A FORECAST OF THE UNITED STATES
PHARMACOPEIA IX *M. I. WILBERT, M.D.
WASHINGTON, D. C.

or any other organ infected with this disease. The monthly congestion of these organs certainly is a field inviting to the tubercle bacilli, as well as to any other pus-forming micro-organism. Many surgeons have reported tuberculous disease of the tubes even in girls of 17 and upward. Such men as Kaufmann, Amann, Kleinhaus, Tullier, Pozzi, Delbet, Hartman, Faure, Sick, Bier, Murphy, Ochsner, Tuholske, Riolanus, Vassall and Regnier de Graf have reported this condition, but none of these gentlemen has associated tuberculosis of the tube as a cause of ectopic gestation previous to this time.

DR. H. T. BYFORD, Chicago: When we separate extensive adhesions in cases with but little effusion we often get ulceration and breaking down of the intestinal walls. Hence, I think, it will not do to recommend the separation of adhesions in all cases. In view of the fact that many recover without operation, we should look at the matter from a conservative standpoint. These adhesions are Nature's method of limiting the disease, and, usually, form again. You cannot drain any part of the peritoneal cavity longer than a day or two. As a rule I drain only long enough to let out the excess of material which Nature has not been able to take care of. In most cases it is enough to let out the fluid and remove the septic focus, and, if desired, let in a little air or sprinkle in a little iodoform as a local stimulant. Although the ovaries and tubes may not be the primary focus, they usually require removal in cases of pelvic tuberculosis, because the monthly congestion seems to favor the development of germs.

DR. TOD GILLIAM, Columbus, O.: I presume that most of us are influenced by our own experience in these affairs. A few years ago, Dr. Byford and I were pitted against each other in Chicago on this same subject. I am a strong advocate of operative interference in tuberculous peritonitis with effusion. I am an advocate principally from my own experience, which has been most favorable, and because one gets immediate and convincing results. When the abdomen is opened and the fluid let out, usually that is the end of the trouble. I have sometimes had reaccumulation, but even this would disappear and almost every patient with uncomplicated tuberculous effusion has been cured. I never interfere with the adhesions of tuberculous peritonitis if I can help it, and I am very particular not to do any damage to the intestines. I have never known an intestinal tuberculous fistula to heal, and I dread them greatly. If I find that the tubes are involved, and I can get them out without damage to the intestines, I remove them. In cases of this class I have had excellent results.

DR. J. R. GOFFE, New York: I believe in the conservative method of treating these patients as I indicate in my paper. In one of the cases reported, the young woman had been suffering from one to two years and was finally obliged to give up her work in the Salvation Army. I made a diagnosis of tuberculous peritonitis, with the focus probably in the right appendages, and did a laparotomy. There was considerable serum, which I carefully sponged out. In attempting to separate the adhesions about the diseased appendages on the right side, I found that the walls of the intestine were involved, and, after separating just a few "of the uppermost coils of intestine," I desisted and restored them to their original position and closed the abdomen without drainage. She made a beautiful recovery, the most satisfactory convalescence I have ever witnessed. I take the stand that in all these cases conservative work is the best. Remove the focus, if easily and safely reached, but refrain from all serious damage to the tissues, drain out the fluid and close the wound.

Rectal Fistula.—Pelvi-rectal fistula may even track round and invade the bladder. In other cases the fistula may cause inflammation of the peritoneum, and from the peritoneum the inflammation may spread on to adjacent coils in the small intestine. The small intestine may even be adherent to the inflamed peritoneum in the pelvic area.—F. C. Wallis, in *Clinical Journal*.

It is generally well known that the Pharmacopeia of the United States of America had its origin in the desire of the leading men in the medical profession of a century or more ago to secure for their patients medications of uniform strength and activity and to eliminate from the practice of medicine, so far as possible, drugs and preparations of unknown value or of recognized uselessness. In accordance with these intentions the first edition of the Pharmacopeia of the United States was devised by capable, broad-minded men as a safeguard to the health of the American people, and the preface to that work outlines, at some length the objects and the ideals of the founders.

As an illustration of the aims of the originators I may be permitted to quote from the initial paragraphs of the preface to the first U. S. P.:

It is the object of a pharmacopeia to select from among substances which possess medical power, those, the utility of which is most fully established and best understood, and to form from them preparations and compositions, in which their powers may be exerted to the greatest advantage.

The fault of the lists of the materia medica which have been adopted in different countries has always been their redundancy, rather than their deficiency. The number of articles necessary in the management of diseases is always far short of the catalogue afforded by most pharmacopeias.

The value of a pharmacopeia depends on the fidelity with which it conforms to the best state of medical knowledge of the day. Its usefulness depends on the sanction it receives from the medical community and the public, and the extent to which it governs the language and practice of those for whose use it is intended.

The assertion has been made that the materia medica of a century ago might be considered as "lilliputian" when compared with the variety of the materials available at the present time.

This statement should not go unchallenged in view of the fact that, despite the principles laid down in the preface quoted above, the founders of the U. S. P. nevertheless saw fit to include in that book more than 600 drugs and preparations, which they considered to be of sufficient merit to warrant continued use. In addition to this, a review of the "International Pharmacopeia," compiled by A. J. L. Jourdan, first published in 1828, will convince anyone that the materia medica of that early day was both complex and varied.

An interesting reflection of the direct effect of the compilation by Jourdan, just referred to, is found in the preface to the U. S. P. for 1830, which says in part:

It is highly desirable that uniformity in the preparation of medicines should everywhere prevail, for the benefits accruing from the mutual interchange of the medical writings of different civilized nations must be greatly affected by any material difference in the nature or composition of the remedies employed. . . . It is a duty, therefore, which we owe to the cause of pharmacy to throw our own weight into that scale which already preponderates, and thus contribute to the production and maintenance of the desired uniformity.

The introduction of proprietary medical schools in the earlier decades of the nineteenth century appears to have been accompanied by a decadence of the high ideals

* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

once dominant in American medicine and the United States Pharmacopeia was among the lines of effort to be most seriously affected. Without discussing this particular influence further, it may be pointed out that the variance of opinion regarding the field of usefulness for a pharmacopeia that has been manifested in this country during recent years, has led us to overlook the rather limited field occupied by the Pharmacopeia of the United States during nearly fifty years of its existence.

From 1830 to 1880 the chief and, practically, the only direct use for the Pharmacopeia was as the basis for a commentary, the U. S. Dispensatory, which was developed and continued by the chief editors and the publishers of the Pharmacopeia. During all of this period, the history of the Pharmacopeia is so intimately associated with that of the Dispensatory, that many otherwise intelligent medical practitioners did not know, or at least, did not appreciate that the two books were not identical.

We should not forget, however, that the thanks of all who are in any way interested in the development of the science of medicine in this country is and ever will be due to the originators and editors of the "United States Dispensatory," Dr. George B. Wood and Dr. Franklin Bache for their far-sighted policy of continuing the Pharmacopeia along the high plane on which it was founded.

The really slow deviation from the original intent of the founders of the Pharmacopeia is well illustrated by Table 1, showing the comparative number of vegetable, chemical and animal drugs and the number of Galenical preparations in the several editions of the U. S. P.

TABLE 1.—THE NUMBER OF DRUGS AND GALENICAL PREPARATIONS IN THE VARIOUS EDITIONS OF THE U. S. P.

	1820.	1830.	1840.	1850.	1860.	1870.	1880.	1890.	1900.
Vegetable	254	260	281	297	312	321	264	255	220
Chemical	109	116	124	140	176	192	233	239	268
Animal	12	15	17	19	18	18	15	18	21
Galenical	246	229	206	312	367	440	481	473	443
General Formulae	...	...	...	...	...	...	4	5	6
Total	621	620	688	708	873	971	997	990	958

It will be noted that, in the first revision of the U. S. P., the number of official articles was actually reduced and that, following this date, the sum-total of articles increased rather rapidly to 1870 and apparently reached a maximum in 1880, from which time the number of official articles appears to be again gradually decreasing.

The evident causes for the increases in the number of articles official in the U. S. P., in the decades from 1840 to 1870 inclusive, are of course varied. Not the least among these causes, however, is the part taken by pharmacists in the several revisions including and following that of 1840, and the influence that the introduction and increase of eclectic, botanic and other "new" schools of medicine had on the practices of medicine, as well as pharmacy, in these United States.

Altogether, the several editions of the Pharmacopeia appear to reflect the decadence of the medical instruction and medical ideals in this country in a way that as yet, has not been sufficiently well recognized.

The U. S. P. VI, or that of 1880, as it is more generally known, represents a revolution in Pharmacopeia-making in this country, but, unfortunately, the revolution was originated and carried out by pharmacists, and medical men took little or no part in it.

Dr. E. R. Squibb,¹ in commenting on the U. S. P. VI, says:

It is by far the best Pharmacopeia of the time, because it is the result of more labor and research than any other, and by hands as skilful as any other.

In its general complexion and tone it is pharmaceutical rather than therapeutical. That is, while its general tendency is to both polypharmacy and polytherapy, its greatest redundancy is in its pharmacy; and this is not to be wondered at, from the constitution of the committee of revision and from the fact that the pharmacists did almost all of the work.

Since 1880 the pharmacists of the country have continued to bear the burden of pharmacopeial revision with little or no assistance from the medical profession, and the U. S. P. has continued to be, primarily, a pharmaceutical reference-book, with little or no regard to therapy or therapeutic needs.

Some indication of the comparative scope of the Pharmacopeia of the United States is evidenced by Table 2, showing the number of titles included in fourteen of the leading pharmacopeias of the world, with the comparative number of general headings, crude drugs, chemicals and Galenical preparations.

TABLE 2.—NUMBER OF TITLES, ETC., INCLUDED IN THE SEVERAL NATIONAL PHARMACOPEIAS

Pharmacopeia.	Published.	Total Titles.	General Headings.	Drugs.	Chemicals.	Preparations.
British IV.....	1898	826	0	189	186	451
German IV.....	1900	626	23	193	176	234
United States VIII..	1905	958	6	241	268	443
Spanish VII.....	1905	1073	0	269	260	544
Dutch IV.....	1905	673	17	200	182	274
Japanese III.....	1906	706	14	204	207	281
Belgian III.....	1906	722	25	185	173	329
Austrian VIII.....	1906	698	19	232	160	287
Danish VII.....	1907	489	22	142	144	181
Swiss IV.....	1907	853	20	244	227	353
Swedish IX.....	1908	583	19	144	170	241
French V.....	1908	1122	48	271	293	510
Italian III.....	1909	669	18	164	194	294
Hungarian III.....	1909	551	18	142	183	204

Excepting the pharmacopeias of Spain and France, which are dominated by conditions not prevailing in other countries, it will be noted that the U. S. Pharmacopeia excels in the total number of official titles.

Another interesting fact is that the two pharmacopeias, the Swiss and British, having the next highest number of official titles are, like the U. S. P., in a way controlled by the dispensing interests involved. The Pharmacopeia of Switzerland is published under the auspices of the Swiss Pharmaceutical Society, while the British Pharmacopeia is largely dominated by the Society of Apothecaries, which represents the more numerous and more influential "general practitioner" who, with the assistance of the "chemist and druggist" is well able to dictate the scope and content of the Pharmacopeia.

Eliminating the pharmacopeias published in countries where special conditions appear to make a large number of official articles necessary or desirable, our own Pharmacopeia is the most prolix, and, as constituted at the present time, does not reflect a satisfactory development of medical science so far as pharmacal therapy is concerned.

Recognizing the old adage that "a multiplicity of remedies is an indication of incompetency or ignorance" physicians and others who are interested in divorcing the science of medicine from the possible domination of commercial interests looked forward rather anxiously to the outcome of the United States Pharmacopeial Con-

1. *Ephem. Mat. Med.*, 1883, p. 201.

vention held in Washington on May 10, 11 and 12 of this year.

That this outcome is not altogether promising, from a progressive point of view, is evidenced by the reports of the convention which have appeared in the several medical and pharmaceutical journals. Thus the *New York Medical Journal*, (May 14, 1910, p. 1020) in commenting on the outcome of the Pharmacopeial Convention, says regarding the scope of the Pharmacopeia:

The convention took the ground that the extent to which a drug was used is a safer criterion of its availability for introduction into the Pharmacopeia than the expression of opinion regarding its therapeutic value. Consequently the use rather than the therapeutic value of a drug will be taken as a guide by the committee regarding admissions and deletions.

This expression of opinion is justified by the fact that the limiting clause that, "there should not be included rarely used substances or those whose value and use has not been established" was, on motion, eliminated from the first paragraph of the general principles to be followed in revising the Pharmacopeia.

The paragraph on scope of the Pharmacopeia as finally adopted provides essentially that the Committee of Revision be authorized to admit into the Pharmacopeia any medicinal substance of known origin; but no substance or combination of substances shall be introduced, if the composition or mode of manufacture thereof be kept secret, or if it be controlled by unlimited proprietary or patent rights, and the list of substances should be carefully selected, with standards for identity and purity as far as possible.

So far as the physician is concerned, this one paragraph involves the important features of the revision of the Pharmacopeia, as the interpretation put on it by the majority of the Committee of Revision will determine whether the Pharmacopeia of the United States is to be developed solely as a legal standard for the many thousands of medicaments used by man in the treatment of disease, or whether it shall continue as a basis for medical prescribing and contain only descriptions, formulas and standards for therapeutically active or useful medicines.

In this connection, it may be well to point out that the Committee of Revision has been made responsible for the nature and content of the U. S. P. IX and that the members of the committee will not be in a position to shirk criticism should the result of its work not comply fully with the wishes of the interested owners of the Pharmacopeia or the accepted facts that are clearly evidenced at the time.

It goes without saying, therefore, that the members of the medical profession still have an opportunity to demonstrate the validity of the claim that the Pharmacopeia, being issued under the joint authority of physicians and pharmacists, should be an authoritative list of remedial agents representing the best and most active therapeutic agents known to physicians and of the purest and most reliable quality that can be furnished by pharmacists.

The question frequently heard, "Who is to determine the medicinal value or usefulness of a medicine?" is based on sheer sophistry. The value or usefulness of a medicament is to be determined according to the best light of the day, and no one will believe for a moment that the substance thought useful to-day will continue to be considered so for all time to come.

The radical nature of the changes which have been brought about in our ideas regarding the usefulness of

medicaments can be well illustrated by the following items from the *materia medica* of a century or more ago:

"Toad powder" was at one time a valued medicine and was said to "provoke urine and cure the dropsie, if curable. Outwardly applied, it draws out the poison of carbuncles. Blown up the nostrils, it stops their bleeding. Applied to the soles of the feet, it draws away distempers from the head, helps frenzies and fevers. It is also good against old ulcers and fistulas and biting of serpents."

Spermaceti, an article known to modern medicine less than three hundred years, was lauded during much the greater portion of this period as "the sovereign'st medicine on earth for inward bruises resulting from falls, and similar injuries." It was also asserted to be "of considerable use in pains and erosions of the intestines, in coughs proceeding from sharp defluxions, and, in general, in all cases where the solids require to be relaxed or acrimonious humours to be softened."

No medical practitioner to-day uses toad powder as a diuretic or spermaceti as a never-failing remedy for "inward bruises," and yet he would be rash indeed who would assert that the practitioner of old was absolutely wrong and that toad powder did not contribute, in a way, to the progress of the science of medicine.

The frequently made assertion that "the Pharmacopeia is the law of the land so that its first valuation and its greatest function is to provide a standard for purity and for strength" is based on a misconception of fact and a misinterpretation of the letter as well as the spirit of the Food and Drugs Act of June 30, 1906, which specifically mentions the United States Pharmacopeia and the National Formulary.

In the discussion on the scope of the U. S. P. no one appears to have been willing to concede the fact that in law, in name and in possible scope these books are equal, with, perhaps, a number of counts in favor of the legality and usefulness of the National Formulary. In this connection we should not forget that, technically at least, the "United States Pharmacopeia" does not as yet exist.

Without going into a detailed discussion of the merits of the two books as an available legal standard it may be permissible to call attention to the Standard Dictionary definitions, as follows:

Pharmacopeia: "A book, usually published by authority, containing the formulas and methods of preparation of medicines etc. . . ."

Formulary: "1. A compilation or collection of forms, formulas, doctrines or precedents. . . 3. A ritual or formula."

As designating titles for a treatise on medicinal substances the two words are practically synonymous apart from their derivation, one being Greek, the other Latin.

So far as the practicability of developing either book as a legal standard for any and all substances is concerned, it would appear that the owners of the Pharmacopeia are, at least, divided as to the desirability of having their book used exclusively for this purpose, while the owners of the National Formulary are unanimously in favor of providing standards for all articles not included in the Pharmacopeia of the United States.

Thus the American Pharmaceutical Association in deciding on the scope of the National Formulary held that the therapeutics or therapeutic incompatibilities of the National Formulary preparations are not within the province of the National Formulary committee. "The physician may reasonably be expected to know what he wants, and if he chooses to prescribe preparations which are therapeutically incompatible it is the duty of the

pharmacist to supply what is ordered. The Committee on National Formulary feels it to be its duty to supply formulas for medicaments which may be prescribed by physicians, if the demand is sufficient to justify our attention and if an acceptable formula can be devised or obtained."

With the need for developing the Pharmacopeia as an all-embracing standard for drugs and medicines eliminated, and with at least a fair-sized minority of the members of the Pharmacopeia convention opposed to such use, it would appear as though the Committee on Revision would certainly be going contrary to the best interests of the American people in deviating from the time-honored scope and use of the Pharmacopeia.

Physicians have long since recognized that the practice of medicine is not limited to the administration of drugs and preparations of drugs, and that the prevention of disease and the prevention of further spread of disease, when it does occur, are among the requirements that the medical practitioner should not and dare not lose sight of.

With these varied requirements to prepare for it is obviously impossible for the medical student, in the limited time at his disposal, to acquire a working knowledge of all the drugs and preparations which have been used at one time or another, and it would appear that no more important public health measure could be introduced at the present time than the outlining of a therapeutically active materia medica as a basis for the instruction of medical students and for reference by physicians now in practice.

In conclusion allow me to call attention once more to the quotation from the first edition of the Pharmacopeia which asserts that "the value of a Pharmacopeia depends on the fidelity with which it conforms to the best state of medical knowledge of the day. Its usefulness depends on the sanction it receives from the medical community and the public, and the extent to which it governs the language and practice of those for whose use it is intended." Can we, on the eve of the corresponding decade of the twentieth century, do better, or will we do less?

Twenty-fifth and E Streets, N. W.

ABSTRACT OF DISCUSSION

DR. A. S. LOEVENHART, Madison, Wis.: Since the Pharmacopoeial Convention left the matter to the Committee on Revision to decide, I think it would be proper for this Section to express its wish that all substances be omitted that have not a recognized therapeutic value and that are unnecessary duplications.

DR. C. S. N. HALLBERG, Chicago: I take decided objection to Mr. Wilbert's statement in reference to the makeup of the Pharmacopeia. I made a special study of the makeup of the European pharmacopeias last year. The British Pharmacopeia is dominated by the Medical Council and there is not a pharmacist on it. The council delegated the revision to Professor Attfield.

The U. S. Pharmacopoeial Convention absolutely refused to listen to some of the medical delegates, because they knew that they did not have back of them the practices of 140,000 physicians of the United States. We pharmacists must cater to the physicians who write prescriptions and use medicine. While it is interesting that there are medical men, in Baltimore particularly, who have wonderful ideas on drugs, seldom write prescriptions, and rarely, if ever, prescribe medicine, they have our sympathy, but they have not our real heartfelt thanks, because they do not act as real pharmacologists. To give a concrete example: I have been told that

out of Kansas alone last year there were shipped 200,000 pounds of echinacea, nearly every pound of which went into regular and proprietary pharmaceutical preparations, to be used by physicians. Yet the Council on Pharmacy and Chemistry will not admit echinacea to New and Nonofficial Remedies. When such an army of medical men is using it as an antiseptic and astringent, by what right do you say that these men do not know how to practice medicine, or do not know what kind of medicine to use?

DR. A. S. LOEVENHART, Madison, Wis.: If usage is to be the criterion, then *Peruna* should be in the Pharmacopeia. I claim that we cannot afford to let certain articles go into the Pharmacopeia on the basis of usage. We do not limit physicians; they can use what they wish, but a book that is supposed to represent, as Mr. Wilbert said, the best medical thought and to have the medical profession behind it, must not include drugs on the basis of usage.

DR. C. S. N. HALLBERG, Chicago: After the U. S. P. Convention is past you cannot do anything by any action taken here to influence the committee. The committee of this Section, and I believe the committee of the American Medical Association on the Pharmacopeia, engaged in a campaign for six months trying to test the medical sentiment of this country in order to get crystallized the ideas and bring them before the convention. What was the result? Not one idea did they carry through, because the Pharmacopoeial Convention represented the actual state of pharmacy and medicine in this country as near as it could be formulated, and that is why they stuck to the original principles. The Pharmacopeia is for a standard of strength, purity and quality of medicinal substances and gives directions for their preservation, valuation, preparation and compounding, and not one more syllable about it, nor can you, by any stretch of imagination, add another attribute to it, so that I do not see that any good can be accomplished by our expressions of opinion.

DR. F. E. STEWART, Philadelphia: In 1880, this whole subject came up in a discussion with Dr. Squibb, and I remember what he said, and thirty years' experience confirms it, namely: "A large part of the demand for new remedies is a fictitious demand, caused by advertising. Take antipyrin; on account of advertisement it was widely used, but after the patent expired the demand fell flat."

DR. A. S. LOEVENHART, Madison, Wis.: We want the Pharmacopeia to represent the best medical knowledge as to what drugs are useful in the treatment of disease. We would rather let much-used drugs, which are worthless according to general medical opinion, go in the National Formulary and let them be in the hands of the pharmacists who come in contact with the physicians who are handling this class of drugs. Dr. Hallberg states that the United States Pharmacopeia should be a standard for medicinal substances and that it contains nothing about therapeutics. The mere proposition that it is a standard of medicinal substances proves that there is a large element of therapeutics concerned in it. The definition of medicinal substances is: "those useful in the treatment of disease." Dr. Hallberg puts the interpretation that anything sufficiently used by the medical profession is useful in the treatment of disease. I hold that we should accept the best obtainable medical opinion as to what should be included in the Pharmacopeia. That is a simple statement of the difference between us.

Dr. Hallberg has said that the medical profession has lost its chance for the next ten years. I disagree with him; the whole thing is entirely open. The Committee on Revision can include drugs to meet the needs of the people whom it is trying to serve. Now if we, as a part of their constituents, state that we hope these things will not be continued, it will strengthen them to leave out drugs which have been included merely on the basis of usage. With regard to those who shall say what drugs are useful, we can leave them to the general trend of recognized therapeutic value. We must leave to the revision committee to determine by the general trend of medical literature and by methods which they must work out. It should be pointed out that the medical men on the revision committee are in the great minority.

DR. R. A. HATCHER, New York: There is one point that should not be altogether overlooked. There can be little doubt that the controlling influences in the convention are not in favor of restriction. It might be claimed in the future that by silence we gave tacit assent to the program, and I do believe that our protest may have considerable value, although I doubt very much whether it will have a corresponding amount of influence.

DR. C. S. N. HALLBERG, Chicago: The subject is entirely left open to the Committee on Revision, as Dr. Loevenhart states, but those that know the Committee on Revision know that the members have already made up their minds to adhere to those principles which were under discussion, and that the Committee on Revision is certainly not in favor of any radical proposition. Still I do not object to the proposed action, and I think with Dr. Hatcher that it might do some good, if for no other reason than as a matter of record to protest against the admission of some article which might possibly be objectionable.

[The Section voted in favor of the expression of opinion as suggested by Dr. Loevenhart.]

A SIMPLE BLOODLESS OPERATION FOR HEMORRHOIDS*

LOUIS J. HIRSCHMAN, M.D.
DETROIT

It is my intention to give briefly my technic for the removal of certain forms of internal hemorrhoids without the profuse hemorrhage with which this operation is usually associated in the minds of most practitioners. Having observed that most patients suffering from hemorrhoids of the internal variety are more or less anemic from the continued and constant loss of blood, as a result of their hemorrhoidal trouble, I began three years ago to use a technic which would minimize operative hemorrhage and conserve the patient's blood-supply.

With this aim in view, I have developed and have been using a very simple technic which is applicable under local as well as general anesthesia and therefore can be used in those weak, run-down patients suffering from any of the wasting diseases in whom the use of a general anesthetic would be inadvisable if not positively dangerous. The method is adapted to the removal of any variety of internal hemorrhoids and particularly to the pedunculated and prolapsing varieties.

Interno-external hemorrhoids can also be treated by this method. Very few instruments are required and in many cases dilatation of the sphincters is not necessary. The technic under general anesthesia is much the same as under local anesthesia, and inasmuch as local anesthesia is much safer and fully as satisfactory as general anesthesia for this work, I shall describe the operation as I perform it under local anesthesia.

The drugs which may be used for the production of local anesthesia in this region are various. Cocain, eucain, stovain, novocain, alypin and chloretone, as well as their various combinations with other salts, have been used in varying strengths of solution and with varying success by different workers.

During the past six months I have been employing for this operation, as well as in many other operations on the anus and rectum, a sterilized 1 per cent solution of quinin and urea hydrochlorid. I am using this solution, which is prepared from the double salt of quinin and

urea (which is made by dissolving quinin hydrochlorid in hydrochloric acid, adding pure urea, filtering the mixture through glass wool and allowing it to crystallize), because of the following advantages over any other anesthetic drug:

First: It is non-toxic and can be given in unlimited dosage. Brewster of Kansas City has used 100 grains intravenously within six hours in a patient suffering from pernicious malaria.

Second: When a solution containing 1 per cent. or over is used the hemostatic effect produced by the deposition and contraction of fibrinous exudate around the blood-vessels is of great value in preventing postoperative oozing.

Third: The anesthetic effect is prolonged; in many cases postoperative anesthesia has lasted from four to five hours to as many days and longer.

Fourth: While equal to cocain in anesthetic power, it has the advantage of being very much cheaper, and is a drug which is almost always available.

One advantage of the operation to be described is the fact that but few instruments are required. Those necessary are: a one-half ounce aseptic hypodermic syringe provided with a fine caliber sharp-pointed needle 2 inches in length, scalpel, pointed scissors curved on the flat, blunt-pointed, long-handled, curved ligature-carrier, my pile forceps, and sometimes a Sims retractor.

The patient is given $\frac{1}{4}$ grain of morphin about twenty minutes before the operation is to be performed, a soap-suds enema followed by a boracic acid enema is given, and the patient is placed on the operating table in the right or left lateral position. After the region of the anus is washed and sterilized the sphincter is anesthetized by the injection of from 10 to 30 minims of sterile 1 per cent. solution of quinin and urea hydrochlorid. The technic which I employ is as follows:

A point one-half inch below and posterior to the posterior commissure of the anus is selected and touched with a swab moistened with pure phenol. After waiting 2 or 3 minutes, or until this point is thoroughly blanched, the needle of the syringe is passed inward, upward and laterally in a V-shaped direction for about three-quarters of an inch, gradually going down into the sphincter muscle, but not entirely through it. While doing this it is well to pull down the sphincter by the index-finger of the left hand passed into the anus while the injection is being made with the right. From 10 to 20 drops of the solution are slowly injected and the needle is retracted to the point of puncture but not withdrawn. It is then pushed up on the other side in the same manner and this side is likewise injected. Three or four minutes are allowed to elapse to allow the anesthesia to become complete. Then a mechanical vibrator fitted with a cone-shaped vibrator, which has been well lubricated, is gently pressed into the anal orifice. About 3 minutes with the rotary stroke will dilate the sphincter to about the caliber of a silver dollar, which is sufficient to allow the operation to be done in a most satisfactory manner.

It is not absolutely necessary to use the vibrator. In its place one may use the index-fingers of both hands inserted opposed to each other and well lubricated, and by separating them with a gentle massage motion the sphincter may be dilated as satisfactorily in from three to four minutes.

After dilatation has been accomplished, the most dependent hemorrhoid is injected with the 1 per cent. quinin and urea hydrochlorid solution, enough being in-

* Read in the Section on Surgery of the American Medical Association, at the Sixty-first Annual Session, at St. Louis, June, 1910.