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THE
DECIMAL SYSTEM
OF
WRITING PRESCRIPTIONS.

BY C. H. MERRICK, M. D.,
CANYONVILLE, OREGON.

It is not the design of the writer of this article to enter into any discussion as to the relative merits of the old style of writing prescriptions as compared with the new method. Neither does he propose to waste time with that class of physicians who stubbornly shut their eyes when any new method is proposed. Of all men, physicians should be the foremost to investigate new propositions and impartially consider their qualities. He who contents himself with the remark that "the old way is good enough" is not worthy the name of being a physician.

For many years efforts have been made to introduce the decimal system of weights and measures. I believe there are no serious difficulties in the way of its general adoption in all our commercial and mechanical interests, provided proper efforts are made; and I more firmly believe that its adoption by the medical profession is attended with far less difficulty, provided physicians will divest themselves of prejudice and stupid indifference.

The whole system as applied to the writing of prescriptions can be committed to memory in fifteen minutes' honest study. And when once understood, its advantages are so numerous that no one will con-

return to the old method. One great bugbear which has frightened many honest physicians from adopting the system is the idea that we must unlearn or discard our knowledge of doses. This is a great error. We have the doses of our medicines firmly fixed in the mind. These doses are expressed in grains and drams, seldom in ounces, never in scruples. In adopting the decimal system we retain and use this knowledge.

Now let us take a "shot-gun prescription" of no possible value in practice, but ample enough to illustrate the whole subject, and examine it carefully:

$\frac{16}{100}$	FOR A—— B——.	No. 1.
Syr. rhei	- - - - -	1 00
Syr. ipecac	- - - - -	2 00
Tin. aconite	- - - - -	50
Pot. acetas	- - - - -	2 50
Tin. capsic	- - - - -	10
Tin. opii. camp.	- - - - -	1 20
Glycerine	- - - - -	1 50
Syr. simp.	- - - - -	5 00
Aqua font. q. s.		

Sig.—Take a teaspoonful every 4 hours.

Date——

DR. C. D.——.

Explanation:—The figures attached to the medicines express the grains and minims in each dose of a teaspoonful. Thus: in every teaspoonful there is one minim or grain of syrup of rhubarb, two minims of syrup ipecac, half a minim of aconite, two and a half grains of potash, one-tenth of a minim of capsicum, one and one-fifth minim of paregoric, one and a half of glycerine and five of simple syrup. The q. s. to aqua font. means enough to make sixteen doses of a teaspoonful each—equal to two ounces. The 16 in the upper left hand corner indicates to the druggist that a two-ounce mixture is called for. The 100 is a divisor of the figures at the left of the line in the prescription, and a dividend to the figures to the right of the line. Thus: 100 is contained in 200 of ipecac twice, equal to two minims. Ten of capsicum equals one-tenth of 100, or one-tenth of a

minim. The 120 of paregoric equals one and a half minims, &c. A glance at this prescription shows, without any mental calculation, the exact quantity of the different medicines in each dose of a teaspoonful. Of course if we direct two or more teaspoonfuls we increase the medicines in the same proportion.

Suppose to this prescription instead of 16-100 we write 32-200. The 32 indicates to the druggist that a four-ounce mixture is called for. We use the 200 as a divisor or dividend as before, thus reducing the medicines at each dose one half. Instead of one and a half of glycerine we now have three-fourths, &c.

Now let us look at a few prescriptions of value in practice:

$\frac{32}{200}$	FOR C — D — .	No. 2.
Soda bicarb. - - - - -	- - - - -	5 00
Sp. ammo. aromat. - - - - -	- - - - -	4 00
Sp. aeth. nit. comp. - - - - -	- - - - -	30 00
Tin. cardamom - - - - -	- - - - -	10 00
Mucilage acacia —		
Aqua camph., q. s.		

Sig.—Take a teaspoonful as required.

Date— DR. H. — .

Using 200 as a dividend, we find we have just one-half the amounts set to each medicine in each teaspoonful dose. That is to say: two and a half of soda, two of ammonia, &c. It is easy to see that if we change the dose to two teaspoonfuls, or the 32 to 16, we give as many grains and minims as the figures indicate. Of course mucilage and camphor water are understood to be of each equal and sufficient to make up the 32 or four-ounce mixture.

Suppose we want a six ounce mixture as follows:

$\frac{48}{300}$	FOR G — H — .	No. 3.
Vin. antimo. - - - - -	- - - - -	30 00
Tin. opii. camph. - - - - -	- - - - -	15 00
Syr. ipecac - - - - -	- - - - -	12 00
Tin. aconite - - - - -	- - - - -	3 00

—
 enage acacia, q. s.

Sig.—Take a teaspoonful every 4 hours.

Date—

DR. G——.

The 48 calls for a six ounce mixture. The 300 shows that just one-third of the amounts set to each medicine is contained in each teaspoonful dose. Suppose, instead of 48-300, we write 64-400 to the same prescription. Then we have thirty quarters of antimonial wine, fifteen quarters of paragoric, twelve quarters of ipecac and three quarters of aconite to each teaspoonful dose.

Now let us look at another “shot-gun prescription” of no practical value except as illustrating the capabilities of the decimal system:

$\frac{64}{400}$	FOR O—— K——.	No. 4.
1	Carb soda - - - - -	4 00
2	Syr. sarsap. - - - - -	20 00
3	Tin. myrrh - - - - -	1 00
4	Tin. opii. - - - - -	50 00
5	Tin. hyosciam - - - - -	40 00
6	Tin. aconite - - - - -	10 00
7	Tin. strychnine - - - - -	05 00

Aqua fort., q. s.

Sig.—Teaspoonful as required.

Date—

DR. B. O——.

In this example, using the 400 as a divisor, we have of the first medicine four-fourths of a grain or minim; of the second, twenty-fourths; of the third, one-fourth. Now for the figures on the right of the line, we use the 400 as a dividend. Of the fourth medicine we have | 50. Fifty in 400, eight times; therefore we have of the fourth medicine one-eighth of a grain or minim. Forty in 400, ten times; therefore we have one-tenth of the fifth medicine, one-fortieth of the sixth and one-eightieth of the seventh.

This style of prescription-writing is applicable to all the requirements of the profession. If we want

powders instead of fluids, no extra directions are required. Example:

$\frac{16}{100}$	FOR Mrs. H——.	No. 5.
Bismuth sub. nit.	10	00
Acid tannic	3	00
Pulv. ipecac comp.	2	00

Sig.—Take one every 4 hours.

Date——

DR. M——.

The druggist is supposed to know enough to put this prescription into 16 parts without special orders.

Here is a prescription for cathartic pills:

$\frac{64}{400}$	CATHARTIC PILLS.	No. 6.
Podophylin	50	00
Pul. aloes soc.	8	00
Pul. capsic	2	00
Ex. hyoscian	4	00
Confect. senna	10	00
Pul. acacia, q. s.		

The 64 indicates to the druggist that the mass is to be divided into 64 parts. Should the pills be too large, he can make 128 of them and direct two as a dose. Let us read this prescription by the rules given. Podophylin, | 50, tells us that each pill contains one-eighth of a grain, because 50 is the eighth of 400. Aloes, 8 | 00, shows two grains to a pill, because twice 400 is 800. In other words, each pill has eight-fourths of aloes, two-fourths of capsicum, four-fourths of hyosciamus, &c. Suppose we place 48-300 to this prescription, then we have of the first medicine one-sixth, of the second eight-thirds, equal to two and two-thirds, &c.

$\frac{32}{200}$	FOR C—— K——.	No. 7.
Elix. bis. strych. and pepsin		
Elix. calisaya bark		

Sig.—Take a teaspoonful at each meal.

Date——

DR. C——.

This calls for a four-ounce mixture of equal parts of each medicine. We could write ~~32~~ at each medicine, but it is not necessary. This leads me to caution against supposing that the 32 at the left corner means the same as 32 attached to a medicine. The former means 32 teaspoonful doses; the latter means one ounce. A near enough translation of the decimal system to correspond with our ounces, drams and grains is to say that an ounce equals 32 | ; a dram equals 4 | , and a grain or minim equals | 06.

Frequently the figures in the upper left corner can be omitted. Examples:

	FOR S — C — .	No. 8.
Ung. hydarg. nit.	- - - - -	10 00
Morphia sulph.	- - - - -	20
Cerate simp.	- - - - -	30 00

Sig.—Use as directed.

Date—

DR. R. S — .

	FOR M — F — .	No. 9.
Pot. chlorate	- - - - -	5 00
Tin. ferri. chlo.	- - - - -	10 00
Glycerine	- - - - -	30 00
Aqua cin.	- - - - -	15 00

Sig.—Put a teaspoonful in a teacupful of water and use as a gargle every 4 hours.

Date—

DR. P — .

These examples are sufficient to prove the capabilities and advantages of this system as compared with the old plan of grains, drams, scruples and ounces.

Taking 16-100 as the model, we can write any sized prescription we may require. The four sizes given are all that are usually required in practice.

The following table will show other sixes:

$\frac{16}{100}$	2 ounces	1		00	of medicine equals one grain.		
$\frac{32}{200}$	4	"	1	00	"	"	$\frac{1}{2}$ "
$\frac{48}{300}$	6	"	1	00	"	"	$\frac{1}{3}$ "
$\frac{64}{400}$	8	"	1	00	"	"	$\frac{1}{4}$ "
$\frac{80}{500}$	10	"	1	00	"	"	1-5 "
$\frac{96}{600}$	12	"	1	00	"	"	$\frac{1}{6}$ "
$\frac{112}{700}$	14	"	1	00	"	"	1-7 "
$\frac{128}{800}$	16	"	1	00	"	"	$\frac{1}{8}$ "

It will be noticed that the grain fractions correspond to the figures expressing hundreds in the left hand column, and that the ounces are double the figure in the hundreds place. Also that the figures above the hundreds are eight times the number of ounces called for by those figures. Thus: 80-500 tells us that the 80 means a 10 ounce mixture, because 8 times 10 are 80. The 500 tells us that for every 1 | 00 of medicine there is one-fifth of a grain to each of the eighty parts of a teaspoonful each. The careful reader will notice that a 16-100 prescription with one teaspoonful doses, a 32-200 prescription with two teaspoonfuls doses, and a 64-400 prescription with tablespoonful doses are all precisely alike as to amount of medicine at each dose.

A few explanations as to weights are now necessary for the proper understanding of this system of writing prescriptions. All medicines are weighed. It is an easy matter to obtain the proper weights, even if not to be had at wholesale druggists. The coins of the United States furnish us a standard. The five cent nickle pieces weigh five grams written thus: 5 | 00. Half dollar silver pieces weigh 12 | 50 grams; quarter dollar pieces weigh 6 | 25 grams; a dime weighs 2 | 50 grams. With a little patience, a few pieces of sheet brass and a fine file most any

person can make smaller weights, taking a five cent nickle as a standard. Each one of five equal pieces, just balancing a nickle piece, would be called a gram. Ten smaller pieces of equal size and balancing a gram piece would be decigrams or dimes. In other words, calling a nickle five dollars, then a gram can be called one dollar. The smallest weight ever required in prescriptions is the tenth of a gram or a dime.

A few words to druggists. Suppose a 32-200 prescription is called for. Put your four-ounce graduated glass on the scales. Have at hand a box of shot with which balance the graduated glass. Some druggists have a sliding weight or poise on the beam of the scales. Now add the weights called for in the prescription and the medicines *secundem artem*. This will be found a much quicker and cleaner way than by the old method.

It is proper to state in conclusion that I have published several articles on this subject, and thanks are returned to the *Maryland Medical Journal*, published at Baltimore, and the *Boston Journal of Chemistry*, for valuable assistance in making this system known. Nor must my adopted State be forgotten. The *Plaindealer*, at Roseburg, and the *Oregonian*, at Portland, have kindly admitted articles upon this subject to their columns.

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