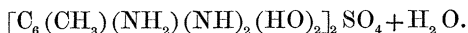


	Theory.	I.	II.	Mean.
$(C_7H_{12}N_3O_3)_2 = 372$	79.49	..	..	..
$SO_4 = 96$	20.51	20.65	20.72	20.69
468	100.00			

The formula of this salt would therefore appear to be



*Amido-diimido-orcin nitrate* is prepared, like the sulphate, by adding a slight excess of nitric acid to a moderately strong solution of the acetate and washing the precipitate with alcohol. It closely resembles the sulphate in appearance, but is much more soluble in water. When heated with excess of nitric acid it is decomposed, yielding a yellow solution, which, on being evaporated, leaves a mixture of oxalic acid and an amorphous yellow substance.

*Amido-diimido-orcin acetate*.—Amido-diimido-orcin dissolves readily in acetic acid; and on carefully evaporating the solution at a low temperature, the acetate is obtained in ill-defined crystalline plates having a purple iridescence. It is readily soluble in cold water, but only slightly soluble in glacial acetic acid.

*Amido-diimido-orcin oxalate*.—Very slightly soluble purple scales obtained by precipitating a solution of the acetate with oxalic acid.

*Amido-diimido-orcin picrate*.—On adding a solution of picric acid to a dilute solution of amido-diimido-orcin acetate and washing the precipitate with alcohol, the picrate is obtained in iridescent green needles and plates. It is insoluble in alcohol, and but slightly soluble in water.

I cannot conclude this paper without acknowledging the very efficient aid I have received from my assistant, Mr. Charles Edward Groves, in conducting this investigation.

## II. "Note on the Wide-slit Method of viewing the Solar Prominences." By WILLIAM HUGGINS, D.C.L., LL.D., F.R.S. Received November 21, 1872.

When editing the English translation of Schellen's 'Spectrum Analysis,' I discovered that the short account of the method of viewing the forms of the solar prominences by means of a wide slit, which I had the honour of presenting to the Royal Society on February 16, 1869\*, does not agree exactly in one respect with the account of the observation of February 13 as it was entered at the time in my observatory book. The short note was written at the suggestion of a friend during a Committee held in the Royal Society's Apartments, and, as the concluding words show, was intended to be followed by a more detailed account of the method of observation. The point in question relates to the position of a second slit which was used to screen the eye from every part of the

\* Proc. Roy. Soc. vol. xvii. p. 302.

spectrum except that under observation. The words in my book written at the time are, "narrow slit found to be best at focus of little telescope with positive eyepiece." In the note the second slit was stated to have been placed before the object-glass of the little telescope. Such an arrangement was tried in connexion with some other experiments in progress at the time. The plan of limiting the field of view to the part of the spectrum corresponding to the refrangibility of the light of the prominence, as well as the employment of a ruby glass, is of value when the air is not favourable, or when a spectroscope of small dispersive power is used.

III. "On the Fossil Mammals of Australia.—Part VIII. Family MACROPODIDÆ: Genera *Macropus*, *Osphranter*, *Phascolagus*, *Sthenurus*, and *Protemnodon*." By Professor OWEN, F.R.S. &c. Received November 11, 1872.

(Abstract.)

In the present Part of the series of papers on the Fossil Mammals of Australia, the author enters upon the description and determination of the fossils referable to the family of Kangaroos (Macropodidæ), restricting, however, the latter term to the species in which the molar teeth have two transverse ridges for the chief character of their grinding-surface, and excluding the Potoroos (Hypsiprymniidæ), in which the working-surface of the molars is formed by four tubercles in two transverse pairs.

The large extinct species of Kangaroo indicated under the names *Macropus Titan*, *M. Atlas*, and *M. Anak* in former publications ('Mitchell's Three Expeditions into the Interior of Eastern Australia,' 2 vols. 8vo, 1838, Palæontological Appendix, vol. ii. p. 59, pls. 24–32; also 'Proceedings of the Geological Society of London,' vol. xv. p. 185, 1858) here receive further elucidation of their specific distinction from any known living Kangaroos and of the grounds (according to the value assigned thereto by present zoologists) for referring two of these (*M. Atlas* and *M. Anak*) to distinct subgenera of Macropodidæ.

As the extinct Kangaroos which the present paper defines are chiefly represented by fossil jaws and teeth, some remarks on the dentition of existing Kangaroos, with requisite illustrations, are premised, and the parts of the complex molars are defined.

The author then enters on the elucidation, aided by the facts premised, of *Macropus Titan*, *M. affinis*, *Osphranter Cooperi*, *O. Gouldii*, *Phascolagus altus*, *Sthenurus Atlas*, *S. Brehus*, *Protemnodon Anak*, *P. Og*, *P. Mimas*, and *P. Ræchus*.

The maxillary, mandibular, and dental characters of these extinct species are illustrated by the subjects of eight Plates.