current of CO_2, followed by filtration and estimation of the precipitated carbonates, might be found more reliable.

The following papers were read :

1. " On the Action of Diazoanisole Chloride upon Phenoles and their Substitution Products," by Jas. H. Stebbins, Jr.
2. " On Acrolein Urea, with remarks upon Prof. Hugo Schiff's publications upon Condensed Ureas," by Dr. A. R. Leeds.
3. " Detection of Anhydrous Glucose mixed with Refined Cane Sugar," by P. Casamajor.
4. " A new Scheme of Soap Analysis, with a preliminary discussion of former methods," by Dr. A. R. Leeds.

The resignation of Mr. M. Benjamin was accepted.

The meeting then adjourned.

THOS. S. GLADDING,
Recording Secretary.

ACTION OF DIAZOANISOLE CHLORIDE UPON PHENOLES, AND THEIR SUBSTITUTION PRODUCTS.

BY JAMES H. STEBBINS, JR.

On the 29th day of Jan., 1879, Peter Griess filed a specification for the production of a red coloring matter, obtained by the action of diazoanisole chloride upon an alkaline solution of the beta sulpho acid of beta naphthole.

On Feb. 12, 1879, he filed another specification, for the production of a crimson dyestuff, formed by the action of diazoanisole chloride upon an alkaline solution of the disulpho acid of beta naphthole.

These two specifications, therefore, teach us that the diazo-ethers of phenoles can react upon phenoles, as well as the more ordinary diazo-compounds.

Since the dyestuffs produced in the above manner are but few in number, I thought it worth my while to complete, if possible, the series already so well begun.

For this purpose the following experiments were made :

Orcine-azo-benzole-di-soda salt.

12.3 grms. anisidine were dissolved in 17.9 grms. HCl. (1.20 sp. gr.), diluted with 200 cc. water.

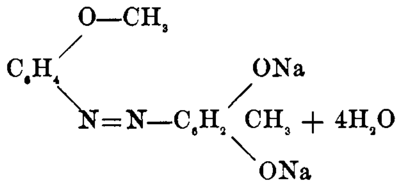
The solution thus obtained was diazotized with 6.9 grms. $NaNO_2$, in 100 cc. H_2O, and allowed to rest for about 1 hour.

It was then added, under constant stirring, to a solution composed of 12.4 grms. orcine, 200 cc. water ; 8 grms. NaOH, and 10 cc. NH_4OH and A q.

The orange colored precipitate thus formed was collected on a filter, washed repeatedly with cold water, to remove all NaCl, and finally dissolved in boiling water.

The solution on cooling deposits the soda salt, in the shape of little yellow-brown needles, having in reflected light a beetle-green color.

This body probably has the following formula :



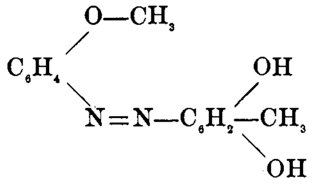
$$C_6H_4\left\langle\begin{array}{l}O{-}CH_3\\ N{=}N{-}C_6H_2\left\langle\begin{array}{l}ONa\\ CH_3\\ ONa\end{array}\right.\end{array}\right. + 4H_2O$$

I say probably, because the figures derived from several analyses do not agree with one another, or with theory.

The above substance is insoluble in cold, and sparingly soluble in boiling water, from which it crystallizes with four molecules of water of crystallization.

It is readily soluble in alcohol, but cannot be obtained therefrom in a crystalline state.

Orcine-azo-anisole.



$$C_6H_4\left\langle\begin{array}{l}O{-}CH_3\\ N{=}N{-}C_6H_2\left\langle\begin{array}{l}OH\\ {-}CH_3\\ OH\end{array}\right.\end{array}\right.$$

This substance was obtained from the soda salt, by dissolving the latter in H_2O, and adding strong HCl in excess.

A heavy brick red precipitate is thus formed, which when examined under the microscope, is found to be composed of very minute, hair fine orange-colored needles.

It was collected on a filter, washed with boiling water, till free from all HCl, and dried in the air bath at 120° C.

A combustion of the substance thus prepared, gave the following figures :

Found.

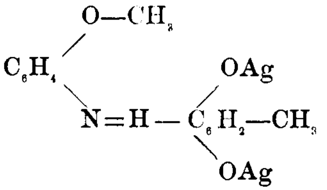
Carbon	65.95	per cent.
Hydrogen	6.16	"

Theory.

Carbon	65.11.	"
Hydrogen	52.4	"

When heated on platinum foil, it swells up, giving off yellow fumes, and leaving as residue a large amount of porous carbon.

Orcine-azo-anisole di silver salt.



This body was obtained from a hot aqueous solution of the soda salt, by adding $AgNO_3$ in excess. The blood red precipitate thus formed, was collected on a filter, and washed with boiling water, till free from all traces of $AgNO_3$, and finally dried at 110°C. It is insoluble in water, and but sparingly soluble in alcohol.

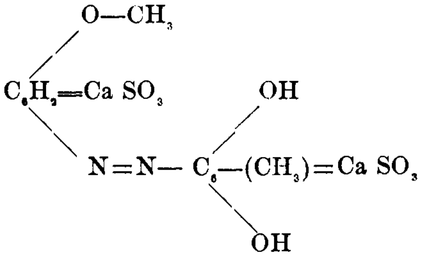
Owing to its properties of not crystallizing, it was impossible of obtaining a fair sample for analysis, and therefore the figures obtained are somewhat too high.

0.1047 grms. silver salt gave	0.0530 grs. Ag.
Equivalent to Ag.	50.62%

Theory.

Silver	45.76%

Orcine-azo-anisole-disulphonate of lime.



This interesting substance was obtained by heating 1 pt. of orcine-azo-anisole with 3 pts. of very strong fuming sulphuric acid, on the water bath for about 1 hour.

The beetle green melt thus obtained, was powdered into hot water, and neutralized with carbonate of lime. The $CaSO_4$ was collected on a filter, and the filtrate containing the lime salt, evaporated to dryness.

This salt is a yellow-brown, slightly crystalline powder, and is readily soluble in water with an orange color.

A calcium estimation gave the following figures :

Found.

Calcium..15.29%

Theory.

Calcium..16.06%

Furthermore a sulphur estimation gave :

Sulphur..13,71%

Theory.

Sulphur..12.85%

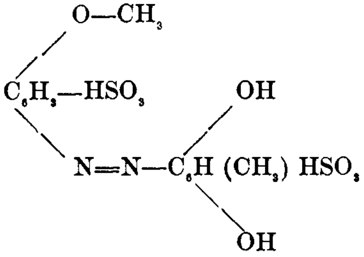
Reduction Products.

The above orcine-azo-anisole disulphonate of lime was dissolved in water, and boiled with an excess of stannous chloride, until the solution became nearly colorless.

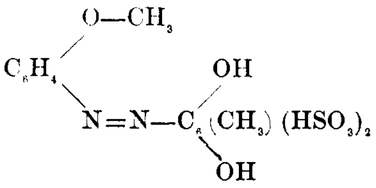
The tin was precipitated with caustic soda, and collected on a filter. The filtrate was then shaken up with ether, hoping thereby to take up the reduction products.

After the ether had been evaporated, a small amount of a white crystalline body remained behind, but no oil drops of anisidine were to be found.

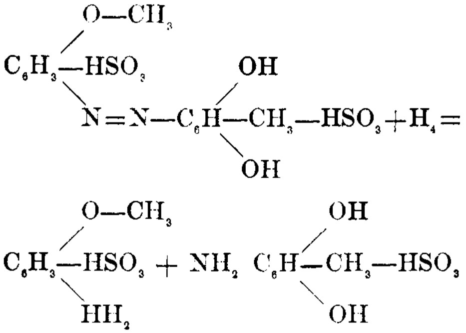
It may therefore be surmised that the original sulpho acid, has the following constitution :



In other words, that the sulpho groups are evenly distributed among the two benzole nuclei, instead of their both being contained in the benzole nucleus pertaining to the orcine ; thus :



This would therefore account for the absence of anisidine among the reduction products. As a compound of the foregoing constitution, would probably split up on reduction, into anisidine sulpho-acid, and amido orcine sulpho-acid ; thus :



As both there substances are sulpho-acids, they would probably not be precipitated by caustic soda, but, would combine with the latter to form soda salts.

ACROLEIN-UREA, WITH REMARKS UPON MR. HUGO SCHIFF'S PUBLICATIONS UPON CONDENSED UREAS.

By Albert R. Leeds.

I find that Mr. Hugo Schiff* attributes my statement (this Journal, iv. p. 58) that the body which he described as Acryldiureid.

$$\left.\begin{matrix} CO.\ N_2\ H_3 \\ CO.\ N_2\ H_3 \end{matrix}\right\}\ C_3\ H_4$$

(Ann. Chem. Pharm. 151, 203), is in reality Acrolein-urea, CO. $(NH)_2$ C_3 H_4, to the fact that I had not consulted his original

---

* Ber. dentsch. Chem. Gesell. xv. 1393.