

Folge hatte, beim Palmaris – einem gemischten Muskel – aber nur um 19%. HANISCH (1936)¹ wiederholte diese Versuche mit *d*-Cocain und stellte fest, daß «das *d*-Cocain das tetanische und tonische Substrat sehr verschieden beeinflußt, und daß seine Wirkung auf das Tetanussubstrat um ein Bedeutesendes größer ist als auf das Tonus-substrat».

Summary

In skeletal muscles of vertebrates (for teleost fishes it is not yet exactly proved) there occur 2 different sorts of muscle fibres, one of which shows, in transverse sections, the myofibrils uniformly distributed (Fibrillenstruktur), in the other there are irregularly-shaped areas of sarcoplasm with smaller (?) amounts of fibrils (Felderstruktur, not "areas of Cohnheim" which are artificial structures!). There are muscles which consist only of fibres with Fi.-Str., and others which contain also fibres with Fe.-Str. in small or large, but constant proportions scattered over the transverse section or concentrated in the periphery or in more or less distinct areas of the latter: "Tonusbündel". Muscles composed only of fibres with Fe.-Str. are rare.

The muscle fibres with Fi.-Str. are innervated by coarsely medullated nerve fibres which terminate in end-plates (terminaisons en plaque), the fibres with Fe.-Str. receive only finely medullated nerves with "en grappe" terminations.

The muscle fibres with Fi.-Str. are the substratum for the quick twitches (tetanic contractions), the others with Fe.-Str. are the long-sought substratum of tonus.

This is proved by many results of physiological experiments. The reactions to electrical and mechanical stimuli, under the influence of acetylcholine, are quite different. The same holds also in nerveless parts of the muscles. The electrical phenomena (resting and action-potentials, spike, after-discharge, chronaxie) are characteristic for each of the two types of muscle fibres. Chemically, the two fibres differ in many respects.

The fibrils of the tonic muscle fibres (with Fe.-Str.) contract, if excited, in some way. The holding (the "tonic contraction") is probably sustained by the sarcoplasm, which probably undergoes changes of its physico-chemical properties after contraction of the fibre. This is quite different from the conception of BOTTAZZI, who attributed the tonic contractility to the sarcoplasm.

In the living organism the two kinds of muscle fibres react in their characteristic manners upon excitation from the corresponding nerves, the tetanic fibres being stimulated by the coarsely medullated nerves with end-plates (end-plate potential), the tonic fibres by the finely medullated ones with "en grappe" terminals ("small junctional potential" according to KUFFLER). The sympathetic innervation has nothing to do with tonus.

¹ H. HANISCH, Inaug.-Diss. (Wien 1934). – P. KRÜGER und H. HANISCH, Z. Biol., im Druck (1950).

Congresses

DENMARK

XVIII International Physiological Congress

The XVIII International Physiological Congress will be held at Copenhagen the 15th to 18th of August, 1950.

Preliminary program and registration forms will be sent out and will from the 1st of January, 1950, be obtainable from local societies of Physiology, Biochemistry, and Pharmacology, or from the bureau of the congress:

*Zoofysiologisk Laboratorium,
32 Juliane Mariesvej,
Copenhagen Ø.*

(By mistake the same congress has already been announced under the heading "SWEDEN". Exper. 6, fasc. 1, p. 40, 1950.)

VARIA

Collection of Papers for the Standard Text-Book of «Vergleichende Physiologie»

The production of a collective work on comparative physiology, a subject continually increasing in extent, which will give the reader an approximately accurate picture of the state of this science is a pressing need. *Comparative Physiology*, a work in four volumes by Prof. W. von BUDDENBROCK, which begins its appearance in March, 1950, through the Birkhäuser Press, Basle, is intended to fill this gap. It is particularly difficult for the author to obtain the original literature, which, precisely in the field of comparative physiology, is scattered to an extraordinary degree. The publishers therefore beg that this project be supported effectively by sending in current reprints of latest date. The second volume, "Comparative Physiology of the Sense Organs and the Nervous System", is in preparation. It is requested that reprints be sent directly to Prof. W. von BUDDENBROCK, Mainz, Zoological Institute of the Johannes Gutenberg University, Germany (French Zone), or to the Editor of "Experientia", Basel 10, Elisabethenstrasse 15.

Corrigendum

B. BERDE, Besprechung des Buchs von E. F. DUBOIS, *Fever and the Regulation of Body Temperature* (Exper. 6, fasc. 1, p. 30 [1950]).

In der rechten Kolonne, zweiter Absatz von unten, letzte Zeile, muß es richtig heißen:

.... ohne Berücksichtigung dieser Ergebnisse kaum möglich ist.