

milligrammes of phosphorus; one, two, three and four fluid-drachms of this dilution, severally, represents the doses in which phosphorus is required, namely, 1-50, 1-25, 1-16 and 1-12 grains when active medication by phosphorus is indicated. Mr. George C. Close, an able pharmacist, of Brooklyn, makes an admirable emulsion of cod-liver oil, which is quite well adapted to either of these dilutions. The writer is indebted to Mr. Close for the following formulas and directions which will be found very useful. The formula for an emulsion of cod-liver oil simply is as follows: cod-liver oil, four fluid ounces; glycerine, nine fluid drachms; sp. ammon arom, one fluid drachm; sherry wine, twenty fluid drachms; tincture or essence bitter almonds (1 part bitter almonds to 64 parts alcohol) two fluid drachms. Put the glycerine in a mortar and add the oil to it very slowly, triturating the mixture actively and constantly. The success of the emulsion depends upon the skill with which the first small portion of the oil is rubbed up with the glycerine, therefore the oil must be added in very small quantity, and very slowly at first; after the oil is all in, add the other ingredients in the order in which they are named. In the large and successful use of this emulsion, half an ounce of sherry wine has often if not commonly omitted and the same quantity of dilute acid. phos. substituted. The dose of this emulsion is from a dessertspoonful to a tablespoonful. Jamaica rum or brandy may be substituted for the sherry wine when preferred. Of all modes of giving cod-liver oil this is perhaps the least objectionable to most persons. In using the formula as a vehicle for giving the phosphorus, the solution of phosphorus is made a part of the cod liver oil. For example, take half the quantities of the formula, and for this four fluid ounces emulsion take 7-70 grains of cod-liver oil, and 80 grains of solution of phosphorus, then a teaspoonful dose will represent 1-40 grain of phosphorus. Thompson says that oil of peppermint covers the taste of free phosphorus better than anything tried by him. The glycerine which is so useful in emulsifying oils is made as follows: Take the yolks of eggs, carefully excluding the whites, four parts; glycerine concentrated and odourless, 5 parts; beat or whip well the yolks of the eggs in the usual manner, and pour the liquid into a bottle; add the glycerine and shake them well together. This glycerine keeps well for an indefinite length of time. It was introduced from French pharmacy many years ago, and as an emulsifying agent and preservative of emulsions deserves to be better known. Emulsions made with it, by ordinary skill, and accuracy to the above-given directions, never separate; if they separate it is for want of proper care in the commencement of introduction of the oil. This solution of phosphorus may also be given in the form of a pill, and whether in pill or in powder, to be mentioned hereafter, it is always as a solution that is given since the solvent does not evaporate but remains to hold and protect the phosphorus.

*To be continued.*