the continuous spectrum was extremely feeble, so as to bring out sufficient contrast of the line against the background; and also to the excellent focusing of the apparatus, which had been attained by using a long and slender neon discharge tube of circular shape with a considerable diameter set at a distance of about 200 metres for focus adjustment and also for rehearsing.

A full account of the work will be given in a paper which is now in preparation to be published shortly.

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THE unusual brightness of the corona at the 1936 total eclipse—it was easily seen several seconds before totality began—has given Prof. Sekiguti and his colleagues the chance of obtaining some new lines in the emission spectrum of the corona. Confirming Prof. Tanaka, he restores the line at 4725 A., previously rejected as being insufficiently supported, to the list, and points out that this line and several other lines are close to, if not identical with, certain lines in the spectra of nebulæ and novæ. His new spectral lines strengthen the link between the coronal and nova spectra based previously solely on the presence of the stronger coronal lines in the spectrum of *RS* Ophiuchi a few weeks after its outburst in 1933.

If Prof. Sekiguti's identification of the two weak arcs in the objective prism spectrograms is accepted, then we have evidence for the first time of a known element in the corona, namely, nitrogen, for the lines 6548, 6584, which Prof. Sekiguti classes together, are forbidden lines in the spectrum of N II. New emission lines in the spectrum of the corona have been reported as secured by Dr. Dunham at the eclipse of last June. Their wave-lengths will be awaited with interest. Before long the last important celestial spectrum of unknown origin may have been identified.

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Phosphorus Exchange in Yeast

THE individual phosphorus atoms present in the leaves of plants have been found[1] for the most part to exchange with great ease within a short time. We extended our experiments to the behaviour of phosphorus atoms present in yeast.

Yeast was grown in a culture solution which, after the lapse of some days, was replaced by a similar solution containing 8·7 mgm. of labelled phosphorus per 100 c.c., besides the usual amount of salts and in some cases ten per cent sugar, in others none. The radioactivity of the labelled sodium phosphate was such that 1 mgm. P corresponded to 1000 activity units. After the yeast had grown for twenty-four hours in the solution containing labelled phosphorus, it was removed, washed carefully and digested by treatment with sulphuric acid and nitric acid. The phosphorus content of the solution of the yeast was determined both by radioactive measurements and by the usual chemical (colorimetric) analysis.

The results of both determinations for the last set of a long series of experiments are given in the accompanying table. As seen from the later the same figure for the uptake of phosphorus was obtained by the chemical and by the radioactive analysis. We can conclude from this coincidence that no exchange of phosphorus atoms takes place between the yeast and the culture solution. Had such an exchange taken place we would have higher values by the radioactive than by the chemical analysis.

The lack of exchangeability of the phosphorus atoms present in yeast could be interpreted on the assumption that yeast contains little or no readily exchangeable phosphate ions but only phosphorus compounds like hexosephosphates, adenylphosphoric acid and so on in which the phosphorus atoms are not or are only slowly exchangeable with the inorganic phosphate ions.

An alternative explanation would be that yeast cells are impermeable to phosphate ions except when growing.

Yeast grown	Dry weight of yeast (mgm.)	Total P found by chemical analysis (mgm.)	Total P per mgm. dry weight of yeast	Mgm. P taken up	
				chem. analysis	radio-active analysis
Initial weight and P content of yeast samples used	108·6 108·0 108·4	1·375 1·384 1·361	0·0127 0·0128 0·0126		
In labelled P with sugar at 25°	249·8 260·2 252·3	3·414 3·407 3·390	0·0137 0·0131 0·0134	2·046 2·034 2·017	1·966 1·987 2·095
In labelled P with sugar at 0°	101·4 103·1 101·5	1·295 1·309 1·320	0·0128 0·0127 0·0130		0·004 0·012 0·012
In labelled P without sugar at 20°	89·2 88·1	1·369 1·345	0·0153 0·0153		0·044 0·054

The radium-beryllium mixture was most kindly put to our disposal by Prof. Niels Bohr; we should also like to express our thanks to Mr. V. Hartelius, Mr. H. Lanz and Miss Hilde Levi for their assistance in this work.

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Glycerophosphoric Dehydrogenase

THE question whether the dehydrogenation of α-glycerophosphoric acid by animal tissues depends upon the catalytic action of coenzyme I (diphosphopyridine-nucleotide) has recently been the subject of controversy[1–4]. The extraction of a very powerful α-glycerophosphoric dehydrogenase preparation from horse brain by a modification of Green's method[1] has offered an opportunity of contributing a few observations.

The enzyme is prepared in the following way: minced horse brain is incubated with two volumes of *M*/20 bicarbonate at 37·5° for 20 minutes. The extract is centrifuged off, care being taken that only the red supernatant layer is decanted, and the