addiere man die kleineren Zahlen jeder Bruchklasse (466/8/113/225/2/20/50/1=885) und die grösseren Zahlen (682/39/215/322/7/22/125/15=1427), dividiere die grössere Summe durch die kleinere (1427:885=1,61), dann ist J = 1,61 der Asymmetric-Index des Versuchs. Für die Berechnung von exakten Recombinationswerten, besonders für die Berechnung für Coincidence-Werte sind Versuche mit J=1,00-1,15 einwandfrei, J=1,15-1,30 brauchbar, J=1, 30-1, 50 unsicher (kaum brauchbar), J grösser als 1,50 unbrauchbar. Dies ergibt sich praktisch und ist theoretisch begründbar. Falls in einem Crossover-Versuch die Teilklassen nicht einzeln angegeben sind, sollte immer mindestens der Asymmetricindex angeführt werden.

Neuhaus, M. A New Allel of the Gene Yellow in Drosophila melanogaster.

In studying the effect of X-ray quality on the frequency of visible mutations (Bx males treated and mated with XX females), a gray male with yellow bristles was found and crossed to an XX female, resulting in F_1 XX daughters and gray males with yellow bristles, indicating that this character is probably sex-linked. The F_1 males were crossed to Florida females. In F_1 only Bx females appeared, showing the recessive nature of this character. Males having this trait were crossed to two groups of females with free X's. One group carried the gene for yellow skin and yellow bristles and the other group carried the gene for yellow skin and the genes w f. The former gave gray Bx daughters with yellow bristles in F_1. The latter gave only Bx daughters. It may therefore be concluded that the gene for this trait is partly allelomorphic to yellow. From F_1 females of the second cross, F_2 was obtained. This was done for the purpose of localizing the gene for the above character by the crossing-over method. F_2 gave the following results: 0:901; 1:8; 2:642; 3:23; 1-2:1; 2-3:13.

These data show that the new gene is located on the left end of the X-chromosome and is linked with a slight suppressor of crossing-over.

Shapiro, N. Comparison of the frequency of translocation between the 2nd and 3rd chromosomes in spermatozoa containing the X-chromosome and the Y-chromosome.

Our previous findings on translocations occuring under the influence of x-ray treatment have enabled us to collect some data concerning the translocation rate in spermatozoa containing the X-chromosome and those containing the Y-chromosome.

There are reasons to assume that:

1. The configuration and mutual position of chromosomes during treatment has an influence on the character of the translocation process.

2. The configuration and mutual position of chromosomes in nuclei of spermatozoa carrying the X-chromosome may differ from that in spermatozoa carrying the Y-chromosome.

Since one is inclined to admit these assumptions, our data can be of interest.

We have studied the translocation rate between the 2nd and 3rd chromosomes. The total of 915 pairs of treated 2nd and 3rd chromosomes was examined. 433 pairs were treated in spermatozoa containing the X-chromosome, and 482 pairs in spermatozoa containing the Y-chromosome. The percentage of translocations in the former was equal to 8.31%, while in the latter it made 8.29%. It is obvious that the translocation rate between the 2nd and 3rd chromosomes is equal in both cases.

Steinberg, Arthur G. The effect of inversions in the autosomes on crossing-over in the X-chromosome. The Cy inversion containing inversions in both arms of the second chromosome and the Payne inversion bearing inversions in both arms of the third chromosome were used. Counts were made on the ♂ offspring of ♀'s heterozygous for alternated xplc and either one or both of the inversions. - Autosomal inversions cause an increase in crossing over in the X chromosome. This increase is greatest in the left end of the chromosome and decreases toward the right end. The increase is due to a decrease in non crossover strands and an increase in double and triple crossover strands. The per cent of single crossover strands recovered remains statistically constant. - These results are similar to those obtained by Miss H. Redfield for the second and third chromosomes.

Stern, Curt and Dorothy Doan. Crossing-over in the male between X- and Y-chromosome. In experiments involving the theta duplication (Muller) which is attached to the fibre end of the chromosome, individuals were found suggesting loss or detachment of theta. A preliminary genetic and cytological analysis (Spring 1934) demonstrated the occurrence of crossing over in males between the X or theta and the Y-chromosome as the cause. The detached theta and the detached X-chromosome carry complimentary arms of the Y-chromosome attached to their fibre ends. - A further analysis is at present carried on by D. Doan.