CLASS V: EPITHELIOMATA OF MUCOUS MEMBRANE.

Under this class I place the epitheliomata involving the mucous membranes, and particularly those involving the lower lip, the inner surface of the cheek, and the vagina and penis. Since epitheliomata involving the mucous membrane of the lower lip and the inner surface of the cheeks are rather common, and since epitheliomata of this class are usually very malignant, it becomes important to decide on the best mode of treatment promptly, so that no time is lost after they once come under our attention. The results from any line of treatment are not brilliant. In this class of cases, however, I believe that no time should be lost by Roentgen treatment, but that the epithelioma should be thoroughly excised at once, and this followed by a thorough course of Roentgen treatment of the glandular area. Occasionally, when the epitheliomata of the lower lip are very superficial, or when they involve the outer or exposed portion of the mucous membrane they will disappear under Roentgen treatment, and rarely even more advanced cases will recover, but these occasional results do not justify us in advising against operation. If the glandular area is already involved, it is probably well to radiate the glandular area previous to operation, or if, from any reason, the operation must be delayed, this should be done, using the leather filter described three years ago by myself.³

When these epitheliomata involve the inner surface of the cheek they should be excised by means of the thermocautery within the mouth and this operation followed by thorough radiation of the outer surface of the cheek, and the submaxillary glands, and may at times be given within the mouth to good advantage. At times the ulceration produced by this cauterization will heal to a very small area and then remain at a standstill. It will be found to have a fibrous edge and base. A simple excision of this small indurated ulcer will then probably be followed by good results.

CONCLUSIONS.

1. Early superficial epitheliomata involving the skin of the face and the back of the hands, when treated early by means of the Roentgen rays, should give good results in practically all cases. These results are brought about painlessly, with the least possible scarring and often with none, and they are probably more likely to be permanent than the results from treatment by any other method.

2. Epitheliomata associated with senile keratoses yield to the Roentgen rays rather easily, but there is more likelihood of recurrence.

3. Deep ulcerating epitheliomata with indurated fibrous bases do not yield good results under this treatment and should be excised when possible. When this is not possible the rays will often give relief of pain, lessen discharge and prolong life.

4. Epitheliomata involving the mucous membrane of the lower lip and cheek should be excised, and the excision followed by treatment of the glandular area with the Roentgen rays.

1321 Spruce Street.

ABSTRACT OF DISCUSSION.

DR. EDWARD BEECHER FINCK, Philadelphia: Since Dr. Pfahler, about three years ago, recommended the use of the leather *x*-ray filter it has been employed at times in two of the hospitals with which I am connected, and always with re-

markable success, for the same indications mentioned by Dr. Pfahler. It has also been used with equal success in the private *x*-ray work of some of my professional friends.

DR. ALBERT M. COLE, Indianapolis: Dr. Pfahler touched on the subject of recurrences in epithelioma. There are instances, I believe, in which such recurrences can be avoided by keeping the patient under close and continuous observation. The first indication of a recurrence is often a slight scaliness, and if the condition is observed in that stage it can usually be quickly cured by a few treatments. In my experience, a small percentage of individuals respond to the rays or respond slowly or not at all. In such instances I carry the effect of the rays to the fullest extent until a marked dermatitis is noticeable on the surrounding skin. The normal skin is then covered with a piece of thick lead-foil, leaving only the lesion exposed, and this is then given three or four hard treatments. This method has often proved successful with me in intractable cases. These patients require severe treatment, even at the expense of a burn, and if this is limited to the lesion itself it does not make much difference. In a certain number of cases in which the *x*-ray treatment is only partially successful, perhaps one-half the lesion remaining unhealed, I have had good results at times by resorting to the curette, followed by the *x*-rays. I think that the idea of using a filter is an excellent one. In discovering its advantages, Dr. Pfahler has given us one of the most important aids in *x*-ray technic. I am using this safeguard constantly, especially in cases in which there is glandular involvement and extension to the deeper tissues. By means of the filter the rays which affect the surface are eliminated and those that affect the deeper tissues are allowed to penetrate. When using this filter I do not hesitate to give prolonged treatments.

X-RAY USES, DANGERS AND ABUSES.*

WILLIAM S. GOTTHEIL, M.D.

Adjunct Professor of Dermatology, N. Y. Post-Graduate Medical School; Visiting Dermatologist, City and Lebanon Hospitals; Consulting Dermatologist, Beth-Israel and Washington Heights Hospitals.

NEW YORK.

The rôle of image-breaker is always an ungrateful one, and especially so in therapeutics. In the face of the essential problem and crux of medical endeavor, positive claims have an authority and a charm that give them every advantage over merely negative criticism. Yet the iconoclast is as necessary as the builder, and sometimes even more so. A franker and freer discussion, less reticence as to failures, and a more judicial attitude toward successes would save much misconception and much useless labor and suffering. An extra-medical observer, studying the files of our professional journals, would conclude that there are few if any incurable affections, and that the chief difficulty of the modern therapist is the selection of one among the many curative measures that are recommended. How far the facts are in accord with this each one of us can judge from our own experience.

These reflections crowd in on me when I consider the development of radiotherapy during the last few years. The marvelous and still mysterious *x*-ray, first used in its most obvious application as a visual aid to diagnosis, was soon employed as a therapeutic agent, and the profession accepted it with alacrity as a remedy of far-reaching power and wonderful effect. To judge by the earlier reports our expectations were fully realized, for astonishingly good results were attained not only in affections amenable to ordinary treatment but also in diseases that were considered almost beyond the reach

* Read in the Section on Cutaneous Medicine and Surgery of the American Medical Association, at the Fifty-ninth Annual Session, held in Chicago, June, 1908.

3. Proc. Am. Roentgen Ray Soc., 1905, iii, 217.

of our curative measures. It is far from my purpose to criticize these earlier reports; they were doubtless largely influenced by that optimism that is so necessary a part of our therapeutic endeavor. The personal equation, both in the physician and the patient, plays an important part in our work, and to a certain extent it must be admitted that the therapeutic optimist and the therapeutic pessimist each gets results that are modified by their respective mental attitudes.

During the past few years, however, there have not been wanting signs to show that the optimistic tide has reached its height and has even turned. We no longer see, at least from authoritative sources, the wonderful reports to which we have been so long accustomed. One by one the serious internal and external affections for which the *x*-ray was the infallible cure have been taken from the list. Step by step the scope of the remedial procedure in the diseases for which it is still used has been restricted. More and more other remedial agents are employed by even the most enthusiastic advocates of the ray, either in conjunction with it or alone. And, finally, experience is teaching us in a positive and none too pleasant way that while we do have in the ray an agent that may be of therapeutic use, we also have in it an instrument that is capable of doing great and even irreparable damage.

And here let me premise very plainly that this consideration is limited entirely to that field of *x*-ray usage in which I have had personal experience. I do not presume to criticize the use of the tube for diagnostic purposes, general medical opinion being to the effect that its value in this respect is inestimable in many cases. Nor shall I have anything to say in regard to its employment in the treatment of internal diseases; this belongs to the domain of general medicine. I propose to discuss the *x*-ray as a therapeutic agent in diseases of the skin and its appendages only.

Since the time, ten years ago or so, that Freund first used the ray in dermatotherapeutics there has been an immense development of its application for the cure and alleviation of acute and chronic affections of the skin. A complete list of all the dermatoses in which its employment has been advocated would probably include most known skin diseases, and not only such intractable affections as sarcoma, mycosis fungoides, lepra, carcinoma and keloid, but also diseases like acne, alopecia, eczema, seborrhea, hyperhidrosis, molluscum contagiosum, clavus, psoriasis, rosacea, nevus, pityriasis rosea, verruca and many other affections for which we possess safe and accredited remedial procedures. So great has been the enthusiasm for the new remedy that in some quarters it has become almost a matter of routine to apply the ray in every case of skin disease. To judge by some of the published reports, the possession of an *x*-ray apparatus rendered the practitioner almost independent of other dermatotherapeutic means.

Here I reach a part of my subject that I approach with some trepidation, and yet I feel that it can not be omitted. It is the question of the reliability of the results recorded from the ray treatment of these various dermatoses. I do not here refer to those published by observers whose judgment in skin affections I must consider as good as or better than my own; if they get results that I can not attain it is probably from some fault of my own. But I do refer to the long lists published by observers whose qualifications to decide either as to a diagnosis or as to a cure are legitimately open

to doubt. When non-specialists, or worse, when *x*-ray specialists who are not dermatologists record *x*-ray cures in diseases of the skin, my mind reverts to experiences which I am sure can be duplicated by each one here present. I remember the so-called lupus, and carcinoma, and ringworm, etc., exhibited in our various medical societies, and I recall the cured epitheliomas with the disease still present, the vanished keloids with the new tissue still plainly in evidence, and the lupus healed under the ray with the tuberculous foci yet scattered through it. It was my fortune but a few days before the present writing to be at a medical meeting at which a number of such cases were shown in evidence of the efficiency of the ray. I can come to no other conclusion but the one that a large part of the published testimony in this regard is not reliable.

Another point of legitimate adverse criticism is the fact that many cases have been recorded as "improved" that have not continued to improve, while many have been recorded as "cured" that have promptly or slowly relapsed. The time of observation, in many cases, has been entirely insufficient. We hear little of these failures and relapses, but their influence is apparent in the changed attitude toward the therapeutic method of many of the most capable workers in the *x*-ray field. Take cancer of the skin, for an example. It is becoming generally conceded to-day that the method is of little permanent curative value in the deeper-seated, infiltrating, and more malignant forms of the disease, and most of the recent writers emphasize the fact that it is in the superficial and slow-growing epitheliomas and rodent ulcers that its use is to be chiefly advocated. In lupus vulgaris of the face, again, Professor Veiel of Canstatt told me last fall that at the dermatologic section of the recent *Deutscher Naturforscherversammlung* he challenged any one present to adduce a single case that had been permanently and radically cured by the *x*-ray alone. In fact, the pendulum in some quarters seems to be swinging entirely the other way, and I know at least one prominent radiographer in New York, connected in that capacity with some of the largest hospitals here, who openly states, as the result of his experience, his disbelief in the efficacy of the ray as a curative agent. Extremes in either direction are to be distrusted, but it seems entirely certain that the field of radiotherapy in dermatology is already being reduced in area.

Expert opinions vary as greatly as to the disadvantages and possible dangers of the radiotherapeutic procedure as they do in regard to its efficiency. There are those who tell us that they use the *x*-ray daily, on multitudes of cases of all kinds, and have never had any trouble at all. There are others, and in increasing number, who use it with caution, as necessarily involving danger. I shall not here attempt any consideration of the nature of the injuries to the tissues that may occur from the ray. We are still very much in the dark as to its nature, and for convenience' sake we may call it a dermatitis, though its ill effects may go very much deeper than the skin. The fact remains, however, that very serious damage may be and has been done. Chronic and intractable ulceration, involving the destruction of the entire cutis and subcutis, and even injury to the underlying muscle and bone, may occur, not to speak of the slighter ill effects such as sclerotization and telangiectasia, or the more serious ones of malignant degeneration and injuries to the bones and internal organs. It has been my fortune to see a considerable number of

these injuries, varying all the way from a moderate dermatitis, disappearing entirely in a short time, to deep-seated and extensive ulceration lasting for years, and tissue-destruction necessitating amputation, etc. There has been no time during the last few years when I have not had one or more of these cases under my care; luckily none of them as yet has been a case of my own. I have also seen a number of very severe cases in consultation or as expert (of course, always on the physician's side); and my experience in this respect is doubtless to some extent responsible for my attitude to the treatment.

Individual experience apart, however, there are certain facts that will be generally admitted. In the *x-ray* we are dealing, in the first place, with a therapeutic agent concerning whose mode of action we know but little, and which is liable, under conditions as yet not accurately determined, to have unfortunately deleterious effects. In the second place, we have absolutely no reliable means of dosage measurement at our disposal; and I make this statement not on my own authority, but in accordance with the conclusions of Geyser, who in a recent paper reviewed all the various measurement devices, and rejected them all. In the last place, we have absolutely no means, save actual trial, of determining that other chief factor in our radiotherapeutic results, the individual susceptibility of the patient's tissues to the rays. Now I would ask any one here present to what extent he would be willing to employ a drug so powerful as sometimes to cause very serious trouble, of whose mode of action he was ignorant, whose dosage he could not measure, and toward which a susceptibility unrecognized beforehand is sometimes manifested. I am sure that the answer would be: Only in cases not amenable to other safe and recognized measures.

Now there can be no doubt at all that the public is awakening to the fact that the *x-ray* may do damage, and that the physician may be held liable for it. It is true that in New York County, for instance, there have been so far only about eleven suits for *x-ray* damages, and that fortunately none of the plaintiffs have recovered. There are several others, however, projected, to my own personal knowledge. At a recent medical meeting where I took occasion to advert to this subject on the lines of the present paper, Mr. John Taylor Lewis, counsel for the New York County Medical Society, who had defended most or all of these suits, corroborated and emphasized the views that I expressed. The attitude of the court, he said, had in the past been, on the whole, favorable to the physician, and had placed the burden of proof not only of injury, but of improper treatment, on the plaintiff. But there was evidence of a gradual change of attitude in the bench on this point, and he warned his hearers that in future cases the position would probably be reversed and the physician would be asked to explain why he used this treatment at all and thus injured his patient. In other words, the burden of proof as to the propriety, efficacy and safety of the treatment would rest on the defendant.

Under these circumstances the conclusion is warranted that the ray should be used only by experts; it should be employed only by those whose experience with it and skill in its use is such as to justify the assumption that the latest and best means of safeguarding its action have been employed. I feel very positive that it is not a remedial measure to be used by every physician; but that, like intralaryngeal or ocular work, *x-ray* work

should be done only by those who have had the special training required to fit themselves for it. The mere fact that a man has a coil or a static machine is no reason for the employment of the method any more than the possession of an operating set would justify an unskilled person in doing a surgical operation. "Psychic effect on the patient," which I have heard adduced in more than jest as a reason for its employment, is not worthy of consideration here.

From the same postulates it follows that the *x-ray* should be used as a remedial agent only in cases in which it is required; that is to say, only in cases in which no other better understood, safer and more generally accepted remedy can be employed. This is a point on which I would lay especial stress. This paper could be swamped, if I so wished, with the statistics of ordinary dermatoses which have been subjected to the *x-ray*, and for which that treatment is advocated. I shall, however, refer only to the very recent paper of Stern read at the International Dermatologic Congress last fall. Coming as it does from one of our largest dermatologic clinics, it may be legitimately supposed by outsiders to be authoritative. Here we find the *x-ray* recommended for the following affections, among others:

Acne vulgaris: Time required, 4 to 6 weeks; exposures, 12. Results, "very gratifying"; 120 cases treated with "generally good results." Am I claiming too much if I say that as much might be accomplished in 120 unselected acne cases in that length of time with curetting, cupping, peeling, and the other recognized and innocuous measures?

Psoriasis: No definite results given, save the statement that the value of the treatment is well established; no influence noted on recurrence. Number of treatments or time required not given. Forty-eight apparently unselected cases treated, possibly including some of the milder circumscribed and seborrheal forms of the disease. Almost every case of such a series can have the skin cleared, under proper conditions, in three weeks or so; and that is all that we can do for any psoriasis. And that with absolute safety; with which I would contrast Stern's statement that, as a rule, psoriasis of the trunk was not treated with the *x-ray* on account of possible injury to the underlying viscera.

Eczema: All varieties of this affection are said to yield more or less readily to the *x-ray*; 225 patients were treated with generally good results in all those who had sufficiently persisted in the treatment. I am sure that there is not a dermatologist here who can not say exactly the same thing, even if he never uses the ray on his eczema patients at all; and I believe that if we had here more definite statements as to the number of radiations, the time required, etc., and the other treatment employed, the balance would incline very strongly against the ray.

Pruritus: Here the verdict is said to be favorable though we are warned of the danger of sterility in treating the genitals. Quite as much might be said, I think, in favor of carbolic acid, menthol, thymol, and many other remedies, and there is no danger of their interfering with the patient's procreative powers.

These will serve as examples of dermal affections that under ordinary circumstances ought never, in my opinion, be treated with the *x-ray*. There may be exceptional cases of such every-day dermatoses that resist all ordinary measures and justify a recourse to radiotherapy. I am greatly afraid, however, that the num-

ber of such cases often depends on whether or not the practitioner possesses a ray apparatus. I believe it entirely superfluous. Here is a case in point: A general psoriasis in my female ward at the City Hospital cleared up entirely in the usual time and under the ordinary remedies, with the exception of a large patch over the sacrum. Here 5 per cent. chrysarobin and pure pyrogallol had no effect other than to remove the superficial scales, though preceded by daily vigorous green soap scrubbings by the nurse. The propriety of using the ray was considered; but by preceding the other treatment by a vigorous swabbing with official liquor potassæ, diluted with three parts of water, a prompt reaction and a satisfactory effect was speedily secured.

On the other hand, I do not for a moment deny that there are certain dermatoses in which the use of the ray, with all its disadvantages and possible dangers, is not only permissible, but advisable. Two conditions, in my opinion, must be present. In the first place, the affection must not be a trivial one; there must be sufficient reason, either from the gravity of the disease or on account of its effect on the patient, to warrant the employment of a remedy of uncertain and possibly deleterious effect. And, in the second place, the disease must be one that either in general or in the especial case under consideration, is not amenable to the ordinary, accepted and safe methods of treatment. Keloid, for instance, notoriously resistant to all previous methods of treatment; a rhinoscleroma, for which there is not, so far as I am aware, even a palliative other treatment of any promise; an epithelioma or rodent ulcer so situated or so far advanced that other operative or caustic treatment is out of the question; a lupus vulgaris of great extent and recalcitrancy; these will serve as examples of dermatoses in which it seems to me that the use of the *x*-ray is justified.

Between these two classes, dermatoses for which we possess abundant and proven therapeutic means, and dermatoses acknowledged to be resistant to former methods of treatment, like dermatoses which, occasionally obstinate, are curable in other ways, and in which good results have been reported from the rays. In this class I would place ringworm of the head and beard, alopecia areata, hypertrichosis, folliculitis, favus, etc. Here it seems to me that the *x*-ray should be absolutely rejected as a standard and usual method of treatment. Every one of them is curable in almost all cases, without radiotherapy; and while I am ready to admit that there may be an exceptional case of the kind that is resistant, I hold that the ray should only be used as a last resort, and after a thorough trial has proved the inefficiency of other treatment.

CONCLUSIONS.

Reviewing the entire field of radiotherapeutics in dermatology and its results, it seems to me certain definite conclusions can now be drawn which may in some way serve as a guide to its use, more especially on the part of those who are occasional rather than regular dermatotherapeutists. And while I present these conclusions as personal ones, and with the expectation that all or many of them may not commend themselves to others, they are not formulated without due consideration of the very valuable work in this line that has been done by Zeissler, Pusey, Kassabian, Mackee, Geyser and many others, and more especially of the monograph by Ehrmann of Vienna which has recently appeared.

1. The *x*-ray is a remedy of positive, though strictly limited, value in dermatology.

2. It is to be used with caution, since its dosage is unmeasurable, the individual reaction to it is unknowable, and its results uncertain in any given case.

3. It should be employed only in the more serious dermatoses in any case, and in these only when it is entirely certain that safer and simpler means of cure are ineffective.

4. It is not suited for use by the general practitioner in dermatotherapeutics, but should be employed in this field only by those whose familiarity with the method and with dermatology as a whole is a guarantee of certainty of diagnosis and of the observance of all the cares and precautions prescribed by experience.

5. The *x*-ray should not be used in the treatment of eczema, psoriasis, acne, alopecia areata, alopecia prematura, pruritus, hypertrichosis, folliculitis, verruca, ordinary ringworm, favus, etc., all of these being maladies for which we possess other efficacious therapeutic measures. In lupus erythematosus it is conceded to be useless. Epithelioma and rodent ulcer, except when so far advanced or so situated as to be unsuited for caustics, the curette, or the knife, is also to be excluded from the list.

6. The *x*-ray may be used in lupus vulgaris, though it is not the only method of cure in many cases; in scrofuloderma on account of the tediousness and uncertain results of other medication; in very extensive cases of ringworm of the head and beard for the same reasons.

7. The *x*-ray is treatment of election in epithelioma and rodent ulcer so situated that other methods of treatment can not be employed, or so extensive that other methods are hopeless, and in relapses after other methods; in tuberculosis cutis, erythema induratum, and some other tuberculides; in sarcoma, mycosis fungoides, rhinoscleroma, keloid, and acne keloid, in which diseases no other method that I know of has given as good results.

144 West Thirty-eighth Street.

ABSTRACT OF DISCUSSION.

DR. M. L. RAVITCH, Louisville: Last summer Dr. Gottheil told me that he did not like to use the *x*-ray and was afraid of it. I have used this therapeutic agent for eight years, and do not see how I could get along without it in a good many skin diseases. In acne, chronic eczema, mycosis fungoides and other skin affections it has no peer. I believe that if physicians would be a little more cautious in the use of the *x*-ray they would find it one of our most useful therapeutic agents.

DR. J. B. KESSLER, Iowa City: The only criticism I have to make on the paper is that many of the statements it contains are too sweeping in character. In other respects I agree with Dr. Gottheil. We frequently see the results of inexperienced *x*-ray work, but in some of the diseases mentioned by Dr. Gottheil, for example, chronic palmar eczema, I do not see how I could get along without it. In that affection I have never accomplished with local applications anything like the effect produced by the *x*-ray. In ordinary acne vulgaris I have found it almost useless, whereas in acne indurata I have never found anything to equal it. I have also found it serviceable in very rebellious sycosis and in one case of mycosis fungoides. I agree with Dr. Gottheil that there are many who employ the *x*-ray simply for the purpose of making a display, and they have done much to bring this valuable therapeutic agent into disrepute.

DR. JOSEPH ZEISLER, Chicago: I consider Dr. Gottheil's paper sound. It contains a warning note which should be heeded. I said about a year ago that the mere possession of

an *x*-ray apparatus was the pretext for many a practitioner and so-called specialist to pose as a dermatologist. At the same time Dr. Gottheil's paper seems to be written more from hearsay than from personal observation. It reminds me of the statements of some writers who oppose the hypodermic use of mercury in syphilis largely because they have never used it and do not know what they are speaking of when they oppose it. With the use of the *x*-ray, as with many other things, it is necessary to have personal experience. For instance, in the list of affections mentioned by Dr. Gottheil he omits entirely one in which the *x*-ray is almost invaluable, namely, lichen planus. I do not know of any other agent which has such a markedly beneficial effect on these lesions as the *x*-ray. In sycosis and in favus I have seen the treatment followed by excellent results, and here particularly it does the one thing indicated, namely, epilation. In the treatment of clavus, corns on the sole of the feet, I know of no remedy as efficient as the *x*-ray; in fact, the range of diseases which legitimately appeal to the *x*-ray are too large to enumerate. I believe, however, that wise conservatism should guide us in its use, and that our first enthusiasm in regard to it carried us too far. In epithelioma it is not the best treatment, because it does not protect against relapses. In rodent ulcer it is, perhaps, the supreme remedy, but the inclination to use it in epithelioma of the lip is very dangerous, and I look on it as next to malpractice to resort to it in such cases. By careful observation, we should now have reached a point where we recognize in the *x*-ray a valuable remedy in many diseases, either in itself or as an adjunct.

DR. MIHRAN K. KASSABIAN, Philadelphia: The value of the *x*-rays has been overestimated, as any new scientific aid that comes to medicine is apt to be. I believe that the danger to the patient now is very slight, I may say *nil*, because the experience we have accumulated within the past twelve years has enabled us to perfect our technic to a considerable degree. First of all, it is necessary that the operator should have a thorough knowledge of the manipulation of the apparatus. In order to protect my patients from burns, I employ an interposing grounded sheet of aluminum, 1/32 of an inch in thickness. I do not use this during the first week of treatment, because in the beginning there is little accumulation of the action of the rays. I begin its use in the second week, and lengthen the time of exposure from three to eight minutes. If the patient is very susceptible and there is any reaction, I am in the habit of discontinuing the treatment for several months. To my knowledge, no physician has been seriously injured by the *x*-rays during the past six years. The accidents that were reported occurred mostly during the first three or four years after the discovery of the rays. As a protection to the operator, I advise him to keep away from the *x*-ray field. He should not use the fluoroscope and should keep away from the machine when the latter is in an active state. The action of the tube can be watched through a mirror. By using these precautions I have not received any fresh burns for a number of years. I repeat that there is little or no danger to either the patient or the operator provided the necessary precautions are taken. Of course, there are still defects connected with the *x*-ray method of treatment. We do not know the proper dosage, but that does not imply that we should discard the method entirely. This and other fields of medicine are in a state of evolution, and we must experiment for the benefit of future generations.

DR. I. S. TROSTLER, Chicago: For the purpose of an interposing shield, to which Dr. Kassabian referred, I now use an ordinary piece of sole leather saturated with water. I have found that this serves the purpose admirably, and even in cases in which a dermatitis has been previously produced, by using this shield the exposures can be continued as frequently as three times a week without danger of increasing the dermatitis. In fact, the latter subsides just as if the rays were not being used. I am using a modified Cornell tube in direct contact with the patient's skin, and have never had any burns. I have used it only two months, however, so I can not speak from an extended experience with it, and my work with it is still in an experimental stage.

DR. M. B. HARTZELL, Philadelphia: I know of no other

method of treatment which produces such beautiful results in cases of eczema of the palms, accompanied by marked keratosis, as the use of the *x*-ray. The lesions disappear as though they were wiped away.

DR. EBERHARD W. DITTRICH, New York: In Dr. Gottheil's absence, Dr. Dittrich read the paper and closed the discussion: I do not agree with Dr. Kassabian that the *x*-ray treatment no longer presents any dangers to the patient. In one of the postgraduate schools in New York I have now a woman under observation in whom both arms are the seat of an ulcerating dermatitis resulting from the use of the *x*-rays for the treatment of hypertrichosis by a very able man. Dr. Gottheil uses and prefers the Cornell tube devised by Dr. Geysler.

RUPTURED TUBAL PREGNANCY. WHEN SHALL WE OPERATE?*

HUNTER ROBB, M.D.

Professor of Gynecology, Western Reserve University; Visiting Gynecologist to the Lakeside Hospital.

CLEVELAND, OHIO.

It is always a questionable procedure in surgery or medicine to make any suggestions that are contrary to the beaten paths of tradition, and especially when such a suggestion would seem to be in direct opposition to a well-known and sufficiently well-established surgical principle. But conservatism, as we all know, in times past has often gone too far, and the progressive spirit in medicine at the present day is no more clearly shown than by the fact that changes are constantly taking place in our ideas with reference to surgical procedures. As a consequence methods which at one time were looked on as firmly established, have been discarded or modified frequently in the past few years, in many instances to the great benefit of suffering mankind. Thus, when I was a medical student, we were taught to give antiseptic douches before and after labor. But now that bacteriologic experiments have shown that these procedures are useless and often extremely dangerous, they have been discarded. Again, I was always taught that a pus tube must be operated on at once for fear of rupture. Now we are taught to operate, if possible, only after the acute stage is over.

Again, consider the attitude that is slowly but surely gaining ground with reference to the carrying out of conservative operative measures, when dealing with diseased conditions of the Fallopian tubes and ovaries. Note the change of heart that many are experiencing in regard to the operative treatment for fibroid tumors of the uterus, when the tumors are not causing any discomfort to the patient, except, perhaps, from the knowledge of their existence. And now in my judgment the time seems ripe to take up the question of the treatment of ectopic pregnancy, more especially in those cases in which a condition of shock is present, following the rupture of the gestation sac. I do not, however, expect at present to be able to do much in the way of changing any one's opinion on the subject, as the ideas that now appeal to my judgment as being the best are so directly opposed to those held by the majority of operators to-day. Nevertheless, I will endeavor to present my convictions gathered from my own reading and experience with these cases, from which

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-ninth Annual Session, Chicago, June, 1908. Because of lack of space, the article is here abbreviated, but it appears in full in the Transactions of the Section and in the author's reprints.