

ample flap to form loose covering over end stump and to bring scar well back out of line of pressure. I believe that an ideal leg amputation is superior to many Chopart or Symes and most Pirogoff amputations. The Lisfranc, especially the Hey modification, gives a very satisfactory stump. I wish to suggest, however, that in making this amputation, it is wise to preserve the attachment of the tibialis anticus, when possible, and if not, to attach its tendons to the plantar flap. This same rule applies also to the peroneus tertius.

In making amputations of the leg, there are a few important details which we should not lose sight of:

1. Be certain of sufficient flap to properly cover end of bone, regardless of how close this may come to the knee joint. Flap must be considered first, length of stump second.

2. The most uniform good results are obtained by making the long anterior with short posterior flap, bringing the scar well away from end of stump.

3. Redundancy is always undesirable.

4. When the length of stump is at the discretion of the operator, it should be from six to nine inches below lower border of patella.

5. Periosteal flap with coaptation of muscles over end of bone is always desirable.

6. Always cut the fibula one inch shorter than the tibia and when the amputation is near the knee joint, disarticulate and remove the fibula.

7. In all these amputations, nerves should be drawn out and cut as short as possible.

#### THE EVILS OF PROPRIETARY MEDICINES.\*

JOSEPH A. PETTIT, M.D.  
PORTLAND, ORE.

Many preparations are passed off on our profession by apparently reliable manufacturing houses as ethical proprietary preparations or as definite, synthetical compounds that are not only simple nostrums, but some may be classed as base deceptions. The unsuspecting physician is victimized by these deceptions, is misled by their advertising literature termed "modern therapeutics," and prescribes for his trusting patients these advertised remedies, which are high in price and of whose composition he is either partly or wholly ignorant.

The nostrum evil flourishes more in this country than in any other. To classify the many proprietary preparations, to sift the true from the false, the really ethical from the nostrum, is a difficult matter.

Some medicines are patented, which protects the patentee for seventeen years, but these are not secret, because from the patent office anyone can obtain the description, composition and the method of manufacture. The patent serves simply to increase the cost to the consumer by giving one manufacturer the exclusive right to manufacture the article.

According to the dictionary, a nostrum is "a medicine, the ingredients of which are kept secret for the purpose of restricting profits of sale to the inventor or proprietor; a quack medicine." In this pernicious class are those preparations that are protected by trademark or copyrighted name, and the composition of which is either kept absolutely secret, or there is a pretense of a formula. This secrecy or semi-secrecy is really considered of little moment by the manufacturer, who lays his main stress on expounding the indications

for the use of the remedy in a long list of symptoms and ailments which are equally legible to the uneducated and educated in medical matters.

There are two kinds of nostrums and there is no difference between them technically—the secret proprietary preparations manufactured for physicians and advertised lavishly in the medical press, and the common "patent medicines" advertised in the public press. On the one hand the indications for use are couched in medical language, as "Dioivurnia," or "Hayden's Viburnum Compound is the most beneficial remedy known to medical science for dysmenorrhea," etc.; and on the other hand, the wonderful usefulness of the recent marvelous discovery is explained in the language of the public as "Lydia E. Pinkham's Vegetable Compound absolutely cures painful monthly periods and elevates a fallen womb."

The physician abhors the patent medicine evil; yet he reads the literature of the proprietary manufacturers, exploiting their wares, and follows their directions in prescribing to his trusting patients. He is simply being used as a middle-man to distribute these "cure-alls" to the public in general. He is paving the way for ultimate counter-prescribing and ultimate self-medication.

It is difficult to understand why we call medicines and preparations that are advertised in newspapers "patent medicines," and those that are advertised in medical journals "proprietary" or "ethical," when the claims of the two are so much alike and the degree of secrecy equal. The layman can naturally accuse the physician of making a distinction without a difference. Some are so bold and brazen as to make no attempt to tell what the nostrum is, whether it is some real drug or nothing but dirt and syrup. Others make a pretense of giving a formula, with or without amounts. They may give the true formula or simply "a formula" or no formula whatever—not for the benefit of the prescribing physician, but to make the article more easily salable through the medical profession and more profitable to themselves. A favorite and successful method is to give a list of ten or twelve drugs, about two of which are common ones of definite known value that we all use, and the others inert, useless ones with high-sounding and unfamiliar names—the latter serving as a cloak for the formula and giving the impression of some great and potent mixture, "the result of years of medical research." The most dangerous of evils lurk in such deceptions.

A manufacturer of drugs in general and nostrums on the side, as so-called specialties, who uses such methods may justly be the subject of suspicion in all his products. Matters of truth, veracity, honesty and efficiency are of little importance. The sole aim of such manufacturers is to make a product salable and as profitable to themselves as possible. An illustration of their veracity and reliability can be gained by a quotation from THE JOURNAL of the American Medical Association of a recent incident:

A firm which had been making a proprietary tablet for years had published a certain formula; recently they changed this by adding eight grains of another drug. The pharmacist in question made inquiries of several chemists about this drug and they all assured him that they had never heard of it. He then wrote to the manufacturers of the tablet, asking them if they had changed the ingredients of their preparation, and they made the following reply: "We have not changed the tablet—we only changed the published formula." We wonder how often the opposite is true, that the published formula remains as it was while the ingredients are changed.

\* Read before the Eastern Hospital Graduates Club and the Lane County Medical Society.

Most nostrums of any value depend on some common drug familiar to us all and which we could use readily ourselves in prescription compounding, and the unwary physician is captured by the long named extra drugs added, for which wonderful powers are claimed, but which really are inert, or at most, unimportant in their actions.

Let me quote an illustration given by H. C. Wood, Jr.:

Let me call attention to one other example of this effort to confuse the unwary, the simplicity of which is really laughable. A very extensively advertised drug, hailing like other orthodox fakes from St. Louis, is said to be "a palatable preparation of *Panax schinseng*." *Panax* is the botanical name for the popular Chinese remedy ginseng, whose therapeutic value is about equivalent to that of licorice root. If you want licorice, order *extractum glycyrrhizæ*.

The bombastic descriptions which the vendors furnish of their strictly original methods of manufacture, dwelling in flights of ambiguous verbosity regarding the special action of enzymes and the special processes of metabolism, etc., of their remarkable products is at once unintelligible and misleading to the general practitioner. Only an expert, conversant in the recent vocabulary of the theories of immunity, etc., can discern the little truth in some of the descriptions and the deceptions of most of them. Meanwhile the vendor revels in the profits of the sale of his wares and laughs in secret—and sometimes openly—at the simple credulity of educated men whom he can so easily dupe.

A Scotchman once said that he had been taught that there were five senses—seeing, smelling, etc., but he knew that there was a "sox sense," called common sense, and many people, both educated and uneducated, do not have it.

In extolling the high characters of their products the manufacturers frequently speak of the thousands of dollars spent in perfecting this or that remarkable remedy. But, we may ask, did they have an opportunity of trying it on patients? The money may have been spent, but the "perfecting" has been the "perfecting" of the business side by the suborning of journals, by printing attractive literature, and by hiring detail men to go around and leave samples and make long "spiels" like a vendor on the Portland Trail or the St. Louis Pike.

The manufacturers of proprietary preparations are banded together in the Proprietary Association of America and have appointed a very active press committee. They realize that it will mean to them the loss of millions if the medical profession and the laity are given the light of publicity on their work and their methods, and, in the case of the former, if each doctor is educated to write his own prescriptions. They have exerted every method of vigilance possible and have endeavored to flank every move that has been made toward publicity. Their subsidized medical journals (and this includes about half the medical journals in this country) have suppressed the exposures of the coal-tar products, as made in the report of the Council on Pharmacy and Chemistry of the American Medical Association, and have been able to bring to bear sufficient influence to induce some of these journals to take their side editorially.

Early last winter an editorial appeared in the *Vermont Monthly Magazine* advocating the use of secret remedies, and this article was widely distributed throughout the country by the nostrum proprietors. And this magazine is the official organ of the Vermont State Medical Society.<sup>1</sup>

1. Since the above was written, the Vermont Medical Journal has evidently gotten into new hands, and is now standing for better things.

After the exposures of the composition of phenalgin by the council of the American Medical Association the company manufacturing this article had a two-page advertisement for two issues in the *New York Medical Record* denying the fact that their product was a simple mixture of acetanilid, sodium bicarbonate and ammonium carbonate, as shown by the Council on Pharmacy, and indirectly still claimed it to be a definite synthetic chemical substance, and, furthermore, went on to slur the said council and its work and the American Medical Association in general. THE JOURNAL of the American Medical Association wrote to the editor of the *Medical Record*, calling his attention to these insults in its advertising pages, to which Dr. Thomas L. Stedman, the editor, replied that the editorial pages of his journal and the advertising pages are "separate and distinct."

Through the above report the profession was long ago informed of the composition of ammonol. Yet a few days ago I received samples and the usual literature (which allowance was doubtless sent at the same time to every physician in the country) of ammonol—"stimulant"—"ethical"; "the only antipyretic and analgesic that not only does not depress, but actually sustains the patient." "The administration of ammonol in typhoid is imperative, not merely because it is invaluable to reduce the temperature, but because it is antiseptic and has a decided action on the digestive tract."

Not many physicians would prescribe acetanilid in typhoid, and yet, beguiled by the deceptive description of a nostrum, will prescribe contrary to their own judgment.

According to the advertisement, "salacatin is a combination with heat of salicylic and glacial acetic acids with phenylamine, the irritating, depressing and blood corpuscle destroying elements removed."

According to the committee of the American Medical Association, "Salacatin" is a mixture of acetanilid, salicylate of sodium and bicarbonate of sodium. Sal-co-deia-Bell (Salacatin-codein), therefore, would be the same as the above with codein added.

This shows that their claims, to the effect that salacatin is a definite compound, are false, and that it is a simple, common, ordinary mixture.

A sample of the similarity between "patent" and "proprietary" medicines may be gleaned from the policy of the company which exploits "Kutnow's Powder." In England it appears to be advertised in the daily papers as peruna is in America, with recommendations of various celebrities, even to physicians. In the United States it is advanced as a "proprietary" medicine and is handed out to the public through the agency of the medical profession. In the English dailies numerous testimonials appear from American doctors, and its claims are just as extravagant as are those of any other extensively advertised "patent medicine." The analysis of it shows it is simply an artificial Carlsbad salts.

Recently an analysis of a cod-liver oil preparation was made by some chemists, who reported on it as follows:

We recently had occasion to open a package of a well-known preparation of "Tasteless Cod Liver Oil." The circular which was wrapped around the bottle was replete with interesting information, especially for the patient, who obtains the preparation in the original package as prescribed by the physician. He finds in it a list of the diseases in which the preparation does wonders; they range from dread consumption to cystitis and hemorrhage of the kidney. Most interesting to us, however, is the statement that the compound "contains all the necessary elements of nutrition." It is too bad to disturb this beautiful vision by a report of the chemist. This shows that the product is quite free from oil or proteids; the only nutri-

tive ingredients are perhaps alcohol, sugar and glycerin. But the claims of the manufacturer are probably correct, because it contains carbon, hydrogen, oxygen and probably a trace of nitrogen—so does gunpowder. Perhaps it will now be the turn of strychnin to be advertised as the ideal food. It seems superfluous to point out the moral of this tale.

The most extravagant claims are made regarding the clay mixtures. The circulars pronounce them practically cure-alls for all ailments from inflammation of the pelvic organs to tuberculosis. Their claims are largely without foundation, and as a poultice they do not come up in efficiency to the common flaxseed meal. The clay is absolutely inert from a therapeutic standpoint. The essential oils and antiseptics are combined in such infinitesimally small proportions as to be of no value. The anhydrous glycerin, as we all know, has a hygroscopic action, and herein lies the small and only virtue of these clay poultices.

Dr. Roth of Ann Arbor has conducted experiments with the clay mixtures in regard to their heat-retaining powers, one of which I will quote herein in detail:

Two one-pound cans were taken, one filled with the clay mixture and the other with flaxseed poultice. Both were heated to 80 degrees C. They were now placed side by side so that all conditions were equal and the temperature taken every hour to determine which gave up its heat the sooner.

	Clay mixture. 80 C.	Flaxseed poultice. 80 C.
After 1 hour.....	46	58
After 3 hours.....	21	27.5

The clay mixture gave up its heat in three hours, at the end of that time being at the room temperature of 21 degrees C., while the flaxseed mixture at this time still had a temperature of 27.5 degrees C. It is evident, then, that by means of a flaxseed poultice heat and moisture can be applied for a longer period than by means of the clay mixture, and this fact stamps the flaxseed poultice as more efficient than the clay mixture.

One of the most smooth nostrums and one which on the surface is apparently ethical, but yet which is revealed by analysis to be one of the most rank, advocates (as does peruna) a cure for catarrh (that great catch word) of any part of the body.

There is no pretense of any frankness whatsoever as to its composition. Its price rivals that of holy water, yet the water in it (of which it is composed with a very little glycerin and coloring matter and some of the common, well-known alkaline salts) is only common well or river water, whose only magic is that it comes from New York. Why should we pay a dollar a pound for a nostrum about which we know nothing and prescribe it under a trade name that will soon become common property and indefinitely add riches to the coffers of a shrewd manufacturing company, when we can really compound a superior mixture for the large sum of one and one-half cents? We should not debase our own intelligent prescribing by acting as a middle-man for the sale of some peddler's wares, inferior in quality and exorbitant in price.

By taking nine of those tablets called the "alkaline and antiseptic nasal tablets," made according to the formula of Seiler, and nine drams of glycerin and sixteen ounces of ordinary good water practically the same thing is secured, minus a little coloring matter, which it is really well to omit. The strength of this can be readily and easily increased or decreased by adding or lessening the number of tablets. To make it look sensational one may add some coloring and then cut out a well-known picture and paste it on the bottle; the picture of a lovely lady pouring some of this delightful potion from a gracefully-shaped glass container into the cavity of her aquiline nose.

Another prescription, efficacious, handy and useful, might be written thus (and it can be changed at will to suit the individual requirements of each particular case):

R. Thymol .....	gr. i-ii	107-13
Sodii bicarb.....	3ss	15
Sodii salicylat.....	3ii	8
Sod. biborat. (borat).....	3iss	45

Sig.: Teaspoonful (more or less as sensitiveness of mucous membrane indicates), dissolve in one-half cup warm water, and use as a nasal douche or throat gargle.

In regard to this "great discovery," physicians will after a time awaken to its nostrum deception and cast it off along the lines I have suggested. But meanwhile the company will have become enriched financially and will have gathered in thousands of testimonials of unwary physicians, and then will begin an ordinary peruna public record with the laity.

In Porto Rico a commission was appointed to investigate the disease known as uncinaria and to report the results of treatment of same. They reported a long series of cases of anemia from uncinariasis and the results of their treatment with three different iron preparations, Bland's pills, Vallet's mass and Gude's pepto-mangan, the latter being furnished them by the exploiters, M. J. Breitenbach Co. The commission reported that the patients improved the fastest on the Bland's pills, the next on Vallet's mass, and the slowest improvement was those on whom pepto-mangan was used. In fact, four of the eighteen cases which were treated with pepto-mangan had improved so slowly that they were finally put on Bland's pills.

The commission informed the pepto-mangan people of the result of their investigations, and yet, in the face of this report, the company published a long article and circulated it among the profession of the country, stating the work of the commission, that they had found pepto-mangan superior to all iron preparations tried, and that this convincing proof should influence all medical men to use this valuable remedy in all of their cases of anemia.

In conclusion, let us consider first the causes of this deplorable condition to which the therapeutic standard of our profession has been lowered by the commercialism and vandalism of selfish "shell game" proprietary manufacturers.

Doctors are only American people, and a scanty, hastily acquired medical education still leaves them Americans, of whom a good judge of human nature once said, "they love to be duped." Their thoughtlessness and lack of therapeutic knowledge make them ready victims for the shrewd and persistent advertising of the master of that wily art, the nostrum man. The deplorable condition referred to is brought about in the first place through the agency of the subsidized medical press, which gives up not only its advertising pages, but half its reading matter for the love of gold, and publishes what the editors must know is false and fakish; by means of attractive literature and alluring testimonials; through the agency of suave detail men with samples and urgent requests to "try our products"—each bunch of samples covering the necessities of most all diseases.

The doctors, too, are at fault; their ignorance of pharmacy and prescription writing is the crux of the matter—we might say their judgment and discernment are deficient. The blame for this may be laid to deficient teaching of therapeutics in the medical college. The mental apathy of the average physician along therapeutic lines, his lack of discernment and blind faith in

the assertions of commercial firms who have something to sell him are some of the greatest causes.

The remedy—it must be directed in two directions. The light of publicity must be cast on this nefarious practice, so that every physician, high and low, can see its details in the full glare of the limelight. And an influence must be exerted on the medical press to discontinue its fake and “patent medicine” advertising.

The better class of physicians in this country are the “doctors in charge of this case.” The burden of responsibility rests with them.

#### PRELIMINARY STEPS IN THE INVESTIGATION OF GASTRIC FUNCTIONS.\*

B. ONUF (ONUFROWICZ), M.D.

SONYEA, N. Y.

In making preparations for the investigation of the gastric functions of epileptics, particularly in idiopathic epilepsy, for which the Craig Colony for Epileptics seemed to offer a favorable field, worthy of careful and intelligent investigation, the fact appeared that the methods in vogue were not commensurate to scientific needs, as they do not offer that degree of exactness which would recognize beyond all doubt deviations from the normal, if such were not present in a very marked degree.

So many points have to be considered before conclusions regarding one special point can be made that if accuracy of method and analytic discrimination are not introduced in this field of research, results must necessarily be of such a vague character as not to allow any definite conclusions. This fact impressed the writer particularly in taking up the chemopathology of gastric secretion. It seemed absolutely necessary first to establish standards by means of which the components of the gastric juice could be quantitatively determined.

For the quantitative determination of the acids and acid salts of the gastric contents such standards have been established, but those used by the clinician at large are yet far from being unassailable.

So-called indicators are made use of for the quantitative discrimination, as one might say, of the different acidities. But anyone who studies the question a little, easily perceives how uncertain the discrimination thus obtained really is. To take an example: The quantitative determination of free hydrochloric acid is based on the fact that even slight concentrations of hydrochloric acid assume a dark pink color by the addition of one or two drops of dimethyl-amido-benzol, while solutions of organic acids, in order to produce the same color reaction, have to be present in such concentrations, as they are never found in gastric contents. Granting this to be the case, the problem might be simple enough if either free hydrochloric acid alone or organic acid (using this term in a comprehensive sense) alone were present. But in case of simultaneous presence of the two, the question naturally arises whether or not, and in what way, the organic acid may influence the reaction for the free hydrochloric acid.

Preliminary experiments have shown me that the organic acid undoubtedly does influence the reaction, if present in considerable quantity. It makes it much less definite, so that instead of a sudden reversal of color, taking place at the moment of neutralization, we ob-

tain a very gradual change of color which makes it impossible to define when neutralization has occurred. What will take place if only small quantities of the organic acids are present, and whether in such a case the result of titration by an alkali—with dimethyl-amido-azo-benzol as an indicator—will denote solely the acidity due to the free hydrochloric acid; or whether, on the contrary, it will indicate the sum of the acidities of the free hydrochloric and the organic acids, I have not investigated yet; but certainly this point needs elucidation and it is peculiar that more attention has not been paid to it.

Greater still are the difficulties to contend against when we attempt to determine the amount of pepsin present in the stomach contents. There are, to my knowledge, no chemical reactions by which this can be done, except by testing the digestive power of the gastric contents. We know, however, that the digestive faculty of pepsin unfolds itself only in the presence of hydrochloric or some other acid and that this acid must have a given concentration, varying for different foodstuffs, in order to develop the digestive power of the pepsin at its best.

Aside from others, three conditions, therefore, seem to be required for accurate tests:

1. A pepsin solution of standard strength for control tests.
2. Acidification of this pepsin solution by hydrochloric acid in definite proportion.
3. Bringing the hydrochloric acid percentage of the stomach contents under examination up or down to the same, or approximately the same, strength as that of the control mixture.

The control mixture of pepsin and hydrochloric acid must be made fresh before use, as the pepsin soon deteriorates in solution.

A further difficulty is that of always obtaining a pepsin of the same composition. This, I understand, is practically impossible, so that even the most reliable products or brands of this ferment are subject to some variation. Therefore the only way that seems open is to begin with a definite brand of pepsin, combine it with hydrochloric acid of definite strength, and test the digestive power of this control digestive fluid on albumin and eventually on casein, meat, gelatin and other foodstuffs. To do this successfully, i. e., to obtain reliable results, the foodstuffs mentioned will have to be standardized. One attribute of this standardization will have to be homogeneousness of the foodstuff to be used as a standard. The white of an egg, for instance, shows such differences of density in its different parts that only a thorough redistribution would seem to make it fit for tests. The method I adopted for this purpose was to dry the white of an egg, pound it to a fine powder, redissolve it in distilled water, and either filter or centrifuge it. The latter process is quicker and more simple. After about five minutes' action of a water centrifuge, the redissolved white of egg is found to show three layers, one narrow upper foamy zone, one wide middle layer of clear fluid free of air bubbles, and a considerably less wide zone of sediment. Only the middle layer of clear fluid is used, by drawing it off with a pipette. Measurement of the volume of the unaltered, i. e., original, white of egg, and weighing of the same after drying, showed that the white of egg represents a solution of the dry albumin of about 12 per cent. strength. Such an artificial or disorganized white of egg of the same strength as the natural white of

\* This article was prepared to be read before the Section on Pathology and Physiology of the American Medical Association at the Portland Session, July, 1905, but the author was unable to be present. It embodies work done at the Pathological Laboratory of the Craig Colony for Epileptics, Sonyea, N. Y.