produced by the cyclotron, or to overestimation of the neutron dose in the field experiments. A satisfactory answer to this question cannot be given on the basis of these experiments. It is known that gamma-ray contamination existed within the hemispheres and that the amount of contamination varied with the hemispheres. It does not seem likely that this can explain the difference since experiments conducted in the same hemispheres with another genetic effect (sex-linked recessive lethals) having a low RBE, and thus more sensitive to gamma-ray contamination, gave no evidence of any larger contamination than in the cyclotron (*11*). The final answer to this question will have to await the development of reliable neutron dosimeters of sufficient capacity.

Until adequate dosimeters are available, the frequency of dominant lethals may be useful in nuclear detonations as a rather rapid, but crude, biological measurement of fast neutron dosage at high levels. For example, it may be determined from Table 1 that with device A the biological dose was within about 23%, and with device B within approximately 12%, of the dose extrapolated from physical instruments.

In summary, the main conclusion to be drawn from the data presented is that the relative biological effectiveness, in producing chromosome aberrations, of fast neutrons (as compared with x-rays) is about as great in *Drosophila* as in *Tradescantia*.

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The three papers by J. S. Kirby-Smith and C. P. Swanson, Drew Schwartz, and W. K. Baker and E. Von Halle were part of a larger test program on the genetical effects of radiation from nuclear detonations conducted under AEC direction. Additional papers will appear in the literature.

Comments and Communications

Nomenclature of Cyclohexane Bonds

IT was shown originally by x-ray and electron diffraction, and has been confirmed by other physical and by chemical means, that the most stable and permanent form of the cyclohexane ring is that particular strainless form which is sometimes likened to a chair or a staircase. Geometrically, its chief feature is a sixfold alternating axis of symmetry. Its 12 extracyclic bonds fall into two classes (*1*): 6 lie parallel to the axis, while 6 extend radially outward at angles of $\pm 109.5°$ to the axis. The stereochemical properties of substituents bound by these two classes of bond are so different that a need has been felt for verbal and symbolic means of distinguishing the classes.

The first suggestion (*2*) to this end designated the six parallel bonds as 'ε' and the others as 'κ'. However, although these symbols have been considerably used, their origins in the Greek language, and particularly their allocation between two classes of bond, have been found difficult to remember. A more obvious description was given (*3*) when the six parallel bonds were called "polar" and the others "equatorial" in analogy to the geographical terms. This nomenclature has had a wide use, but is unsatisfactory in that it employs the word "polar" for a stereochemical concept, thereby tending to confuse discussions which have to take account of the electropolar nature, side by side with the stereochemical character of cyclohexane substituents.

The purpose of this note is to suggest a simple change which avoids these difficulties. It is that the six bonds parallel to the main cyclohexane axis should be called "axial"[1] (and symbolized '*a*'), while the other six retain the name "equatorial" (and become symbolized '*e*'). The private discussions we have had with friends and colleagues lead us to hope that this suggestion may find favor.

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[1] The term "axial" was suggested to us by Professor C. K. Ingold, London.

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