Without alcohol.				With alcohol.			
Mgs. K.	Pts. per 100,000.	Turbid in.	Precipitate settles in.	Mgs. K.	Pts. per 100,000.	Turbid in.	Precipitate settles in.
...	.....	.....	.....	0.1	20	immed.	at once
0.5	10	1–4 min.	short time	0.5	10	immed.	at once
0.3	6	1–4 min.	short time	..	...	.....	....
...	.....	.....	.....	0.25	5	immed.	5 min.
0.2	4	20–30 min.	2 hrs.	0.2	4	3 min.	6 min.
0.1	2	6–10 hrs.	not given	0.1	2	4 min.	11 min.
...	.....	.....	.....	0.05	1	.....	....
...	.....	.....	.....	0.01	0.2	.....	....
0	0	.....	.....	..	...	.....	....
0	alcohol added	.....	.....	0	...	.....	....

This shows that the sensitiveness of the reaction is not increased by the addition of alcohol, but that any potash that will be detected at all will be shown in a few minutes. A qualitative test, however, sensitive to 2/100,000 is unusual, and is really more accurate than needful in ordinary work.

Particular care must be exercised to insure the removal of all ammonium salts previous to testing for potassium, since by the addition of alcohol they are thrown down as quickly as the latter, and almost as completely. This reagent gives a sensitiveness with ammonium salts of 5/100,000, making it not greatly inferior in point of delicacy to the Nessler reagent. Following is given a comparison of Bray's results on ammonium salts and mine where alcohol is added.

Without alcohol.			With alcohol.		
Mgs. NH_3.	Pts per 100,000.	Turbid in.	Mgs. NH_3.	Pts. per 100,000.	Turbid in.
2	40	at once	..	...	.....
1	20	10 min.	1	20	immed.
0.5	10	several hrs.	0.5	10	immed.
...	..	.....	0.25	5	immed.
...	..	.....	0.1	2	none
...	..	.....	0.05	1	none
...	..	.....	0.01	0.2	none

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CORRECTION.

My attention has been called to an error in the review of recent work in inorganic chemistry, which appeared in the December number of THIS JOURNAL. The statement is made that Keiser found the formula of the bicarbonates of calcium and barium to approach "closely the formula $H_2M(CO_3)_2$." As a matter of fact the bicarbonates analyzed contain considerably more carbonic acid than would correspond to this formula, being in the case of the calcium salt $CaCO_3.1.75H_2CO_3$, and in the case of

barium $BaCO_3.1.5H_2CO_3$. The work should also have been attributed to Keiser and Leavitt, and Keiser and McMaster. JAS. LEWIS HOWE.

[CONTRIBUTION FROM THE WELLCOME CHEMICAL RESEARCH LABORATORIES, LONDON.]

CHEMICAL EXAMINATION OF JALAP.[1]

BY FREDERICK B. POWER AND HAROLD ROGERSON.

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Under the title of *Jalapa* (Jalap) the various national Pharmacopoeias recognize the dried tuberous root of *Exogonium purga*, Bentham (*Ipomoea purga*, Hayne). The only constituent of the tuber possessing chemical interest is the resin, which is largely used medicinally. This resin (*Resina Jalapae* of the Pharmacopoeias), like many similar products obtained from plants belonging to the family of Convolvulaceae, is of a glucosidic nature. It has been the subject of numerous chemical investigations during the past century, and the literature relating thereto is therefore considerable in extent. A review of the more important of these publications has been given by Hoehnel[2] in connection with an investigation entitled "Ueber das Convolvulin, das Glycosid der Tubera Jalapae (*Ipomoea purga*, Hayne)." A quite complete account of this subject and of other closely related so-called glucoside resins, together with citations of the literature, have also been recorded by van Rijn ("Die Glykoside," Berlin, 1900), and by Tschirch ("Die Harze," Bd. II, Leipzig, 1906).

It would not be expedient in this place to consider in detail the various statements of earlier investigators respecting the composition of jalap resin or the products obtained therefrom, especially as many of these statements are not only conflicting, but are evidently based upon incorrect observations and deductions. In order, however, to indicate the unsatisfactory state of present knowledge respecting the chemical characters of this resin, a brief exposition of the subject may be given.

The chief portion of jalap resin, which is insoluble in ether and commonly designated as "convolvulin,"[3] although a completely amorphous product, has at various times been assigned the following empirical formulas: $C_{31}H_{50}O_{16}$ (Mayer); $C_{21}H_{35}O_{10}$ (Kayser); $C_{24}H_{40}O_{12}$ (Laurent);

[1] Communicated, in abstract, to the International Congress of Applied Chemistry, London, June 1, 1909. Presented at the meeting of the New York Section of the American Chemical Society, October 30, 1909.

[2] *Arch. Pharm.*, **234**, 647 (1896).

[3] In English pharmacy the portion of jalap resin which is insoluble in ether is still frequently designated by the original and more appropriate name of "jalapin." The latter term, however, is now more commonly employed to denote the resin of scammony and of Mexican Male jalap (*Ipomoea orizabensis*, Ledanois), both of which are completely soluble in ether.