

**Copy of a printed schematic diagram referenced as "Schematic representation of a chromosome"**

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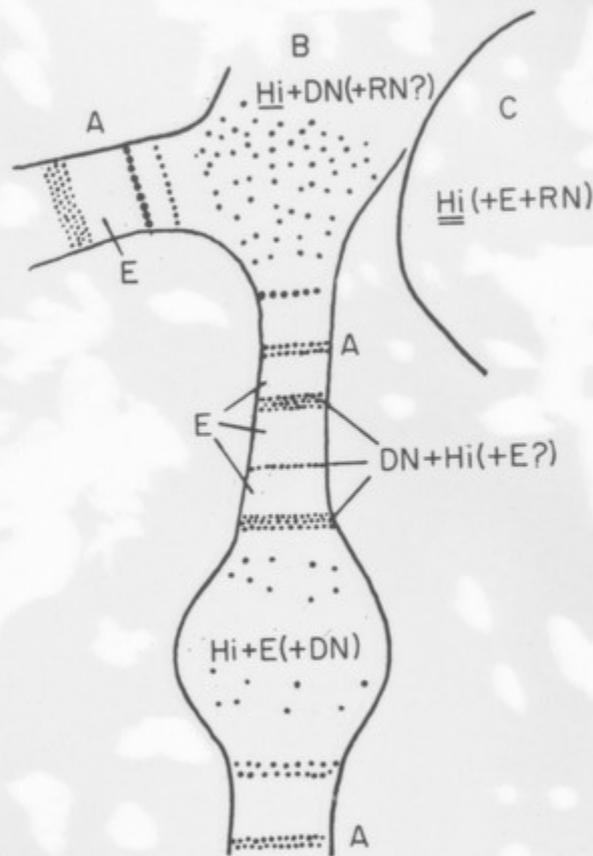
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ing conclusions, which are diagrammatically represented in Fig. 49. Euchromatin is composed of DNA associated with histones; the clear discs interposed between the chromosomes are lacking in DNA and they contain complex proteins; comparable to the globulins. Heterochromatin probably contains both types of nucleic acids.

Later cytochemical work has confirmed most of Caspersson's (1941) findings; for instance, Unna's staining has established the presence of both types of nucleic acids in giant chromosomes, both in *Chironomus*



Schematic representation of a chromosome according to Caspersson (1941). A: euchromatin, B: heterochromatin, C: nucleolus, Hi: histones, DN: DNA, RN: RNA, E: complex proteins.

(Brachet, 1942) and in *Drosophila* (Kaufmann *et al.*, 1948). While the majority of the discs contain only DNA and stain green with Unna, some of the larger discs take pyronine, and the ribonuclease test shows them to be rich in RNA; these heterochromatic discs have a coarser structure and there is little doubt that they are involved in the production of nucleoli. According to a recent report of Taylor *et al.* (1955), these RNA-containing discs, as well as the nucleoli, show a very high activity in  $P^{32}$  uptake. Similar observations have been made for adenine incorporation (Fig. unpublished; Fig. 50). The presence of histones in the DNA-co