no one in the employ of the firm who could tell him what to do and what not to do. None of them were qualified under the law or by experience. There is a fault somewhere."

In analyzing the cause for such negligence, Secretary Culley continues, "Under the new law all professional examining laws were brought together under one head called the department of registration, under an appointed director, who must not be a member of any of the professions he represents. Just think of one man running fifteen professions and knowing nothing of any one of them. That is the present law. It is the duty of the Director to see that each profession is protected from the uneducated and incompetent. Evidently, owing to political affiliations this particular store was allowed to run in violation of the law."

Virginia.—The Board has adopted a ruling, effective July 1, 1928, requiring all candidates for admission to the Assistant Pharmacist examination to show proof of graduation from a four-year high-school course or equivalent established to the satisfaction of the State department of education.

A REPORT OF PROGRESS ON A PROCEDURE IN PRESCRIPTION PRICING.*

BY LEONARD A. SELTZER AND A. ALTON WHEELER.

At the meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION at Philadelphia last year we presented a paper on "A Procedure in Prescription Pricing." The procedure outlined was designed to reflect, in the final result, the cost of material used, a fee for service rendered, and a further item; the latter to be so graded as to provide a sufficient margin of profit on small sales and yet avoid prohibitive prices on larger quantities. Moreover, the necessity for a differentiation reflecting the varying types of service rendered in different stores was emphasized; for, while a uniform price in any particular store is a *sine qua non* in any pricing scheme, it is not an end to be sought when considering different stores rendering different degrees of service. The writers further set out to find an algebraic formula for determining the price of all prescriptions, but failing to do so, being uncertain if it were possible, and yet feeling that the experience and method evolved was of value, made a report as stated at the last meeting.

By way of explanation of our presenting another paper on the same subject, it might be in order to say that in the further study of this problem we now believe that we have the formula sought. This discussion is, therefore, not supplanting what we tried to establish in the previous paper; it simply supplies the formula by means of which the end sought is obtained in a more simple and easy manner and the right and reason of the results more easily explained and defended, if necessary.

The search for a formula is a search for those factors which are common to all prescriptions and which (factors) contain those elements in which prescriptions are either similar to, or in which they differ from, each other and as a result of which similarity or difference they may be classified in groups. A definite value can then be given to the factor representing these elements. We believe that there are just three such factors—that they are definite and comprehensive, that not only are there three factors, but that all three are always found in every prescription, that from the customer's standpoint they cover everything that he should pay for, and from the pharmacist's standpoint they are items all of which he is entitled to collect for.

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* Section on Practical Pharmacy and Dispensing A. PH. A., St. Louis meeting, 1927.

The three factors are: The Compounding Fee "C," The Service Charge "S," and The Selling Price of Material "M."

The formula C + S + M = Price.

Prescriptions may be classified or grouped accordingly, as in their relationship to these factors they are similar to or different from each other. With reference to these factors we have found it expedient to differentiate four classes or groups:

I. Tablets and ready-made pills.

II. Capsules, Cachets, Hand-made Pills, Powders, Suppositories.

III. Liquids.

IV. Ointments.

It will be seen that in relation to these factors, prescriptions in group I are affected similarly to each other and differently from all other prescriptions and therefore form a group. By the same line of reasoning the other groups are defined. Having stated the formula and defined the groups, the next step is to make the application of the formula in the groups. This is done by considering each factor separately and in the light of the elements it represents in each group, determine its value in that group.

Factor "C."—Every prescription is received, it is recorded, a label is written, a container is provided, the material assembled and mixed if necessary. The charge for these operations comprises the compounding fee and is represented in the formula by "C."

In class I it is obvious that the value given "C" should be lower than in any of the other groups.

In classes II and III, they being affected similarly to each other, the value given "C" in these two groups should be the same—proportionately somewhat higher than in group I.

In class IV the value of "C" should be still higher.

Relatively, the figures 50, 75, 75 and 150, respectively, for their groups are those which we think will yield the most equitable results. We say relatively, because we feel that in this factor we have the opportunity for such adjustment as will modify the price so as to be commensurate with the service rendered in different establishments. This differentiation cannot be accomplished by factors "S" or "M," because both the charges for service (if based on number of doses) and the selling price of material (provided the quantity is the same) should be the same in all stores—not only from the customer's standpoint, but from the standpoint of reason as well. The value of "C" can vary, however, in proportion as the prescription is given more attention in one store than another.

Factor "S."—Every prescription involves not only the items which have been enumerated under "C," which are largely clerical or mechanical, but also professional service. Professional service is usually measured by the benefit to the client, which in a prescription is most expeditiously measured by the number of doses, as indicated by the number of pills, tablets, etc., or drachms. Another element in this service is the skill or time involved in rendering the service. These elements are represented in the formula by "S."

In class I little or no skill or time is required and the charge is mainly based on the service rendered as measured by the number supplied. We believe $^1/_2¢$ for each dose or unit is the proper value for "S" in this class.

In class II the labor expended on individual doses is a material item which is directly proportional to the number of units and should be reflected in "S." We believe that 1¢ each is the proper value for "S" in this class except in the case of suppositories where, not only on account of the labor expended, but on account of the fact that as a rule a dose serves for a longer period of time, the value of "S" is 6.

In classes III and IV, although no labor is expended on individual doses, judgment and skill are required in compounding and the service rendered is proportional to the number of doses (or drachms) given, hence we feel that 1¢ per dose is an equitable value to give to "S" in these two classes.

Factor "M."—Every prescription contains material. This material has not been accounted for in either of the other factors and should be paid for at the same price, no more, no less, as if sold over the counter since the professional and other charges have been otherwise provided for. This factor is represented in the formula by "M."

In class I the selling price is easily computed from lists which for the most part give prices on a 40% basis and if not they are easily reduced to an approximate 40% basis as follows:

net multiply by $1^2/_3$
15% multiply by $1^2/_5$
20% multiply by $1^1/_3$
25% multiply by $1^1/_5$

In determining selling prices in the other classes, other elements are involved: for instance, while there is no maximum price above which a sale cannot be made, no matter how much it costs, there is a well-recognized principle that there is a point below which a sale cannot profitably be made no matter how little it costs. Thus, there is a minimum price of 5¢ or 10¢ per ounce for certain drugs no matter how little they cost. Hence in class II we fix a minimum of 2¢ per unit—in practice we use this minimum up to 50 units at which point the selling price reaches $1.00. This minimum value for "M" obtains until the cost of material (carrying a profit of 40%) exceeds it, in which case the latter is substituted for the minimum. In classes III and IV 5¢ per ounce is the minimum value for "M." We note that 1¢ per drachm (service) + 5¢ per ounce (material) equals practically $12^1/_2$¢ per ounce no matter how many ounces are called for; hence, in practice, for the sake of expediting computation, the value of S + M = a minimum of $12^1/_2$¢ per ounce in classes III and IV. We feel that if applied to one- and two-ounce ointments the price is a little too high and we therefore, arbitrarily, set the price of $1.00 and $1.50 and in these quantities we make no additional charge for S + M, unless the material exceeds 15¢ or 25¢, respectively, in which case we add the excess to the $1.00 or $1.50 as the case may be. We find it advisable in some gargles, liniments and lotions, to omit the factor "S."

Bulk powders are charged as liquids. In case of prescriptions for proprietaries with an established selling price, we add a fixed clerical charge for affixing label only. To narcotics we add an additional fixed clerical charge.

Herewith we furnish a table illustrating our application of the "procedure" just outlined. The idea aimed at in this illustration is on the one hand to show those results which fall within the range of prices customers are in the habit of paying without changing materially (as we know by experience) the reading of our cash

FORMULA FOR PRESCRIPTION PRICES

Compounding Fee + Service Charge + Material Selling Price

Classification	C +	S	+ M	Price per C / No.	EXAMPLES		
					$ .50	$ 1.00	$2.00
Tablets and Ready Made Pills	.50 +	No. of Doses X ½ Cent	+ Selling Price	20	.70	.80	1.00
				50	1.00	1.25	1.75
				100	1.50	2.00	3.00
Capsules, Cachets Powders Hand Made Pills Suppositories	.75 +	No. of Doses X One Cent (Suppositories) X Six Cents	+ Selling Price (minimum 2c per unit)	No.	C + S + M = P		
				20	.75+ .20+ .40 = 1.35		
				50	.75+ .50+ 1.00 = 2.25		
				100	.75+ 1.00+ 1.00 = 2.75		
Liquids	.75 +	No. of Doses (Drams) X One Cent	+ Selling Price (minimum 5c per oz.)	Oz.	$	$	$ $
				2	.75	.16	.10 = 1.00
				3	.75	.24	.15 = 1.15
				4	.75	.32	.20 = 1.25
Ointments	1.50 +	No. of Drams X One Cent	+ Selling Price (minimum 12½c per oz.)	1	1.00	.15	1.00
				2	1.50	.25	1.50
				3	1.50	.40	1.90
				4	1.50	.50	2.00

register, rather than on the other hand to show those results which will produce the ideal prices to which we think we are entitled: for the salient features of this procedure is that we can intelligently make our aim at what we want to hit and hit what we are aiming at.

NEW GERMAN ANÆSTHETICS.

German scientists in their search for improved anæsthetics that do not have to be administered through inhalation, have developed at least three narcotics that deserve more than passing notice.

E 107, known also as Avertin, owes its existence to Willstaedter (Munich) and Sauerbruch (Berlin) and is produced by Willstaedter and Duisberg of I. G. Farbenindustrie A. G., Frankfort on the Main. It is a tribromalcohol, producing narcosis through the intestines.

Another anæsthetic is so-called Pernokton, reported by Professor Dr. Bumm at the recent surgeons' congress in Berlin. It is related to Veronal and is injected into the veins, thus reaching sensitive parts through the blood circulation.

Lumbalanæsthesia is another that is administered through the spinal cord and is capable of anæsthetizing the lower half of the body particularly, but this form of taking is reported not altogether harmless.

Research continues to seek anæsthetics free from the inconveniences of inhalation with probable eventual success. (Trade Commissioner W. T. Daugherty, Berlin, Germany.)

PRINTING OF FORMULAS ON PROPRIETARY MEDICINES DEFERRED.

A large deputation of manufacturers, chemists, and wholesale and retail distributors, approached the Victorian minister for health on July 4th for the repeal of regulation 79 of the Victorian Health Act, which is gazetted to come into force on January 1, 1928. This regulation provides that all manufacturers of patent medicines shall print the formula of the contents on the label of each bottle or packet. This regulation was first gazetted in May 1924, but owing to several postponements, it has not yet come into operation.

At present, each State has its own food standard regulations, which vary to some extent. At a conference held May 1927, between the Commonwealth Health Department's representatives and the representatives of each State Health Department, the advisability of uniform regulations to apply to the whole of Australia was agreed to. In the meantime, the Minister of Health has assured the deputation that the regulation with regard to the disclosure of formulas on patent medicines will not be enforced for another 18 months. (Trade Commissioner E. G. Pauly, Melbourne, Australia.)