden rapid development of obesity in the face, on the abdomen and on the hips was noted. An increase in weight of ten kgm. occurred. The abdominal skin showed large dark reddish striae each about three inches wide. There was a slight erosion of the anterior wall of the sella. There were eye symptoms. The patient died a few weeks

later of septicemia deriving from a phlegmon. The hypophysis was macroscopically scarcely enlarged. Histologically there was found, however, a very small basophile adenoma which had almost entirely taken the place of the posterior lobe. The neighboring nervous regions were intact. This case of an 'acute' pituitary obesity is perhaps the only one described in which any participation of the tuber cinereum, etc., can be ruled out with certainty."

Some Applications of Hemocrinotherapy

IN an address to the Paris Medical Society, Dr. M. Fildermann (*Tribune méd.*, Jan., 1931, lxx, p. 33) presented four cases in which hemocrinotherapy had given him excellent results. The first patient, a man with anthrax of the neck, received an injection of his own blood mixed with orchic extract. The trouble started to disappear on the following day, but a bulky core persisted, which aroused suspicion of diabetes. The blood sugar was 1.70; sugar in the urine, 1.80. Without waiting for the results of laboratory investigation, Fildermann administered a pancreatic extract instead of the orchic extract, after which the recovery progressed favorably.

The second case was also anthrax, in the left forearm. The enormous infiltration was rapidly improved by an injection of the patient's blood mixed with orchic extract. On the day after the first injection there was a slight oozing at the tip of the furuncle. The absence of a core excluded the possibility of a diabetic complication and the necessity of adding pancreatic extract to the blood.

The third patient was a woman who had had menorrhagia for one year. Two injections of blood and pituitary extract corrected her trouble. The cure was maintained by the administration of orchic treatment when the patient experienced congestive uterine attacks caused by hyperovarium.

The fourth case illustrated the good effects of ovarian medication in arteritis obliterans in a male patient.

In summary, it may be said that hemo-

crinotherapy gives therapeutic results that are due in part to the specific glandular treatment, and that this treatment constitutes interesting progress in diagnosis, pathogenesis, and therapy.

Organotherapy of Malignant Disease

AN interesting article entitled "Clinical Experiences Indicating the Relation of Tissues to Endocrine Growth Inhibitors," was contributed to the *Medical Journal and Record* (Jan. 7, 1931, cxxxiii, p. 7) by Louis Berman. He refers to the long-suspected and oft-asserted opinion that the endocrine glands are involved in the cancer problem. Berman thinks that the inclination of the endocrine glands in the etiologic picture of cancer must include several assumptions that are by no means universally adopted: (1) Cancer has a constitutional diathesis behind it; (2) cancer is due to a pathological biochemistry of the diseased organ; (3) precancerous lesions, so-called, are the first expression of the constitutional pathochemistry of tissues.

Berman quotes freely from the literature as to the various opinions that have been held on the subject, and which have led to the employment of many endocrine products in treating cancer. The most recent experiments concern the adrenals, the thymus, and the pituitary, and specific therapy has been based on them.

The author claims, however, that "the whole concept of a specific therapy for cancer is fallacious and that the search for a single specific therapy is fallacious, and as mistaken as would be a search for a single micro-organism as the specific cause of all infectious diseases and a single therapeutic serum or antibody as a universal treatment against all infections." Now, there is strong evidence that cancer is a disturbance of growth. Growth is a matter of balanced, interlinked reactions, involving, first, the building stones of growth supplied by food and, second, the regulators of growth—the endocrine glands and their hormones. The food may be compared to the substrates of a chemical reaction and the hormones to the cata-

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lysts. That is, the products of growth, whether normal or abnormal tissue, are dependent upon the nature, amounts, and relations of the substrates and catalysts or upon the nature, amounts, and relations of the food constituents and the internal secretions. In any disturbance of growth, therefore, one should look for irregularities in the balance and ratio of the food substances and the endocrine products that are supplied to a given organ.

It is important to note that the organs are not equivalent in their needs for food substances and for growth regulators (hormones); that a specific dietetic growth and a specific metabolic and endocrine mechanism exist for each organ; and that a disturbance of this mechanism will influence growth favorably. Although a beginning has been made by McCarrison in his "Studies of Deficiency Diseases," the food requirements, including the vitamins, of the different organs are by no means fully understood, and demand much more investigation.

Dr. Berman's hypothesis that the different organs are not alike in their need of internal secretions can be deduced from various examples. He refers, for instance, to the relation of the uterus and the vagina to the internal secretions of the ovary. The ovarian internal secretions have an effect on other organs, but the uterus and vagina are more exquisitely sensitized to them and much more dependent upon them.

On the basis of these considerations the author has attempted to influence disturbances of growth in two distinct tissues: (1) painful breasts with chronic mastitis nodules scattered throughout the organ; and, (2) bleeding nodules of the uterus that are diagnosed clinically as myomata or fibromyomata. He has treated twelve cases of painful breasts with nodules and eight cases of bleeding nodules of the uterus.

On the principle that the corpus luteum provides the substance that stimulates the growth of the mammary cells, and the ovarian interstitial cells antagonize the corpus luteum, holding the cells in restraint, a preparation of the interstitial cells, known as ovarian residue, was used hypodermically

and orally. That the corpus luteum was over-functioning in these cases was indicated by the scanty menstruation of the patients. All the cases responded with a lessening and then a cessation of the pain. Some of the nodules disappeared entirely, while others decreased in size until they were barely palpable.

Berman's clinical experiences, in his opinion, favor the hypothesis that he has suggested, namely, that each tissue cancer is a specific local disturbance of metabolism due to an imbalance between the growth-stimulating substances, derived from the diet, and the endocrine glands and the growth-inhibiting substances, derived from the diet and the ductless glands.

The Iodine Deficiency Theory and the Real Cause of Endemic Goiter

IN a communication to the *Medical Journal and Record* (Feb. 4, 1931, cxxxiii, p. 113), Dr. E. O. Houda summarizes the reasons that lead him to believe that the iodine-deficiency theory is not sufficient to explain the etiology of goiter. He claims that bacteriology, the single science by which the cause of all etiologically determined diseases were settled, holds nature's secret in this disease, goiter. Also, in Houda's opinion, the diversity of pathology is determined by the single bacterial factor that constitutes the actual cause, while secondary factors are non-essential. As the author has claimed in his various communications, a common bacterial factor for all forms of endemic goiter is now demonstrable in all freshly removed tissues and in the juices that may readily be obtained from them. He says: "With an almost ridiculously simple, although at first intriguing, technic, cultures are obtained from all specimens, accounting for the past failure simply and positively to connect a bacterial factor with the disease. Extensive reading has failed to find a single record of attempts to do likewise, probably because a very plausible theory has been so universally accepted.

"With a Gram stain of a slide made with the fresh tissue juice, Gram-positive cocci in pleomorphic forms are demonstrable. Un-

contaminated tissue is collected in sterile test tubes, directly from the neck or otherwise. Tubes are flamed and drawn to make tissue containing ampules, with a twenty-five or high percentage of tissue. With a freshly drawn glass capillary tube, goiter juice is inoculated on a variety of aerobic and anaerobic media. No culture will develop. The ampule is glass sealed and incubated two or more days. A small ratio of tissue requires a longer time. After a variable length of incubation, a drop of tissue juice transplanted upon nutrient agar or in plain broth will develop culture of this organism. An ideal control against contamination is shown by negative transplantation made at the end of the first twenty-four hours. With a 50 per cent. ratio of tissue, cultures almost invariably show up after a forty-eight-hour transplant has been made. Tubes are opened by fusing a glass rod to the end. When cool, pulling them apart is all that is necessary to open them. Tubes should be resealed and incubation continued until cultures develop.

"Searching scrutiny by way of exacting controls dissipates the question of contamination. If the latter can still be considered, as it may properly be, the usual contaminating organisms fail to manifest themselves; furthermore, it would be most remarkable if the same organism should be a common contaminator in a long run of consecutive specimens.

"The other two of Koch's four postulates have been satisfied. Other etiologically unsettled tissues have been run as controls against goiter culture. Recovering dissimilar organisms, one makes bold to advance a new, all-inclusive postulate in the following:

"Until the single basic factor for every disease is first introduced and established in otherwise normal flesh, no combination of many secondary factors can induce a specific disease. Goiter is no exception."

Hormone Control of the Langerhans Islets

THE Oliver-Sharpey Lectures were delivered before the Royal College of Physicians of London on April 29, and May 1,

1930, by Prof. J. J. R. Macleod, of Toronto (*Lancet*, Sept. 6, 1930, ccxix, p. 512), who discussed diabetes as a physiological problem. After mentioning the well-known fact that the secretion of insulin fails from time to time, Professor Macleod discussed the hormone control of the islets. That nerve control comes into play under certain experimental conditions, Dr. Macleod said, does not necessarily mean that the variations which occur in the discharge of insulin into the blood under the ordinary conditions of life are regulated in this way. Indeed, on a priori basis it seems more probable that the islets are under chemical rather than nerve control. Nerve control of glands is highly developed when they must secrete promptly, as do the salivary, the lacrymal, and the sweat glands, but hormone control becomes predominant when the secretion is required only gradually, as that of insulin must be.

Assuming, then, that the islets are also affected by chemical substances in the blood, the question of their nature arises. Changes in the concentration of the blood sugar may act directly on the islets, or a hormone derived from some other ductless gland, the secretion of which is regulated by the state of the blood sugar, may be responsible. It is possible, for example, that whenever the tension of glucose tends to rise above a certain level, some other ductless gland is stimulated to secrete a hormone that causes the secretion of insulin.

From time to time speculative hypotheses of this type have been freely put forward in connection with carbohydrate metabolism, but there has been little direct evidence to support them—no more indeed than the fact that changes in the blood-sugar level, or in the carbohydrate tolerance, can be brought about by removing some gland, or by injecting extracts of it. When we bear in mind the extreme complexity of the factors that control carbohydrate metabolism it is evident that such hypotheses are of little value and can serve to stimulate further inquiry provided only that they are based on some firmly established facts.

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other hormones except insulin have an influence on carbohydrate metabolism and, if so, do they act directly on the various mechanisms concerned in the production or utilization of sugar, or indirectly by influencing the secretion of insulin from the islets? Dr. Macleod considers, by way of example, the results that have been obtained by various investigators who have experimented with the thyroid gland.

It has been known for some time that the sugar assimilation limit is significantly altered by thyroidectomy, or by thyroid feeding (W. Cramer and R. A. Krause, *Proc. Roy. Soc. Biol.*, 1913, lxxxvi, p. 550; W. Cramer, *Brit. Jour. Exper. Path.*, 1924, v. p. 128; S. Kuriyama, *Am. Jour. Physiol.*, 1917, xliii, p. 481), and that the susceptibility of sheep towards insulin can be changed by similar treatment (M. Bodansky, *Proc. Soc. Exper. Biol. and Med.*, 1923, xx, p. 538). But the results that should be discussed particularly are those obtained by J. H. Burn and H. P. Marks (*Jour. Physiol.*, 1925, lx, p. 131; Marks, *Jour. Physiol.*, 1925, lx, p. 402), who showed that the daily addition of thyroid to the food of rabbits made them relatively insensitive towards insulin in about a week and that hypoglycemic symptoms did not supervene even when they were injected with ten times the usual convulsion dose. At this stage, the injection of epinephrine resulted in a much greater increase in blood sugar than usual. The simplest explanation of these results was that they were due to a rapid breakdown of hepatic glycogen. However, analysis proved that the amount of glycogen was unchanged, so it was concluded that its stability had become diminished, and that it was more readily discharged as sugar into the blood in response to the stimulus of a lowered blood-sugar level or of the presence of an excess of epinephrine.

After thyroid feeding had been continued for two or three weeks, the animals' response to insulin and epinephrine was completely reversed; they became hypersensitive to the former and irresponsive to the latter hormone. Confirmatory results were obtained by comparing the extent to which administration of sugar produced hyperglycemia at

various stages of thyroid feeding. The curves on the chart accompanying the article are plotted from Tiitso's work in Dr. Macleod's laboratory. The chart compares the rise in blood sugar in normal rabbits with that in the same animals after thyroid feeding for a week or longer. The first increase is followed by a marked decrease in the hyperglycemic response to sugar. After prolonged thyroid feeding, therefore, the animal becomes extremely sensitive towards insulin injections. Whereas epinephrine can scarcely cause hyperglycemia, and administration of sugar either fails to affect the blood-sugar level—as in Tiitso's observations—or, as Marks has shown, may actually cause the blood sugar, after a slight preliminary rise, to fall to the level at which fatal hypoglycemic symptoms supervene.

How are these results to be explained? That prolonged thyroid feeding is associated with practical disappearance of glycogen from the liver, might be considered an adequate explanation of the results with insulin and epinephrine, but it fails to account for the intense hypoglycemia that follows sugar administration. There is some probability that Marks' explanation—that the administration of sugar causes increased secretion of insulin from the islets—is the correct one. Prolonged administration of thyroid seems to bring about two definite changes in carbohydrate metabolism: It renders the liver incapable of forming—or at least of storing—glycogen; at the same time it greatly sensitizes the secretion of insulin. The upset of the glycogenic function is undoubtedly secondary to the excessive secretion of insulin, for, although Goldblatt (*Biochem. Jour.*, 1929, xxiii, pp. 83 and 243) and Sahyun and Luck (*Jour. Biol. Chem.*, 1929, lxxxv, p. 1) have shown that glycogen accumulates in the liver of young rabbits, soon after the injection of this hormone, there is abundant evidence to show that its effect is to depress it in other animals. Dr. Macleod concludes:

"I have chosen these results as offering the best evidence I know in support of the view that the secretory function of the islets is subject to control by hormones derived from other glands, but even they are not entirely

convincing, for we have to bear in mind that thyroxin also has a profound effect on metabolism in general. Its calorogenic effect, for example, indicates that it alters the metabolic rate of the tissues, and it is permissible to suppose that the influence which it has on alimentary hyperglycemia is dependent upon its causing overstimulation of the assimilatory powers of the tissues. We can see, therefore, that the answer to our main question, whether changes in the glucose concentration of the blood affect the islets directly or indirectly—either through hormones from other glands or by nervous control—cannot as yet be expected to be a final one."

Physicians of St. Joseph, Mo., have organized a clinical association. It is planned to hold meetings once or twice a year, and invite doctors from neighboring towns to participate.

There is a vast difference between a mental disease that needs care and a crime that merits punishment.—*H. M. Stansifer.*

Medical Meetings

Buchanan County (Mo.) Medical Society

At the January meeting of the Buchanan County Medical Society Dr. Daniel Morton read a paper entitled "The Function of a County Medical Society." He called attention to the fact that the county society should be sacredly upheld as the place where reform and medical progress should originate.

After a general discussion, Dr. L. H. Fusion, the new president, invited the members to be his guests at a luncheon.

The February meeting was devoted to a campaign for a county tuberculosis hospital. Dr. Jessie E. Douglas, superintendent of Webb City Tuberculosis Sanitarium, was the principal speaker. Judge L. J. Estin addressed the society on the legal aspects of procedure.

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Clay County (Mo.) Medical Society

THE second oldest county medical society in Missouri began its seventy-seventh year with a meeting at the Snapp Hotel, Excelsior Springs, February 26th, 1931.

The scientific session opened with a paper by Dr. Charles H. Suddarth, of Excelsior Springs, on "Diaphragmatic hernia" in which he reported a recent case from his practice, in which Drs. J. Edward Blair and J. E. Musgrave, of Excelsior Springs, and Dr. J. Park Neal, of Kansas City, were consulting surgeons.

Dr. Suddarth illustrated his subject by skiagrams, showing a portion of the colon pushed far up into the pleural cavity: Dr. Baird read a short history of the clinical aspects of the case and described the medical treatment employed.

Dr. Neal talked on the surgical angles of the case, exhibiting post-mortem specimens—the bowel incarcerated in the opening in the diaphragm. He also showed a hernia of similar nature, taken from an infant. He ex-

pressed a belief that most cases of diaphragmatic hernia are of congenital origin. He closed his talk with the exhibition of a series of X-ray pictures which illustrated the different degrees of the hernia.

Dr. Suddarth mentioned the dearth of scientific data on this important condition and expressed an opinion that many cases have been diagnosed as "peptic ulcer," "gall-bladder infection," "impacted bowel" and other common maladies and believes the condition is described as "Rare" because it is so seldom recognized. Often there exists a series of mild, misleading symptoms, until the practitioner finds he has a serious conditions to combat—one that almost invariably ends in disaster.

Dr. Neal agreed that most surgical operations are valueless because they are attempted when too late.

Dr. Suddarth showed a skiagram—he makes his own—of an adult male with a well-defined, beginning hernia of the diaphragm. Other cases were reported in which

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accomplishing more than supplying maltose and dextrins in building up the carbohydrate content of a baby's diet—*important as this is acknowledged to be*—for Mellin's Food assists materially in the digestion of milk by changing the physical condition of the coagulated casein into a soft, flocculent, sponge-like curd, readily permeated by the fluids of the stomach and incapable of forming in tough, tenacious masses.

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sections of the colon were lying almost beneath the clavicle.

We have never had a meeting when interest was more profound: Every member present participated in the discussion. Dr. J. D. Brooks mentioned several cases in which gunshot and knife wounds of the diaphragm were followed by loops of gut or omentum.

Dr. S. D. Henry, Excelsior Springs, spoke of launching a movement to organize a district hospital for Clay and adjoining counties but it was decided to bring this up at a future meeting.—*J. J. Gaines, M.D., Secretary.*

Western School of Physical Therapy


THE 1931 Annual Meeting of the American Physical Therapy Association will be held, under the presidency of A. David Willmoth, in Philadelphia, next June. On account of this meeting there will be no session of the School in Los Angeles this summer. The staff of instructors of the Western School of Physical Therapy are officers and fellows of the A. P. T. A. and quite naturally will be in attendance at the Philadelphia meeting.

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St. Luke's Hospital Staff

At a meeting of the St. Lukes Hospital Staff, Kansas City, Mo., February 3rd., Dr. George W. Crile, of Cleveland, read a paper on "The Clinical Aspect of De-ervation of the Adrenal Gland." He stated that destroying one-half the nerve filament of the adrenal gland had brought splendid results in cases of over-stimulation, particularly in peptic ulcer, but warned that care must be taken not to impair the blood supply of the gland.

The American Society for the Study of Goiter

The American Society for the Study of Goiter will hold a three day session at the Hotel President, Kansas City, Mo., April 7-8-and 9th. Dr. Kerwin W. Kinnard, of Kansas City, is the president.

American College of Surgeons

The California, Arizona and Nevada section of The American College of Surgeons will hold a meeting at Oakland, California, April 20th. to 23rd. in conjunction with The Western Hospital Association.

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"Nervous Indigestion."—By Walter C. Alvarez. Price, \$3.75. To all physicians who are puzzled by the problem of nervous indigestion, this book will bring enlightenment, inspiration, and delight.

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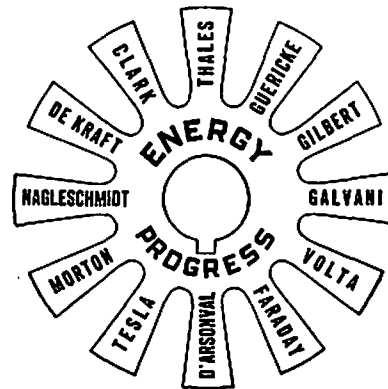
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