That we urge upon teachers of materia medica such a direct use of the Pharmacopœia, by classes of students of medicine, as will ensure their habitual familiarity with the work itself.

Dr. Prescott said he desired to testify to the large labor undertaken and carried out by the Committee of Revision. As a member of the revision committee of 1880, he has full realization of the work involved. The committee of that revision expended the residue of the receipts from copyright in publishing a digest of published criticisms upon their work. A great deal of time has been expended by this committee in consulting these published criticisms. Also a great deal of experimental labor has been devoted to their work, as he said he knew from a reading of portions of the circular correspondence of the committee which had been kindly placed in his hands.

The Chairman opened the discussion on "An International Pharmacopœia." He stated that the adoption of an International Pharmacopœia has been under consideration for a number of years. The present seems a particularly propitious time for renewing the agitation. Americans read English and Continental medical journals and books, and extracts from these, containing formulæ, are constantly reappearing in American journals and text-books. As there are marked differences in strength among many products bearing the same name (such as tincture of belladonna), and as even the ounce of water is not the same in the British and United States Pharmacopœias, an International comparative commentary upon the different pharmacopœias, containing the principal drugs in use by civilized nations, with their preparation, seems necessary. Such a work would be most convenient for reference, both for physician and pharmacist.

On the matter of an International Pharmacopœia Dr. Prescott said that he believed there was a proper field for this work, as a brief work, for the coördination of the several National Pharmacopœias, with definition of only the most important and frequently used articles. He hoped it would not be misapprehended, as a work designed at all to supersede the pharmacopœias of the several countries.

A series of resolutions was offered thanking the Committee on Revision for their valuable labors upon the Pharmacopœia, and requesting that in all doubtful questions coming up for decision preference would be given to those that would facilitate the creation of an International Pharmacopœia. The resolutions were unanimously adopted.

THIRD DAY—JUNE 9.

A communication by Dr. Charles Rice, of New York, on "Collaboration in Materia Medica and Pharmacy," was read and discussed.

The suggestions contained in Dr. Rice's paper were referred to a committee of conference to report at the next annual meeting.

The following papers were read by title: "Europhen," by Dr. J. V. Shoemaker, of Philadelphia; "Tablet Triturates and Dosimetric Granules," by Dr. Wm. F. Waugh, of Philadelphia; and "Notes on Therapeutic Novelities," by Dr. I. N. Love, of St. Louis.

The Business Committee of the Section was elected as follows: Dr. Horatio C. Wood, of Philadelphia; Dr. F. E. Stewart, of Wilmington, Del.; and the Chairman of the Section.

The election for officers resulted in the reelection of Dr. Frank Woodbury as Chairman, and the election of Dr. F. E. Stewart as Secretary.

PRESCRIPTION EXIGENCIES.

Read before Section on Materia Medica and Pharmacy, at the Forty-third Annual Meeting of the American Medical Association, held at Detroit, Mich., June, 1892.

BY PROF. JOSEPH P. REMINGTON, Ph.M.,
OF PHILADELPHIA, PA.

"Every pilot
Can steer the ship in calms; but he performs
The skillful part, can manage it in storms."

—Sir J. Denham.

The prescription is justly regarded by both professions as the most important link in the chain which binds them together. Upon the insignificant scraps of paper are traced the characters which represent the conclusions reached by the practitioner after most serious consideration of the patient's case and to the earnest physician the writing of the prescrip-

tion is his most responsible duty. Notwithstanding the exceptions to the rule that are constantly forced to the attention of the pharmacist, safe ground can only be held by assuming that the physician always means what he writes and writes for exactly what he means. But, exigencies arise, we are all fallible, and "errare est humanum" must never be forgotten. Constant vigilance must then be the rule for the apothecary. Yet it must be admitted by all that when the vast number of prescriptions that are written every day are considered, that very few serious errors occur it must also be noted that with the great development of modern pharmaceutical methods, systematic habits and checks are now used, which reduce the danger arising from ignorance, carelessness or lapses, to a minimum.

It has occurred to the writer that it might prove of some service to call attention to a few of the more common exigencies, many of which require skill, tact and judgement to successfully master. At the present time, every careful pharmacist uses what is known as the checking system. By this is meant the calling off by the compounder to a second person the various ingredients with the weights or measures used of the prescription. Before this method came into general use, many instances are on record of mistakes occurring from the use of the wrong ingredient, from the omission of something, or from an error in writing the label.

In one recorded instance, a prescription was compounded by the proprietor in which one of the principal ingredients was omitted. The bottle containing the medicine was handed to the boy of the family who started to take it home. When the pharmacist returned to his desk, he realized that the principal ingredient had been left out. He quickly explained the situation to a bright-witted boy, who managed to reach the messenger carrying the bottle before the latter had arrived at his destination. It was but the work of a moment for the embryo pharmacist to stumble and fall in such a manner against the bottle that it fell to the ground. Of course the usual pleasantries (?) were exchanged but it ended in the apothecary's boy reluctantly promising to have the prescription compounded without expense and delivered at once.

Nearly every pharmacist can recall instances of a persistence in adhering to an erroneous name or quantity by a physician in writing a prescription. Notwithstanding the fact that the compounder is positively certain that the physician does not want what he has written for and the true state of the case has been set before him, so firmly has the error become wedged in his inner consciousness, that he indignantly persists in having the prescription compounded exactly as he has written it.

An amusing instance of this occurred in the writer's personal experience. One of the most celebrated practitioners in Philadelphia wrote a prescription which was sent to be compounded. It was as follows:

R. Troch. chloroformi No. xii.
(Gr. v.)

Sig. Take one every two hours until relieved.

Suspecting that this was an instance of persistent adherence to a wrong impression, a messenger was sent with a note to the prescriber calling attention to the fact that there must be some error, as there would be no certainty that the patient would get any

chloroform, owing to its volatility, even in the first lozenge. The messenger was told very promptly (and evidences of wrath accompanied the communication), that Mr. — better compound his prescriptions just as they were written and that he was too busy to be bothered by such trivial interruptions. The assistant quickly returned with the tart reply and Mr. —, dutifully (and let us hope humbly) proceeded to prepare the chloroform lozenges, when suddenly the front door was thrown open and a flashing vision crossed the threshold; the next moment, a beaming face, adorned by the traditional gold spectacles of the wearer, was thrust around the prescription counter. "I beg your pardon, Mr. —, but I did not want chloroform but chloral lozenges." It is hardly necessary to say that the incident closed without prejudice to the patient.

Faulty abbreviations are constant sources of perplexity to the pharmacist. It would be far beyond the scope of this paper to enumerate even the more important of this class and it is only the cautious, intelligent pharmacist who has not only the knowledge, but more than this the intuition with which to select the substance intended by the physician and send it on its mission of healing. In this connection, I trust that I may be pardoned for alluding to an annoyance which has become widespread in this country. It is the writing in the place of the time-honored "Signa," the words, "As directed," often abbreviated "As dir." It has been urged in extenuation and in justification of this habit that the patient was intelligent and had no difficulty in understanding the verbal directions and that they were too long to write upon a label, etc., etc.; my brethren in the pharmaceutical profession will bear me out in saying that very often the patient will say when the finished prescription is handed to him, "How am I to take this?" "Well the doctor has given you the directions, has he not?" Yes he did but I have forgotten them." "Had you not better ask him?" "Oh, no, that will never do. That means two dollars more." So rather than pay the physician another visit, the patient takes his chance and probably makes a mistake. When a faulty abbreviation occurs with an "As directed" for a "Signa," the combination becomes very puzzling.

R. Hyd. chlor. grs. x.
Sig. As dir.

A natural delicacy which can be well understood prevents the apothecary from asking any questions of the patient regarding the prescription, for fear of throwing an element of doubt or suspicion around it. Thus we have presented another "Prescription Exigency." Most pharmacists would probably ask the patient how he was told to use the medicine and thus a clue would be offered which might or might not lead to satisfactory results. Unless the answer was unmistakable, it would be unsafe to proceed. Then the statement could be made that this prescription would have to be sent by messenger as it would take "considerable time to compound it." It is needless to say that no statement need be volunteered that the greatest share of this time will be spent in hunting the physician who wrote it.

The development which is ever going on in matters pharmaceutical has educated the public to expect bright transparent liquids for their medicines; and, when such are not dispensed, critical remarks are sometimes forthcoming. The thoroughly educa-

ted members of both professions know very well that the transparency of a liquid sometimes means that the greater part of the active principle of the prescription has been left upon the filter; and, the question which is presented to the pharmacist nearly every day of his professional life is, "Should or should not this prescription be filtered before dispensing?"

The behavior of solvents towards certain chemical substances, the extent, character and condition of the precipitate formed, the effects of temperature, are all factors which must be carefully weighed in the balance; and, it will be easily seen that a large fund of knowledge is required not only of the reactions of the official substances, but also of the physical and chemical properties of the immense number of the new synthetical products, which are crowding the shelves of the apothecaries and filling the coffers of the jubilant foreign manufacturers.

A frequent cause of friction arises between physician and pharmacist because of a difference of opinion or practice among pharmacists in the matter of filtration. A physician writes a prescription which is slightly incompatible; a precipitate (trifling possibly) ensues. The pharmacist, Mr. A., who compounds it concludes that it is unimportant, filters it out and dispenses the prescription in a transparent condition. The doctor sees the prescription at the patient's house, notices it, is pleased with the results and prescribes it in another case. This time the prescription goes to a different apothecary, Mr. B., who thinks that the precipitate may contain some activity and therefore it better not be filtered. The physician sees this prescription at the house of the patient and may say to him, "Why don't you get your prescriptions of Mr. A.? This muddy mixture is not right." The patient of course does not wish to pay for a prescription which has been improperly compounded, enters complaint, and there is very apt to be some hard feeling. The apothecary retaliating probably by showing the patient that the fault lies with the doctor who wrote the prescription, because he did not know that precipitation would take place. Due consideration and a proper spirit of professional etiquette should inspire the members of both professions and under no circumstances should the patient be a witness to differences of opinion.

The question of the use of cautionary or poison labels upon prescriptions has been fortunately settled legally in a satisfactory way and knowledge of this should be spread as far as possible. An apothecary of excellent reputation on one of the principal streets of Philadelphia, a few years ago, received a prescription from a well-known physician which ordered tincture of nux vomica to be taken in five drop doses. It happened to be compounded by a very conscientious and as it proved an over careful assistant, who reflecting that the bottle might be placed within the reach of children (and thus become dangerous) pasted upon the bottle a poison label. It happened that this particular prescription was for an old and hypochondriacal lady, who took fright immediately on seeing the poison label, sent for the doctor and peremptorily discharged him for daring to prescribe poison for her. He naturally sought the apothecary and what took place at the interview can well be imagined. The order went forth, however, from the apothecary that thereafter no prescription should be labelled "poison" except when so ordered by the physician.

Very remarkably not long after this occurrence, a family having vacated rooms in a tenement house were succeeded by a new tenant. As is customary in such cases, some of the friends of the incoming family aided in the moving. One of the inquisitive helpers found a bottle of sugar-coated granules, in one of the closets; and having seen some candies which resembled the granules, distributed them among the rest of his friends and they were eaten with apparent satisfaction. Violent convulsions ensued, medical assistance was summoned but one of the helpers lost her life. Investigation showed that the bottle contained granules of strychnine; that the label showed that they came from the same drug-store in which the conscientious assistant was employed and that this time the rule—not to put a poison label on a bottle unless ordered by the physician—had resulted in a death and the apothecary appeared to be empaled on both horns of the dilemma. The next friend of the unfortunate girl entered suit against the apothecary for negligence in not labelling the bottle “poison.” But the case was thrown out of court without much difficulty, the ruling being that no blame could be attached to the apothecary as he had strictly followed the directions of the physician. The case excited a great deal of interest; many physicians going on record, that it was a vital necessity in many cases that the character of the medicine should not be known by the patient. This rule can then be formulated—poison labels are not to be placed on prescriptions unless ordered by the physician.

In connection with the subject of labels, it may often occur to the mind of the physician that he sees now frequently what are known as “Shake well” labels on liquids, that appear to be perfectly transparent. This is probably due to the fact that several dangerous poisonous cases have occurred through the precipitation of scanty, colorless precipitates. The mixture of bromide of potassium with sulphate of strychnine was one of these. Insoluble bromide of strychnine was produced which settled at the bottom of the liquid. The whole quantity of strychnine in the four ounce mixture was taken at one dose. It is an unfortunate peculiarity of this class of mixtures that the alkaloidal precipitates are not visible at the time the prescription is compounded, but they slowly settle out in the course of a few hours. This would be very likely to escape the notice of any one and on this account the careful pharmacist places a “Shake well” label upon the bottle, so that in case of precipitation, the patient will by shaking the mixture be sure to get the due proportion of alkaloid in each dose.

The writer regrets that space will not permit him to mention many other “exigencies” in prescription practice; but it is a source of gratification that probably at no time in the history of the world have pharmacists been so thoroughly trusted by physicians as at the present. The true pharmacist is always sensitive upon the question of additions or alterations in a prescription and he will never deviate from the rule, to permit no addition or alteration, which will interfere with the obvious intention of the prescriber. But no true physician will object to such alteration or addition if strictly within this rule. It is absolutely impossible for the busy practitioner to retain in his memory the varying degrees of solubilities of the great mass of chemical sub-

stances that are used to-day in the treatment of disease. Separation, precipitation, dissociation are almost always the rule. If by the addition of a little acacia, the active resinous ingredient of a tincture is prevented from adhering to the sides of a bottle and made to form a part of a homogeneous mixture; or if through the neutralization of the spirit of nitrous ether, the sodium salicylate in the mixture is held up; or if through the heating of one of the liquids, perfect solution is effected; and if the rule above quoted is never deviated from, then does the pharmacist truly fulfill his mission and become a most efficient co-worker.

Self-interest, lack of sufficient inducement, and liability of discovery are all powerful incentives in keeping the pharmacist who is not amenable to higher motives, from what is called tampering with the physicians’ prescriptions. Wherever a deviation from the strict interpretation is demanded, it is the pharmacist’s duty to render at once to the prescriber an explanation of the reasons for making any addition or change. As no pharmacist cares to risk the chances of an encounter with the physician, which is often times accompanied by at least unpleasant remarks, it follows that in the vast majority of cases additions and alterations are not only not made, but never suggested, thus it is that many prescriptions are sent out showing evidences of incompatibility, crudeness, and in some cases utter failure in accomplishing the objects of the prescriber.

The policy of “*vis inertiae*” is, to most compounders the easiest and the simplest to adopt in order to avoid criticism and a possible contest with the physician. If a patient should complain of the unsightliness or inefficiency of a mixture, the reply usually is, “Well, you must not blame me for that. The prescription is compounded exactly as your doctor wrote it.” But, brethren of both professions should these things be? Thousands of workers throughout the world are busily employed in wresting these secrets from Mother Nature in the search for some new substance to combat disease. Millions of capital are invested by shrewd earnest men in developing to the utmost the latest discoveries of science, for the use and benefit of the sick and helpless. The members of the medical profession know what sacrifices they have endured, what privations they have suffered, what years of labor it has cost to fit them to practice their profession. On the other hand has not the pharmacist toiled unceasingly, studied unremittingly, and suffered in a similar way from privation and sacrifice to fit him for his profession? Shall all this go for naught? Have not all of these earnest laborers had but one goal—the preparation of remedies for the cure of disease?

What matters it, if millions have been spent in the manufacture of a remedy, if when the supreme object of its existence is reached it falls short or fails of its mission, through the lack of co-operation or of a proper state of feeling between the doctor and the druggist. The educated, hard working pharmacist who faithfully labors to perform all of his duties, is worthy of the support of every physician in his neighborhood; confidence begets confidence and if this is once thoroughly established, the settlement of a “prescription exigency” when it arises becomes a simple problem.