

same sites as adenosine triphosphate, thus acting as a competitive inhibitor of the adenosine triphosphate effects (adenosine triphosphatase, viscosity response, superprecipitation). Magnesium ions seem to mediate the binding of pyrophosphate. Engelhardt, reviewing the work of his laboratory, emphasizes that myosin can combine with substances like Congo red or nucleic acid, reproducing the properties of actomyosin. On the other hand, a myosin-like protein from sperm combines with actin, also giving an actomyosin-like complex.

Considerable attention was given by the authors to the relaxing factors. Ebashi, discoverer of the relaxing effect of microsome preparations, reports on his studies on the effect of surface active agents and phosphatases upon the granules. The adenosine triphosphatase and the relaxing activity can be dissociated, the latter being more labile than the former. The factor proved to be identical with the Kielly-Meyerhof granules. Lorand, Molnar, and Moos also present data on the relaxing system.

In a very interesting paper Natori and Sakai describe their experiments with isolated myofibrils. The dissection under oil permits the myofibrils to remain native, showing the same mechanoelastic properties as the muscle fibers and contracting upon addition of minute amounts of watery solutions. Strikingly, in their effect on contracting ability, "no difference could be found between ATP distilled water and NaCl solution." Watanabe attempts to elucidate the role of sulfhydryl groups in contraction and relaxation of glycerinated fibers from the effect of heavy metals and sulfhydryl reagents upon the mechanical properties of the fibers.

Space does not permit review of the remaining 12 papers. The book presents a valuable source of material for all those who are engaged in investigation of muscular contraction. It is well printed, with numerous graphs and tables, but there are many typographical errors and the English of the Japanese workers sometimes is peculiar, though this does not affect one's understanding of the text.

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