

expected in view of the importance of the chromosome number for cell size"⁴ (p. 13).

Apparently Winkler was trying to emphasize the salient fact that separation of diploids from polyploids is based on investigations of chromosome number in embryonic cells. Embryonic cells in diploids as well as polyploids are capable of differentiation into germ cells or as components of various tissues. And it is during tissue differentiation that the cells become endopolyploid. There is thus no reason to consider that polyploidy and endopolyploidy are interchangeable phenomena. Nor can it be assumed that viable polyploid types could be derived directly from endopolyploid cells.

The cytological events during histogenesis, therefore, can have a significance only to the origin of tissues and not, as in the case of polyploidy, to the hereditary make-up of the organism.

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FRESH SOURCES OF SELENIUM

THERE is no known deposit of selenium as such which is worth mining. The element occurs with sulphide ores, and most of it is obtained as a byproduct in the electrolytic refining of copper. The "anode slime" formed in the process contains a fairly high proportion of selenium.

The U.S.A. is the biggest producer of selenium, all of it from this process, but its supplies are still not enough for its own industry, and it has to import more of it. Most of Great Britain's supplies of selenium come from Canada, again from copper refining plant. There are small quantities of selenium on the market which come from Sweden and Japan, but these are high priced compared with the Canadian selenium.

There is a possible source of selenium in Great Britain which is now being investigated by the Chemical Research Laboratory as a result of a survey of the selenium problem by the Intelligence Division of the Department. Iron sulphide, or pyrites, is used in Great Britain in the manufacture of sulphuric acid. Like copper sulphide, it contains selenium. Flash roasting of pyrites is one of the processes which

is used to avoid using sulphur as a raw material. The process is fairly new, but its use is expanding and it may produce quantities of selenium which would be worth recovering. The selenium is concentrated in the wastes, dusts and muds from the roasting plant. Little is yet known of the economics of recovery, but waste material from three plants have been examined at the C.R.L. The materials from one plant contain sufficient selenium to justify the hope that recovery would be worthwhile. As in copper refining the problem is to develop a method which will not interfere with the primary object of the process and be cheap enough and simple enough to make selenium production pay.

The potential yield from this source will run into tons, a valuable addition to present supplies. One of the speculative things about recovery is that pyrites varies so much in its content of selenium. The C.R.L. investigation shows, however, that the possibilities of augmenting supplies of this extremely valuable element in this way are well worth serious consideration.