

### Zusammenfassung

Synthetisches Oxytozin hat auch vasopressorische und antidiuretische Wirkungen, die etwa 1/30 und 1/15 der oxytozischen Aktivität ausmachen. (Hochgereinigte natürliche Oxytozin-Präparate haben nach LAWLER und DU VIGNEAUD kaum solche Eigenschaften.) Die Differenz zwischen synthetischem und hochgereinigtem Oxytozin weist in dieser Hinsicht darauf hin, dass diese nicht identisch wären.

## PRO EXPERIMENTIS

### Larger Section Areas for Electron Microscopy by Aid of Ultrasonics

Well established section techniques for 200 Å section thickness in electron microscopy (SJÖSTRAND<sup>1</sup>, *inter alia* 1954) require a careful treatment of the object block to prepare a small cone for sectioning. In rare cases it is desirable to increase the section area, particularly when very large cells are concerned e.g. the salivary gland cells of *chironomus*. To proceed 50 µ into the tissue structure perpendicular to the level of the first section, about 2500 sections have to be cut, even though only about 10% of such series are actually studied in the electron

thus allowing one to section up to 1.5 mm<sup>2</sup> blockface area without endangering the section quality. Unavoidable oscillations of the knife toward and away from the object block had no visible influence on section smoothness. Obviously the magnitude of such vibration effects do not exceed the practical resolution power of the electron microscope. The figure demonstrates the arrangement at the microtome. On the right side can be seen the handle with the vibration head (Sonostat 812, Siemens-Reiniger, Erlangen), which generates 800 Khz at – for our purpose – 1 watt/cm<sup>2</sup>. The vibration head is held by a brass cup in which contact of the vibrating surface and the cup bottom is effected by a layer of thick oil. The brass cup in turn is tightly screwed on to the knife holder.

The above described arrangement seems to be advantageous even when harder materials are to be sectioned. We are indebted to the Elema Company, Stockholm, for kindly putting the Sonostat at our disposal.

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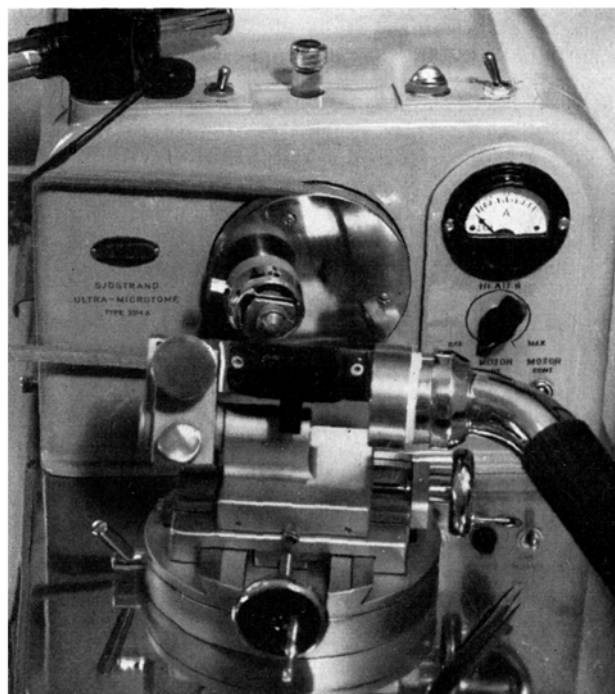
Um in besonderen Fällen die Schnittflächengröße in der Schneidetechnik für die Elektronenhistologie erhöhen zu können, wurde mit Erfolg das Mikrotommesser in seiner Längsachse in Ultraschallschwingungen versetzt.

## PRO EXPERIMENTIS

### A Modified Petri Dish Method for Rust Infection of Excised Leaves

The use of Petri Dishes for culturing rust fungi on detached leaves has been recommended and attempted by many investigators with varying degree of success. The literature on detached leaf culture in all its aspects has been reviewed by YARWOOD<sup>1</sup>. Depending upon the purpose of investigation numerous variants of the Petri dish method have been suggested. CRAIGIE<sup>2</sup> used the method of suspending the infected plant parts (culms, leaves, twigs, etc.) over the healthy host plants for demonstrating heterothallism in rust fungi. The writer has used with moderate success a modification of CRAIGIE's method by using detached leaves in Petri dishes. He has studied the sex behaviour of rust fungi like *Scopella gentilis* (Syd.) Mund. and Thirum. on *Mimusops hexandra* Roxb. (Sapotaceae) and *Puccinia thwaitesii* Berk. on *Justicia gendarussa* Burm. (Acanthaceae) by this modified Petri dish method. As far as the writer is aware the method of using excised leaves in Petri dishes for studying sex-behaviour of rust fungi has not been attempted so far.

Leaves of the plant of which the rust is to be studied are preferably detached in the afternoon so that the carbohydrate, protein and mineral contents may be higher and the leaves consequently may remain in fresh condition longer (YARWOOD<sup>1</sup>). The rusted leaves are collected earlier for testing the viability of the teliospores



microscope. If the ratio of the size of the object of interest – the tissue detail – to the tissue volume is very low, large survey sections seem to be of greater advantage than many small sections into the depth of the tissue. Because section quality rapidly decreases when the section area is increased, an ultrasonic generator was fitted to the knife holder of a SJÖSTRAND microtome (Figure) vibrating the knife in a transversal direction,

<sup>1</sup> F. S. SJÖSTRAND, Z. wiss. Mikroskop. 62, 65 (1954).

<sup>2</sup> C. E. YARWOOD, Bot. Rev. 12, 1 (1946).

<sup>2</sup> J. H. CRAIGIE, Phytopathology 21, 1013 (1931).