

little of it, and leaves it quite white. By re-dissolving and again crystallizing, it is obtained in small brilliant radiating crystals.

Olivile is readily soluble in alcohol and in water, and crystallizes from either solution; it also dissolves, but in small quantity, in æther, and in the volatile and fixed oils.

Olivile possesses, like lithofellic and silvic acids and some other substances, the property of fusing at different temperatures when crystallized and when amorphous. When crystallized its fusing point is 248° F.; it assumes by this operation a resinous aspect, and neither gains nor loses in weight; on cooling it does not lose its transparency, and splits without re-assuming its crystalline structure; its melting point is then about 158° F. When it is dissolved in alcohol and re-crystallized, its original fusing point of 248° F. is again assumed.

Olivile may be either anhydrous, monohydrated, or bihydrated; the anhydrous is obtained by crystallizing it in anhydrous alcohol, or by fusing the olivile crystallized from water. Its composition is represented by $C^{28} H^{18} O^{10}$.

Olivile crystallized in water, and pressed between folds of filtering paper until it becomes pulverulent and dry to the touch, contains two equivalents of water; it then has the composition indicated by the formula $C^{28} H^{20} O^{12}$.

Olivile by indirect means may be combined with oxide of lead; the salt obtained is represented by an equivalent of anhydrous olivile and two equivalents of oxide of lead.

The composition of olivile, stated by M. Pelletier, does not agree with any of those above stated: he gave its composition atomically as $C^{12} H^9 O^3$, and the composition in 100 parts as—

Carbon	63.84
Hydrogen	8.06
Oxygen	28.10
	<hr/> 100.

No one of the three analyses above described agrees with this statement.—*Journ. de Pharm. et de Chem.*, Avril 1843.

ON SOME NEW COMBINATIONS OF CYANOGEN.

BY MONS. A. MEILLET.

The peculiar manner in which cyanogen acts towards iron, by forming two very stable acids with it, leads to the supposition that it is not the only metal with which cyanogen is capable of combining. In fact, some German chemists, and Gmelin among others, have discovered three new compounds, which are platino-cyanogen, cobalto-cyanogen, and chromo-cyanogen, and afterwards the hydrogenated acids analogous to ferro-hydrocyanic acid, and several other metallic salts. The processes employed were somewhat complicated, and they have not continued their experiments. The method which M. Meillet employed is, he says, simple, and there may be procured by it a great number of perfectly definite compounds; the author states, as this inquiry requires much time and care, he shall on the present occasion give merely the principal characters of these salts, reserving their analyses for a future opportunity.

Auro-cyanogen. Auro-cyanide of Potassium.—This salt is obtained by adding a perfectly neutral and saturated solution of chloride of gold to cyanide of potassium. On evaporation and on the cooling of the solution, the salt crystallizes in very white scales, of a pearly lustre; the chloride of potassium and the excess of cyanide of potassium remain in solution. This salt gilds much better than those now employed in the arts.

Platino-cyanogen. Platino-cyanide of Potassium.—Dœbereiner, who discovered this body, prepares it by heating to redness a mixture of equal parts of spongy platina and ferrocyanide of potassium. The residual mass is to be washed, and the undecomposed ferrocyanide is to be obtained first by crystallization, and afterwards the platino-cyanide remaining in the solution, crystallizes when that is concentrated. This process is a long one, and it is difficult to procure a pure salt. M. Meillet prepares it by adding concentrated chloride of platina to a saturated solution of cyanide of potassium; there is immediately formed a precipitate of chloride of platina and potassium mixed with cyanide; it is to be heated to ebullition, and then it redissolves with strong effervescence and disengagement of carbonate of ammonia. It may be supposed that, in this case, the cyanide of platina which is formed reacts like an acid on the atom of cyanate of potash (always contained in this cyanide of potassium), and sets free cyanic acid, which, by absorbing three atoms of water, is converted into bicarbonate of ammonia. Cyanic acid being C^2Az^2O , with three atoms of water H^6O^3 , there will be formed an atom of bicarbonate of ammonia, C^2O^4, Az^2H^6 .

After the complete solution of the precipitate, the platino-cyanide of potassium crystallizes in blue needles, which are variegated by reflected and yellow by transmitted light.

Cupro-cyanogen. Cuprocyanide of Potassium.—This is prepared by dissolving either cyanide of copper, or carbonate of copper with heat in cyanide of potassium and evaporation; on cooling the salt crystallizes in fine white needles. When, after having poured very concentrated hydrocyanic acid on hydrate of barytes, carbonate of copper is added, it dissolves with strong effervescence, and the liquor assumes a carmine-red tint of extraordinary intensity. On rapidly evaporating the solution, it is gradually decolorized, so perfectly indeed, that on treating the residue with cold water, cuprocyanide of barium is obtained entirely colourless; the cause of this colour was found to be derived from the formation of a considerable quantity of murexide or purpurate of ammonia; M. Meillet endeavoured, but unsuccessfully, to explain the reaction to which its formation was owing, seeing that this body contains a large quantity of hydrogen. Once or twice he found some rudiments of crystals spontaneously formed, which had the colour of cantharides wings, a tint which sufficiently characterizes it. This solution of cuprocyanide of barium, evaporated to dryness, moderately heated, and then treated with water, leaves a residue of carbonate of barytes. On adding a dilute acid, as the hydrochloric, to the cupro-hydrocyanate and purpurate of barytes, purpurate of copper is precipitated, hydrocyanic acid is evolved, and hydrochlorate of barytes only re-

mains in solution. This purpurate [of copper] is a powder of a fine deep violet colour. The red salt of barytes, treated with sulphate of soda, yields sulphate of barytes, and there remains a mixture of purpurate and hydrocyanate of soda, which separate very well by spontaneous evaporation. The purpurate collects on the edges of the capsule; it crystallizes like cauliflowers, and of a fine crimson colour unalterable in the air. The cuprocyanate of sodium remains at the bottom of the capsule in the form of small fine needles, which are also unalterable.

Argento-cyanogen. Argento-cyanide of Potassium.—This salt crystallizes in tables analogous to those of chlorate of potash; it is obtained by dissolving to saturation cyanide of silver in cyanide of potassium; the solution is to be filtered, evaporated, and crystallized.

Argento-hydrocyanic Acid.—This is prepared by dissolving cyanide of silver in cyanide of barium, and precipitating the barytes with sulphuric acid; it is a yellowish acid of considerable stability, possessing the smell of hydrocyanic acid; it is very weak, but still it combines very well with alkaline bases; it acts upon carbonates with greater difficulty.

Hydrargyro-cyanide of Potassium.—This salt is analogous to the preceding, and is prepared in the same manner; it is white, very soluble, and assumes the form of small granular crystals. Similar compounds may be formed with a great number of other salts, as those of cobalt, nickel and cadmium. These the author proposes to describe when he gives the analyses of those already mentioned.—*Journal de Pharm. et de Chimie*, Juin 1843.

METEOROLOGICAL OBSERVATIONS FOR JUNE 1843.

Chiswick.—June 1. Cloudy and fine. 2. Rain: dense clouds: boisterous, with rain at night. 3. Cloudy and fine: clear. 4. Very fine. 5. Fine: heavy showers: clear. 6. Showery. 7. Fine: rain. 8. Cloudy: showery: boisterous, with heavy rain at night. 9. Cloudy and windy: boisterous, with showers and bright sunshine at intervals. 10. Fine: rain. 11. Cloudy and fine. 12. Hazy clouds: rain. 13. Heavy rain. 14. Foggy: cloudy: foggy at night. 15. Hazy: fine. 16—18. Very fine. 19. Overcast. 20. Cloudy. 21, 22. Very fine. 23. Cloudless, with bright sun. 24. Slight haze: fine. 25. Densely overcast. 26. Very fine. 27. Sultry, with hot dry air. 28. Cloudy and fine. 29, 30. Overcast and fine.—Mean temperature of the month about 4° below the average.

Boston.—June 1. Cloudy: rain early A.M. 2, 3. Cloudy: rain P.M. 4. Fine: rain P.M. 5, 6. Fine. 7. Cloudy. 8, 9. Windy: rain early A.M. 10. Windy. 11. Cloudy: rain P.M. 12. Windy. 13. Windy: rain P.M. 14, 15. Fine. 16. Fire: curious halo round the sun 2 to 4 P.M. 17, 18. Cloudy. 19, 20. Windy. 21—23. Fine. 24—28. Cloudy. 29. Windy. 30. Cloudy.

Sandwich Manse, Orkney.—June 1. Bright: damp. 2. Cloudy: drizzle. 3. Rain: showers. 4. Cloudy. 5. Bright: clear. 6. Bright: cloudy. 7. Cloudy: clear. 8. Rain: clear. 9. Damp: drizzle. 10. Showers. 11. Showers: damp. 12. Bright: cloudy. 13. Cloudy: fine. 14. Fine. 15—17. Fine: warm. 18—20. Cloudy. 21. Showers: cloudy. 22. Clear: cloudy. 23. Cloudy: drizzle. 24. Bright: fine. 25. Bright: clear. 26. Bright: cloudy. 27, 28. Cloudy. 29. Drops: showers. 30. Cloudy: damp.

Appletharh Manse, Dumfries-shire.—June 1. Wet all day. 2. Slight showers: warm. 3. Wet nearly all day. 4. Fair and cold. 5. Rain all day. 6. Fair, but cloudy. 7. Rain: thunder. 8. Rain. 9. Showers. 10. Dry and windy. 11—23. Fair and clear. 24. Fair and clear: thunder. 25—28. Fair and clear. 29, 30. Fair and clear: cloudy.