

results obtained so far, as shown in the following tabular statement, it is evident that the proportion of the FeO oxidised to Fe_2O_3 in amphiboles is decidedly and considerably higher than in the pyroxenes of similar composition.

In the table above, in all the samples, only the FeO and MgO values are given, as these are the important constituents besides SiO_2 . But sample No. 8 contains also 12.76 per cent. CaO and 10.15 per cent. Al_2O_3 , and No. 10, 15.07 per cent. Fe_2O_3 and 6.90 per cent. Na_2O .

The degree of this oxidation may be modified to some extent by the other oxides present in the mineral like MgO, CaO, etc. The presence of a high proportion of MgO lowers the degree of oxidation as may be seen by comparing the analytical results of amphiboles, Nos. 1, 3, 7 and 9; and of pyroxenes, Nos. 2, 4, 5, 6 and 11. In pyroxene No. 4, where the proportion of MgO to FeO is high, the oxidation is very little. But, in amphiboles, Nos. 8 and 10, though the proportion of MgO to FeO is high, yet the degree of oxidation is large. This may be due to the influence of considerable amounts of Al_2O_3 and CaO present in No. 8, and of Na_2O and Fe_2O_3 present in No. 10. The fusions, in all cases, were carried out at about the same temperature, for the same period of time and using powders of about the same fineness.

The relative difference between the amphiboles and pyroxenes in the degree of oxidation of their FeO seems to be dependent upon their crystal structure. Further investigations are in progress and the results will be published in detail elsewhere.

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THE IODINE CONTENT OF THE THYROID GLANDS OF SOUTH INDIAN ANIMALS

DURING the course of our investigations (1941-1942) on the preparation of thyroid extracts, under the auspices of the Board of Scientific and Industrial Research, the remarkable observation was made that the desiccated thyroid prepared from the local animals was much higher in iodine content than the continental specimens. These observations, which were published as a brief note in the *Review of the Technical Work of the Board of Scientific and Industrial Research*,¹ have now been independently confirmed by Dr. Mukerji,² of the Biochemical Standardisation Laboratory, who has found that the thyroxine iodine contents of desiccated samples prepared in India are, as a rule, higher than those of foreign specimens.

The values that we obtained for the Total and Thyroxine Iodine contents of desiccated thyroids of cattle, sheep and pig, analysed by standard methods,³ are given in the following table (No. I), the experiments being carried out with South Indian animals exclusively:—

TABLE I
Chemical Assay of Desiccated Thyroid
(Per cent. by weight of desiccated gland)

	Total Iodine	Thyroxine Iodine
Beef thyroid .	0.91	0.35
Sheep thyroid ..	0.66	0.26
Pig thyroid ..	0.84	0.39

The average weights of the thyroid as well as of other glands like adrenal and pituitary of Indian animals are definitely smaller than those of the corresponding glands of European and American animals. In the case of the thyroid glands, however, the total iodine content is considerably higher, amounting to as much as 0.91 per cent. for beef glands. Kendall, who first isolated thyroxine in a pure and crystalline condition, worked with desiccated hog glands, the total iodine content of which was as low as 0.21-0.34 per cent.⁴ and Harington made use of desiccated thyroid having an iodine content of 0.5 per cent.⁵ for his classical researches on the isolation and study of the chemistry of thyroxine. It is also a well-known fact that several specimens of American thyroid are so low in iodine, that they cannot conform to the B.P. standard, which insists on having a thyroxine iodine content of 0.1 per cent.

It is generally agreed that the amount of iodine in the thyroid gland is dependent on the iodine content of the diet. The high iodine content of the thyroids of the South Indian animals must, therefore, be attributed to the high level of iodine in drinking water and in the vegetable kingdom here. It is also in conformity with the striking fact that endemic goitrous regions are practically unknown in South India.

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1. *Curr. Sci.*, 1942, **11**, 171. 2. Mukerji, *Curr. Sci.*, 1943, **12**, 256. 3. *British Pharmacopoeia*, 1932 and *Addendum*, 1936. 4. Kendall, *Thyroxine*, 1929. 5. Harington, *The Thyroid Gland*, 1933.

CHEMICAL INVESTIGATION OF SEED OIL OF MORINGA CONCANENSIS

Moringa concanensis (Gujarati: "Kadavo Sargavo") is a medium type of tree glabrous except the young parts and the inflorescence and grows almost everywhere in Gujarat. The tree bears fruits in the form of capsules which are straight, acutely constricted between the seeds on an average 1 to 1½ ft. long. Each capsule contains several seeds. These seeds are white or pale yellow.¹ These seeds on