

We sought to verify this observation by asking a young Englishman, a graduate of Cambridge and the author of several books of verse, to read the same poem twice, at an interval of about one hour. In order to see whether the characteristic might be individual to the poem, we asked a young woman from Oregon and a young man from Louisiana to read very different poems into our recording apparatus. When we were through we had phonelescopie pitch-records of samples of verse from three centuries, which had been read by competent people as far removed as England and Oregon. In all these cases the greatest difference observed in the pitches of any pair of rimed words was 17 d.v.s. (which, in that register, represented about one half tone), and the average difference was 5 d.v.s., or about 2.5 per cent. It was also noticed that pitch-patterns of riming words tend to be similar and that the riming vowel tends to be pronounced on or near a sub-multiple of the characteristic frequency of that vowel.

This characteristic of the melody of verse is now being investigated more fully in the Iowa laboratories. If the results reported in this note are corroborated they may contain a key to the little understood problem of poetic melody.

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#### EFFECT OF CORTIN ON INTRA-OCULAR TENSION IN GLAUCOMA

I HAVE found that the heightened intra-ocular tension of simple glaucoma responds with startling promptness to the administration of the adrenal cortex hormone, cortin. In cases which are uncomplicated by degenerative changes of the ocular tissues, even though of long standing, drops of pressure from levels as high as 50 mm of mercury (Schiotz) to normal level have been noted in the period of half an hour, after injection of cortin. Parallel to this drop in tension, there occurs a rise in visual acuity, often to normal level, and relief from the sense of tension and pain.

These findings throw a new light on the mechanism of the rapid changes of intra-ocular tension in glaucoma, and enables a better comprehension of the puzzling features of the symptomatology of the disease. For the work of Swingle, Piffner and others has shown that deficiency of cortin results in increased permeability of the capillaries and vessels to the water and mineral content of the plasma. Rapid increase in secretion of fluid into a densely encapsulated organ such as the eye would result in a rapid rise of the tension. In the same manner can be explained the response to

cortin therapy of deafness associated with increased intra-ocular tension and Meniere's syndrome.

Response of progressive myopia to cortin therapy leads to the hypothesis that the mechanism of this disorder is similar to that of glaucoma, a disturbance of the water-salt metabolism. The difference in the end-result is explainable in terms of elasticity of the tissues of the eye; the more elastic sclera of the younger eye yielding and stretching into the myopic state, and the less elastic sclera of the older eye forcing a giving-way and compression of the less dense tissues of the parenchyma of the eye, optic nerve disk and ciliary body.

This hypothesis on the nature of myopia is borne out by the finding of a group of cases of progressive myopia in school children which present the symptomatology of glaucoma—headaches, halo formation, cupping of the optic disk and slightly heightened tension. These cases show other signs of endocrine imbalance; in the females among whom the incidence is higher, there are disorders of menstruation. A large mass of data points to correlation of disorders of puberty and sex development and the development of myopia. Evidence at hand indicates the whole series of disorders are fundamentally in the nature of a profound alteration of the water-salt metabolism, and it leads to the belief that sex development may be basically an alteration in the water-salt metabolism or conditioned by it. The administration of cortin to these cases has effected a reduction or arrest of the myopic process and an amelioration of associated symptomatology.

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#### THE NEW ACTIVE PRINCIPLE OF ERGOT

A RECENT exchange of communications between Dr. Ralph G. Smith, of the University of Michigan, and myself necessitates the correction of an error which appeared in my discussion of this subject in the issue of *SCIENCE* for June 28. The error has to do with the optical activity of my ergostetrine and the ergotocin of Kharasch and Legault. Instead of claiming that ergotocin (free base) is dextro-rotatory, Kharasch and Legault's claim is that ergotocin *salts* are dextro-rotatory. They did not, as I stated, give the optical activity of the free base. This removes the difference in our observations on this point, since the common salts of my ergostetrine are also dextro-rotatory and, as I stated in my discussion, ergostetrine base and ergotocin base were found to be indistinguishable in exhibiting laevo-rotatory properties. Professor G. L. Jenkins, of this university, confirmed this observation. I regret the error thus made in my discussion. Concerning optical activity and decomposition point of the