



Fig. 1. Photomicrograph of first anaphase of meiosis in an anther squash of a disomic addition II plant, showing *Secale* chromosome II as two longitudinally dividing univalents.  $\times 1,350$   
 Fig. 2. Photomicrograph of metaphase of mitosis in a root tip of *S. cereale* (after pre-treatment with  $\alpha$ -bromonaphthalene) showing chromosome II.  $\times 1,350$   
 Fig. 3. Photomicrograph of first metaphase of meiosis in an anther squash of a disomic addition II plant, showing 21 bivalents and *Secale* chromosome II represented as 2 univalents.  $\times 1,350$

it does not seem to have been of this magnitude, nor was there in the present case as much asynapsis of the wheat chromosomes as has been reported previously<sup>2</sup>. Since in the colchicine-induced 56-chromosome amphidiploids, from which this rye chromosome was obtained, there was regular pairing to form 28 bivalents in 40 per cent of the meiotic first metaphases examined, the pairing failure in disomic addition II cannot be due to the complete homozygosity of the chromosomes of the outbreeding rye species. The implication must be that the genetic control of pairing in wheat is not fully effective for a single pair of rye chromosomes, and that these chromosomes possess no internal control which will cause regular pairing in the wheat genotypic background.

The disomic addition II plant was about as fertile as plants of the *T. vulgare* parent from which it was derived grown in similar greenhouse conditions. However, its meiotic irregularity was apparent from the chromosome number segregations in its progeny (Table 2).

It is apparent that, so far as *Secale* chromosome II is concerned, the disomic addition line is too unstable to be of value in plant breeding, and to obtain stability it may be necessary to resort to the substitution line in which a wheat chromosome pair would be replaced by the alien pair. However, we do not yet know whether all rye disomic addition

plants, and analogous addition types using chromosomes of the diploid species of other genera, behave in this way.

We thank Dr. G. D. H. Bell, director of this Institute, for his interest and encouragement.

V. CHAPMAN  
RALPH RILEY

Plant Breeding Institute,  
Cambridge. April 19.

- <sup>1</sup> O'Mara, J. G., *Genetics*, 25, 401 (1940).  
<sup>2</sup> O'Mara, J. G., *Cytologia*, 16, 225 (1951).  
<sup>3</sup> Levan, A., *Hereditas*, 28, 177 (1942).  
<sup>4</sup> Taylor, J. W., *J. Agric. Res.*, 48, 603 (1934).  
<sup>5</sup> Takagi, F., *Cytologia*, 6, 496 (1935).

### "The Sources of Eddington's Philosophy"

THERE is one passage in Dr. Martin Johnson's notice<sup>1</sup> of my recent Eddington Memorial Lecture which I fear may cause misunderstanding. Referring to my relations with Eddington, he writes: "The old instinctive antagonism is there".

In no sense was there ever any "instinctive antagonism" between Eddington and me. For the man I had the warmest regard—a feeling which I have reason to believe was reciprocated. With his outlook I had such fundamental sympathy as to have considerable confidence in my perception of what had perverted it. I could not feel that confidence concerning a view to which I was instinctively antagonistic.

HERBERT DINGLE

University College,  
London.  
May 13.

<sup>1</sup> *Nature*, 175, 788 (1955).

Table 2. CHROMOSOME NUMBERS OF 56 PLANTS IN THE PROGENY OF DISOMIC ADDITION II

Chromosome number	22*	42	43	44	45
No. of plants	1	26	23	4	1

\* Presumably *T. vulgare* haploid plus rye II.