Specific Gravities of the British Pharmacoporia.

the London Pharmacopœia. In Phillips's translation of the London Pharmacopœia, 1851, the specific gravity is described as 1.260; and although the proportion of litharge has been thus augmented, in the British Pharmacopœia the solution is still said to be of specific grav. ity 1.260.

Now I have found that it is possible to obtain a solution when making a large quantity, with the greatest ease at 1.285, and even in making a quantity of one pint, which I imagine is seldom done, the resulting liquor will have a density of 1.270. This, I should suggest, should be recognized minimum gravity of the officinal solution.

Liq. Sodæ Chloratæ.—Although I have scheduled this solution, and have given a specific gravity which. I think, would represent a solution of carbonate of soda, 12 oz, in 36 oz. water (1.100), into which chlorine (not dried) has been passed to saturation and increased thereby in weight 3.3 per cent,—still I have never been able to obtain a solution containing 2.535 per cent. of available chlorine by this officinal process, neither have I been fortunate enough to meet with any manufacturer who has ever been more successful.

The strongest solution I have produced has contained $2 \cdot 02$ per cent of available chlorine when examined immediately after production, with specific gravity $1 \cdot 090$, but this has rapidly decreased in value, on account of free chlorine being present, which, decomposing the the bicarbonate of soda, is converted into chloride, and consequently unavailable chlorine. As far as I can estimate, this very nearly corresponds with the theoretical quantity that would be contained in the hypo-chlorite of soda formed, presuming the liquid to be in addition saturated with free chlorine. If the statement be true, that when the chlorine comes in contact with the solution of carbonate of soda, there are formed hypochlorite, chloride and bicarbonate of sodium; then the 12 oz. (5250 grains) of carbonate of soda ordered in the Pharmacopœia would require 651.6 grains of chlorine, 325.8 grains of which would be transformed into hypochlorite, and would be always available in the proportion of 1.469 per cent. of chlorine in the perfected solution.

Let us presume the addition to this of the quantity of chlorine in an aqueous solution, which is about 606 per cent.

> Then 1.469 Chlorine (as Hypochlorite) + .606 Chlorine (as free Chlorine)

= 2.075 per cent of available chlorine,

closely corresponding with the result I obtained in practice (2.02). It may be urged that this is rather speculative, but if we turn to Pereira's ' Materia Medica' (page 556), we find at any rate one part of corroborated as far as the hypochlorite is concerned, by the com-

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