tion with ferric chloride solution and the odor of salicyl methyl ester by heating with methyl alcohol and sulphuric acid.

The acid number of the oil indicates 1.104 per cent. salicylic acid, but as some of the acid reaction is due to the natural oil anyhow, one can guess that about 1 per cent. of salicylic acid has been added, and this is an amount, which it would hardly pay to put in. In my opinion it was a test case, to see if the sophistication would be found out, with the intention of putting more in the next time and also to use an oil of a poorer quality, anticipating that the analyst would neglect the acid number and figure the whole saponification number for esters.

The oil did not contain any salicylic ester: no fraction of the oil. distilled *in vacuo*, gave a violet color with ferric chloride solution.

An alcoholic solution of a pure lavender oil does not show any red or violet color with ferric chloride, but an oil adulterated with salicylic acid will.

The occurrence of this attempt of adulteration adds salicylic acid to the list of other materials, as succinyl methyl ester,[1] rosin[2] and benzoic acid,[3] already found in lavender oil, put in to raise the ester content found by analysis or else obscure the analysis.

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The Production of Acylamines by the Interaction of Sodium Salts of Monobasic Acids and Amine Hydrochlorides.—On page 758 (August number) of this Journal, Frederick L. Dunlap publishes a paper under the above heading. Dr. Dunlap produces some aceto compounds by the action of an acetate on the hydrochlorides of various amines. He states that he is aware of the existence of United States Patents Nos. 574,395 and 574,396 "For the manufacture of acetanilide." He goes on to show that the method which he outlines is a general one. He fails to state that the patents cited make a specific point of the general nature of the reaction in question; that, in fact, the letters patent are granted, not "For the manufacture of acetanilide," but for a "Process for obtaining aceto derivatives of aromatic amines."

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[1] Schimmel's Report, April, 1897, p. 24.

[2] *Ibid.*, October, 1900, p. 41.

[3] *Ibid.*, April, 1902, p. 46.

He fails to state that the inventors specifically named a number of such amines; that they did not confine themselves to the hydrochlorides, but investigated various salts of such amines, *e. g.*, the sulphates; and they also availed themselves of the well defined *acid acetates* such as $KC_2H_3O_2C_2H_4O_2$.

Dr. Dunlap entirely ignores the work of the patentees, the writer and Dr. Wm. H. Warren, on the production of such aceto compounds from mixtures of an acetate, the amine and the salt of a volatile base as indicated in the following equation:

$$RNH_2 : MC_2H_3O_2 : NH_4Cl = RNHOC_2H_3 : MCl : NH_3 : H_2O.$$

The general method of Varley[1] for the production of various amides is also set forth in Dr. Dunlap's paper without the slightest reference to the former's extended work on the subject. The method of manipulation, it is true, differs somewhat, as Dr. Dunlap works in a closed tube, while Varley worked in open vessels, on larger quantities and with better yields. Varley's work was simultaneons with that of the writer and Dr. Warren, but entirely independent.

Dr. Dunlap's statement regarding "The Literature" is true so far as our work is concerned, if one may entirely ignore the patent reports of this and foreign countries. It is not true as regards Varley's work. It would seem difficult to understand how Dr. Dunlap could have ignored Varley's work entirely and, also, the general nature of our reaction when that was fully set forth even in the title of the patent, not to speak of the broader scope of our work, embracing, as it did, salts in general, the acid salts, the use of a salt of a more volatile base and, in a general way, the influence of the amounts of the various reacting substances. The last subject was not treated at length by us for the reason that the reaction seemed to follow parallel lines with that of acetic acid and aniline as studied out by Menschutkin,—the mineral salt seeming to be more or less inert after being formed in the melt. An excess of acid and acetate over amine was beneficial, as would be expected; and a still greater excess of acetate is preferable to prevent the possibility of free mineral acid. This is, of course, provided the yield is to be calculated from the amine.

It is not necessary here to repeat the details set forth in the

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[1] *Bull. Soc. Chim.*, [3], **9**, 690-692; *Ber. d. chem. Ges.*, **26**, R. 881.

patents referred to. It seems, however, not out of place to call attention to the reaction as worked out by Dr. Warren and the writer, since Dr. Dunlap seems to have overlooked its general nature.

R. W. CORNELISON.

BLOOMFIELD, N. J.,
August 8, 1902.