substance had been found in certain marine productions; and it struck the author that burnt sponge (a well-known remedy for goitre) might owe its properties to the presence of Iodine, and this was his motive for making the trial. He lost sight of the case in which the remedy was employed, before any visible alteration was made in the state of disease; but not before some of the most striking effects of the remedy were observed. The above employment of the compounds of Iodine in medicine was at the time made no secret; and so early as 1819, the remedy was adopted in St. Thomas's Hospital, by Dr. Elliotson, at the author's suggestion.

The above quotation is taken from "Chemistry, Meteorology and the Function of Digestion," by William Prout, M.D., F.R.S. The book ran through three editions, the first of which appeared in 1834. Prout himself is best known for his intriguing hypothesis about the constitution of matter, but devoted most of his energy to medical practice and made several important contributions to the use of chemistry in medicine. John Elliotson, F.R.S., referred to in the above quotation, was "without doubt foremost among the eminent physicians of the day."[2]

Thus, the use of iodine in the treatment of goiter was known to at least two "eminent physicians." The speculations now in order are legion.

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GENETICS, SULFHYDRYL AND CANCER

THE discovery that the –SH group is a naturally occurring chemical stimulus to cell increase in number[1] produced the suggestion that ". . . the potentiality for malignancy lies in the hereditary determination of lines of cells retaining the embryonic characteristic of a heightened sensitivity to . . . sulfhydryl. . . ."[2]

A critical point in this idea—which was not advanced as dogma but as a base from which exploration could be made—was the unproved concept that deviations in reactivity to or production of such an ubiquitous and environmentally sensitive chemical group as the sulfhydryl should be subject to or even determined by genetic factors.

Recently evidence has come from other laboratories than ours that genetic constitution does play a part in sulfhydryl matters. Thus Gregory and Goss[3] find positive correlation between potential racial size (which Painter[4] has shown to be correlated with rate of cell division) and glutathione (–SH) concentration in newborn Flemish and Polish rabbits and their hybrids. From their results they state "the data at hand indicate that a genetic constitution for a given adult size maintains a certain glutathione level which in turn regulates the rate of cell proliferation and growth by increase in cell number."

More recently Martin and Gardner[5] report results which indicate liberation of cysteine (–SH) from glutathione is also conditioned by genetic factors. Thus in the hairless rat neither cystine nor glutathione (R–S. S–R) as such produce reaction, while "Cysteine through the sulfhydryl group acts as a stimulant to the hair follicle, bringing about a trichogenic action in hereditary hypotrichosis of the rat."

Though in geometry "two things which are equal to the same thing are equal to each other," the same does not necessarily hold in biology. The mere fact that heredity plays a part in cancer potentiality, that cell proliferation is a large factor in malignant growth, that cell proliferation is enhanced by sulfhydryl, and that this may be genetically determined, may or may not mean anything with respect to the suggestion that inherited disturbance in productivity of or sensitivity of sulfhydryl may be a significant factor in malignancy.

Perhaps these correlations are not functional—but their appearance is provocative.

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SCIENTIFIC BOOKS

ATOMIC SPECTRA

The Theory of Atomic Spectra. By E. U. CONDON and G. H. SHORTLEY. Cambridge University Press, pp. 431, 1935.

A VERY useful summary of most of the calculations available at present on the theory of spectra. The subject is clearly and logically presented. The mathematical tools used are as elementary as possible and the book should be therefore readily assimilated by a large circle of readers. Its main strength lies in a complete and careful compendium of most of the available results of calculations of energy matrices in various types of coupling. These are presented in Chapter XI for intermediate coupling, while in Chapter XII the transformations to various cases of pure coupling are thoroughly discussed. Chapter XIII is especially devoted to configurations containing almost closed shells and discusses the subject very thoroughly.

2 Dictionary of National Biography, Vol. XVII, p. 265.
1 *Protoplasma*, 7: 297, 1929.
2 *Archives Pathol.*, 8: 575, 1929.
3 *Jour. Exp. Zool.*, 66: 155, 1933.
4 *Jour. Exp. Zool.*, 50: 441, 1928.
5 *Jour. Biol. Chem.*, 111: 193, 1935.