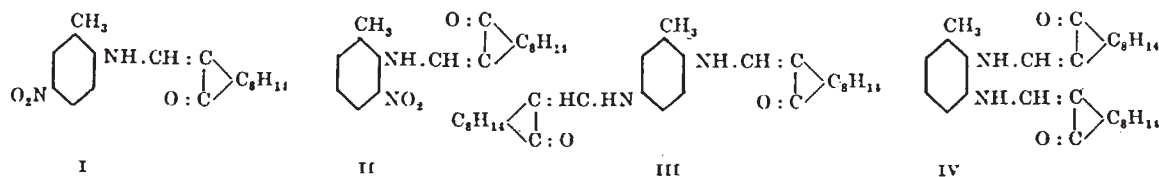


observed by different observers independently, and almost invariably the order of the intensity of odour as noticed by them was $l > dl > d$ in the four series of isomers. These results are summarized in the table above.



The colour and odour of 3-nitro-*o*-toluidinomethylene-*dl*-camphor resemble those of saffron; the odours of the optically active isomers of this substance as well as of the remaining compounds in the table above have not been identified with that of any known substance. The odours are, however, pleasant.

The position of the nitro group in the nitro-*o*-toluidinomethylencamphors has a marked effect on the intensity of their odours: the odours of these compounds, which are dyes with the nitro-group in the 3-position, are more intense than those of the corresponding forms with the nitro-group in the 5-position.

Several hypotheses have been put forward to account for the different physiological activities of the optically active compounds. Pasteur⁵ explained such differences in action by supposing that the nerve-substances and the tissue-substances of the animals are themselves asymmetric. They therefore

react differently towards the right and left-handed forms of physiologically active isomerides.

Porter⁶ was able to effect separation of racemic dyestuffs into their optically active components by differential adsorption of one of the isomers by wool.

King⁷, arguing from these observations, attributed the difference in the physiological action of optically active forms to physical rather than chemical causes.

A fuller account of this work will appear elsewhere.

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Sept. 24.

¹ Piatti, *C.R. Soc. biol.*, 103, 137 (1886).

² Cushny, "Biological Relations of Optically Isomeric Substances", 39 (London: Baillière, Tindall and Cox, 1926).

³ Demole, *Biochem. J.*, 23, 770 (1934).

⁴ Braun, *Ber.*, 56 (B), 2263 (1923); *Ber.*, 53, 2210 (1925); *Ber.*, 63 (B), 2433 (1927).

⁵ Pasteur, *C.R. Acad. Sci.*, 103, 138 (1836).

⁶ Porter and Ihrig, *J. Amer. Chem. Soc.*, 45, 1990 (1923).

⁷ King, *J. Chem. Soc.*, 125, 46 (1924).

Points from Foregoing Letters

R. Snow has extracted from leaves of pea plants soaked in ether a water-soluble substance which inhibits the growth of oat coleoptiles.

By comparing the evolution of carbon dioxide from the root systems of nodulated and nodule-free, nitrate-fed soya bean plants growing in water culture, G. Bond concludes that the amount of carbon dioxide produced by the nodules of a plant of the former type was slightly greater than that from the roots alone. If, as other workers have concluded, the respiration of nodules is partly anaerobic in nature, then it is possible that in these water-culture plants the amount of carbohydrate utilized in nodule (presumably chiefly bacterial) respiration exceeded appreciably that used by the roots themselves.

A. F. Parker-Rhodes describes experiments from which it appears that some degree of acquired resistance can be demonstrated in wheat plants against two of the Puccinia rusts. This acquired resistance shows itself in an enhancement and a delay of the course of decay of cut leaves infected with the rusts, cured of their infection, and reinoculated, as compared with suitable controls. The magnitude of the effect is, however, small.

L. C. Luckwill observes that in a series of pure lines and *F*₁ hybrids of *Lycopersicon* correlation between seed weight and plant weight had disappeared by the 29th day, but points out that this lack of correlation was not due, as Ashby had suggested, to trans-plantation, because this did not take place until the 47th day.

Jane Meiklejohn describes a strain of *Pseudomonas aeruginosa* which forms less pyocyanin in daylight than in the dark. Light also accelerates the oxidation of pyocyanin to a red-brown pigment.

Small doses of vitamin A which are adequate to keep rats free from pathological change at early stages of the deficiency are not sufficient for this purpose as they grow older. It is inferred by J. T. Irving and M. B. Richards that the requirement of vitamin A increases with age.

The evidence, based upon certain abnormal pressure changes observed in the initial stages at low temperatures, that the thermal decomposition of acetone is a chain reaction is called in question by J. G. Davoud and C. N. Hinshelwood. Fresh evidence indicates that the effects are of a secondary nature.

A. Schönberg and A. F. A. Ismail describe a colour reaction between maleic anhydride and triphenylphosphine. The same effect is observed with monobut not with di-substituted derivatives of maleic anhydride. The phenomenon is shown by *p*-benzoquinone and those of its derivatives in which not all the hydrogen atoms are substituted.

The intensity of odour of the optically active forms of several new derivatives of amino- and bisaminomethylencamphors has been examined by Bawa Kartar Singh and Awadh Behari Lal. They find in each series that the *lavo* form has the most intense odour, followed by the racemic and dextro forms, in that order.