

ish substance has been obtained which on analysis shows the formula $\text{Pr}_2\text{O}_4 \cdot \text{H}_2\text{O}$. This tetroxide is insoluble in water, but readily decomposed by acids, giving the normal salts of praseodymium.

On the Simplicity of Praseodymium: CHARLES BASKERVILLE and G. M. MACNIDER.

Unsuccessful efforts were made to fraction praseodymium by fractional precipitation at different temperatures with oxalic acid, fusion with sodium dioxide, fractional solution of the dioxide and tetroxide in hydrochloric acid. The fractionation was followed by an examination of solutions of uniform strength, acidity and amount by means of a Zeiss comparison spectrometer.

Artificial Willemite: CHARLES BASKERVILLE and A. BOURGOGNON.

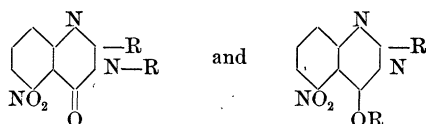
Artificial zinc ortho-silicate made of pure material neither fluoresces nor phosphoresces under the influence of the ultra-violet light. On the introduction of small amounts of manganese, bismuth and thorium various results were obtained. All of these bodies are phosphorescent; only that one containing the manganese is fluorescent.

The Production of Boron Carbide from Boric Oxide in the Electric Furnace: H. J. BLISS and S. A. TUCKER.

The extreme hardness of this substance might give it certain uses as an abrasive. The authors showed that it could be prepared directly from boric acid and coke in large quantities, whereas hitherto boron has been used for the preparation. The existence of Muphauser's BC was shown to be extremely doubtful and is probably a mixture of graphite and B_6C .

Isomeric Ethers in the Quinazoline Group: H. A. SEIL and M. T. BOGERT.

The isomerism in this group depends on the migration of an imide hydrogen in the ortho position to a ketonic oxygen. The isomers are



The first was prepared by the action of NH_2R

on the 6-nitro-acyl-anthranil. The second by heating the alkyl-hydrogen-quinazoline with potassium hydroxide and alkyl iodide in a bomb tube to 150°C . Both are crystalline solids soluble in hot alcohol. The ether melts at ten degrees lower than its isomeric quinazoline.

Acyl Derivatives of 4 Amino-methyl-phthalate: R. R. RENSHAW and M. T. BOGERT.

4 Amino-methyl-phthalate is readily obtained by the reduction of 4-nitro-methyl-phthalate. It crystallizes from alcohol and benzene in glistening plates. Acyl derivatives of this were prepared with mono and dibasic fatty acids, aromatic acids and substituted carbonic acids. These substances are well-defined, crystalline bodies, soluble in most organic solvents, nearly insoluble in water, ligrome and petroleum ethers.

The following officers were then elected for the year 1905-1906:

President—F. D. Dodge.

Vice-President—A. A. Breneman.

Secretary-Treasurer—F. H. Pough.

Executive Committee—Wm. J. Schieffelin, H. C. Sherman, Charles Baskerville and G. C. Stone.

F. H. POUGH,
Secretary.

DISCUSSION AND CORRESPONDENCE.

ON THE SPELLING OF 'CLON.'

It is over two years¹ since Mr. H. J. Webber first proposed the word *clon* as the designation of horticultural groups of plants which are propagated exclusively by vegetative means. During this period of probation, as it were, the need for such a word has been amply demonstrated, and its formal adoption by the Association of Agricultural Colleges and Experiment Stations has placed it within the cognizance of lexicographers. No other word apparently exists which can properly be extended in meaning to cover the idea expressed by *clon*; and the purpose of the present writer is merely to suggest an improvement in orthography which seems to be demanded by both phonetic and philological considerations. One of the few definite indications of quantity in

¹ SCIENCE, N. S., 18: 501-503, 1903.

English words is found in the final *e*, which always denotes the long sound of the preceding vowel, as in *tone*, *bite*, *hate*, etc. It is true that recent writers on botany have frequently attempted to simplify the spelling of technical terms to the detriment of phonetic principles, and so we have such forms as *mestom*, *plerom*, *hadrom*, etc., which must be admitted to our dictionaries as variants of the infinitely preferable *mestome*, *plerome*, *hadrome*, still employed by careful writers. The fact that there are two Greek words *κλών* and *κλώνος* (the latter giving us the English adjective *clonic*) merely emphasizes the importance of properly indicating the long *o* in English derivatives of *κλών*. I therefore suggest *clone* (plural *clones*) as the correct form of the word to be adopted in dictionaries, lexicons and general writings. It is to be hoped that the 'shackles of philology' to which Mr. Webber so feelingly refers will not prevent him from accepting this suggestion in the friendly spirit in which it is offered.

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SPECIAL ARTICLES.

PRELIMINARY NOTE ON THE ARAUCARINEÆ.

IN my paper on the megaspore-membrane of the Gymnosperms¹ a footnote refers to the occurrence of supernumerary nuclei in the pollen-tube of *Agathis*. Recently I have found that the number of nuclei in the pollen-tube of *Araucaria* may be even greater than that observed in the former genus, being over thirty in number in one instance at least. The supernumerary nuclei are placed fore and aft of the generative group in a parietal stratum of protoplasm not unlike that of the megaspore. Again the behavior of the pollen-tube in *Araucaria* is peculiar. The pollen-grains do not fall into the micropyle but are found at the distal end of the ligule more or less entangled in its serrated edge. From this point the tubes pass in grooves on the surface of the ligule or

¹'The Megaspore-Membrane of the Gymnosperms,' by R. B. Thomson. University of Toronto Studies, Biological Series, No. 4, pp. 85-146, Pls. I-V. 1905.

the scale, a distance of an inch or more, to the micropyle, which they enter and after penetrating the long beak of the nucellus arrive at the archegonia. This method of pollination and growth of the pollen-tube is unique among the Gymnosperms so far as is known and its bearing on the problems of fertilization important—notably on what may for convenience be termed the 'free-growth' theory of chalazogamy.

The double nature of the integument is very apparent in young ovules of *Agathis*, as Strasburger² long ago observed. The micropyle in some cases at least extends almost to the base of the nucellus on its upper surface, though usually not so far on the lower, in the form of V-shaped slits.

The archegonia are peculiar in structure arrangement and development. Their study is throwing new light on the character and relationship of these organs in the subgroups of the Conifers.

The vascular supply to the ovules worked out by series of celloidin sections is found to be different from the descriptions already given of it and promises very material aid in settling the vexed question of the primitive or specialized nature of the subgroup under consideration.

These features and other chiefly anatomical ones, added to the peculiarities presented by the megaspore-membrane and the tapetum, as described in the paper to which reference has been made above, place the Araucarineæ in a very isolated position among the subgroups of the Coniferae. The forthcoming monograph, it is hoped, will make this clear and aid materially in the establishment of the phylogenetic position of the Araucarineæ.

ROBERT BOYD THOMSON.

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June 20, 1905.

THE DEATH (?) OF AN AMOEBA.

WHILE watching some amœbæ on February 8 I observed one which was behaving in a singular manner. Instead of progressing in

²Strasburger, E., 'Die Angiospermen und die Gymnospermen,' p. 91, 1879.