this phenomenon as being more or less in harmony with intracellular colloid-chemical alterations associated with senescence[3-5].

Especial interest is attached to tissues collected from tumorous and pregnant animals. One encounters in them not merely mast-cell-like cells containing heparin but also regular mast cells which disintegrate into granules—a process similar to the disintegration of mast cells contained in the connective tissue. It may be assumed that processes of tissue proliferation involve a factor in the organism which releases cellular disintegration so that, in contradiction to current belief, the break-down of mast cells is not caused by mechanical factors alone.

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Cytochemical Evidence of the Origin of Lipid Bodies (so-called Golgi Bodies) from Mitochondria

Since Hirsch's[1] theory of the Golgi presubstance, according to which there exist homogeneous granular mass as a precursor of the 'Golgi' system, there has been very little attempt to investigate the origin of these inclusions in the cell. Nath and Chopra[2] reported the origin of 'Golgi dictyosomes' from mitochondria in the spermatocytes of the slug, *Anadenus altivagus*. However, such a conclusion was arrived at on the basis of morphological study inasmuch as the 'Golgi dictyosomes' disappear at the metaphase and anaphase stages of meiosis I and II, probably merging into the mitochondria; they again appear in the respective telophase stages by the alignment of lipid granules, which seemed to take their origin from the mitochondria. These observations were later confirmed by Nath and Gupta[3] in the living spermatocytes of *Anadenus* and *Euaustenia* under phase-contrast microscopy.

My present cytochemical investigations on the developing oocytes of a large number of species of fish, namely, *Ophiocephalus punctatus*[4], *Barbus ticto*[5], *Mystus tengara*, *Cirrhina reba*, *Labeo dyocheilus*, *Chrysophrys berda*, *Muraenesox talbonides*, *Pseudo-rhombus elevatus*, *Boleophthalmus dusumerii*[6], clearly demonstrate the origin of lipid granules, corresponding to 'Golgi' granules of earlier workers, from the mitochondria. The earliest oogonia completely lack the 'Golgi' material, and consist of only a juxta-nuclear mass of fine mitochondrial granules. However, in the developing oogonia of freshwater fishes, namely, *Ophiocephalus*, *Barbus*, *Mystus*, *Cirrhina* and *Labeo*, the mitochondrial granules align themselves into filaments, while in those of the marine fishes, namely, *Chrysophrys*, *Muraenesox*, *Pseudo-rhombus*, and *Boleophthalmus*, the granular juxta-nuclear mass becomes very dense. In the former case a large number of bigger and denser lipid granules appear as tiny blebs on the surface, and in intimate association with the mitochondrial filaments; but in the latter they develop among the juxta-nuclear mass. However, these inclusions acquire a separate entity in the growing oocytes; they either grow directly into large spheres or attach themselves to tiny vacuoles in the cytoplasm so as to produce rings and crescents.

These 'Golgi' inclusions are very rich in lipid material as revealed by their strong coloration in sudan black *B*. Baker's[7] acid-hæmatin technique with pyridine extraction control reveals the phospholipid nature of the lipid material. However, it changes later into triglycerides as shown by Cain's nile blue technique. The pure lipid nature of these inclusions is demonstrated by the lipid extraction techniques, and is further confirmed by the absence of carbohydrates and proteins, as revealed by periodic acid–Schiff reagent, and Mazia's mercuric bromphenol blue tests, respectively.

Thus it may be concluded from the above results that the mitochondria which always have some phospholipid material in definite configuration with proteins are constantly pinching off phospholipid material in the form of 'Golgi' granules on their surface. The extrusion of lipid material by the mitochondria has also been found by Lever[9] by electron microscopy. Therefore, it seems very probable that the mitochondria also produce 'Golgi' material in the cell, besides their vital oxidative activities.

It may also be stated that the 'Golgi' material always appears in the form of granules in the early stages which may later grow directly into big spheres, or they may come in contact with vacuoles and spread around them to form rings and crescents showing the characteristic duplex structure corresponding to the externum and internum of Hirsch. However, in some cells where 'Golgi' granules lie close together, osmium and silver impregnation tends to make a 'net-work'-like pattern, which is soon resolved in the growing oocytes by their dispersal. These conclusions support Baker's[10] new terminology 'lipochondria' for 'Golgi' inclusions, which would not only signify their granular form and lipid nature but would also indicate their mitochondrial origin.

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VIROLOGY

Activation of One Plant Virus by Another

Tobacco necrosis is a disease that can be caused by several serologically unrelated viruses[1], all of which are soil-borne and cause necrotic local lesions in leaves of tobacco (*Nicotiana tabacum* L.) and French bean (*Phaseolus vulgaris* L.) plants. The virus Bawden and Pirie[2,3] called the 'Rothamsted culture'