

of chromosomes present in the somatic cells. In the heterotype division he found one pair of bivalents much larger than the others, but the individual members of this pair were of equal size; thus no signs of the disparity indicating the possibility of two types of microspore were revealed.

I have examined its close ally, *Lychnis alba*, Mill., and find similarly twenty-four somatic chromosomes, of which two are larger than the rest. In the female plant at the reduction division these two appear similar; thus the daughter nuclei are alike. In the male, however, the two large chromosomes differ from one another both in size and shape; the larger one is

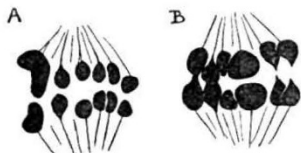


FIG. 1.—Heterotype division in *Lychnis alba*, Mill. A: male; B: female.

bent, somewhat in the shape of a hockey stick, with the curved end pointing outwards from the spindle, whilst the smaller somewhat pear-shaped one is not more than two-thirds its size (Fig. 1). The shape is quite constant and the appearance is the more striking in that this pair of chromosomes takes the stain much more strongly than the others.

Since *L. alba* is so closely related to *L. dioica*, in which Shull has demonstrated sex-linked characters with the male heterozygous for sex, it seems more than probable that we have here a definite case of an XY pair of chromosomes in the male with a corresponding XX in the female. This is the first definite record of sex chromosomes in a Dicotyledon.

A full account of this and other species of *Lychnis* and their hybrids will be published shortly.

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Powers of Perception of Birds.

MY attention has been directed to a note in NATURE of November 18, 1922 (vol. 110, p. 677), containing references to an article on "The Sense of Smell in Birds" (NATURE, June 17, 1922, p. 783), and to Dr. H. H. Beck's paper on "The Occult Senses in Birds" (*Auk*, 1920, xxxvii, 55). As your note intimates, there is evidence that neither by "occult sense" nor by smell do turkey vultures find their food. They certainly depend largely upon a very keen sense of sight, as is shown by the following incident.

A toy rabbit consisting of white plush and excelsior packing was given to our little girl a number of years ago. It proved to be a favourite toy. One night she forgot it and left it lying in the yard. As we sat at breakfast the next morning we were greatly surprised to see a turkey vulture strutting in a circle about the toy rabbit as it lay on the ground, and eyeing it with head turned to one side. Here was something new to his experience. It was certainly the form, but not the substance of a dead rabbit. If the turkey vulture has an "occult sense," in this case at least he did not depend upon it, or, doing so, was completely deceived.

The position of the writer of the note in NATURE is one to which we can subscribe when he says: "It is surely more reasonable to attribute these [powers of perception] to greater acuteness of the known senses than to imagine new senses for which no physiological basis can be suggested."

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October 15.

Population and Unemployment.

IN the résumé of October 13 of the presidential address by Sir William Beveridge to the Economics Section of the British Association, the point which raised so much discussion in Liverpool is indicated by this sentence:—"Increased birth control is not required by anything in the condition of Europe before the War, and is irrelevant to our present troubles." As this idea has already been hailed by many, may I point out that Sir William entirely ignored the *unemployables*. Those who are unemployable through organic disease, feeble-mindedness, general debility, and various other characteristics of a "C3" and physiologically inferior population do not appear in the ordinary list of unemployed, but they are, nevertheless, a huge financial burden on the community. Both a financial strain and a physiological danger to the race, they not only breed and reproduce their like if left without birth control; but they are brought into existence in otherwise healthy stocks whenever mothers under hard conditions reproduce too rapidly. Only by means of constructive birth control can women spare their children so as to ensure the likelihood of reasonable health to those they bear under the modern and unnaturally hard conditions of slum life.

While Sir William Beveridge may play at ninepins with the primitive "Malthusian theory," it is most dangerous that, misled by his phrases, uncritical persons who confuse Malthusianism with constructive physiological birth control should be given such inopportune encouragement. Statistics confirm our common-sense observation that intelligent members of the better stocks are widely using birth control; hence, unless we do have an increase of birth control so that the inferior stocks also use it, we shall continue racially to deteriorate at an ever-accelerating speed.

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A Possible Cure for Cancer.

WHILST reading Prof. Johnstone's remarks (Lancs. Sea-Fish. Lab. Report for 1922 (1923), p. 19) on malignant (cancerous) growths in fishes, I was struck by and seized upon the statement that "wen" is an example of a controlled growth.

So long ago as 1908 I remember Prof. Farmer suggesting in his lectures on "The Cell" that "cancer" might be due to lack of control of the individual as a whole over certain tissues, and this view has gained force ever since that time; but now arrives a statement that "wen" is a controlled growth. Let it be assumed that both statements are correct; then the individual with a wen contains or has contained in its system somewhere a controlling influence which—from many analogies—may not improbably exist in the blood. Now if wens occur in other suitable animals than man it would be an easy matter to extract plasma or other components of the blood for injection into other individuals of the same species having uncontrolled (cancerous) growths in order to test whether the controlling influence exists there and can be passed on to another individual.

If the suspicion were confirmed, a cure for cancer would be obtained, as the application of a similar process to man would no doubt follow very swiftly.

Or again, assuming that individuals with wens have an obvious control of a tendency to cancerous