Diagram referenced as "Released isotonic contraction. Mechanical equivalent diagram"

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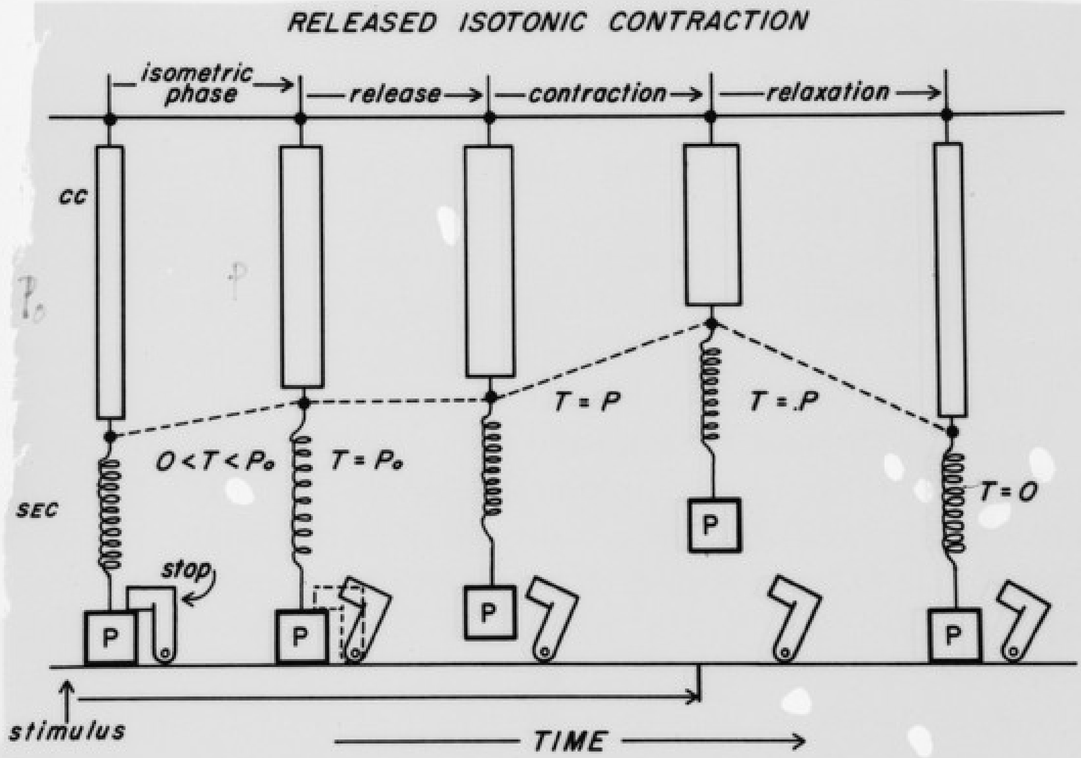
rising from zero to P_0, the maximum that the muscle can produce. When the stop is pulled away, the muscle with tension P_0 is loaded with the weight P ($< P_0$), but no appreciable active shortening of the CC occurs at that instant, since, at best (i.e., even with least P), the velocity of this shortening is so small. The shortening that does occur at release is then attributed to the SEC as it quickly



Mechanical equivalent diagram showing interaction of contractile (CC) and series elastic (SEC) components supposed to occur in released isotonic contractions. T represents the tension in the muscle. The relative lengths of the two components and their changes during shortening are purely diagrammatic and are not intended to indicate actual length parameters of the muscle.

retracts from the stretched length it had under the tension P_0, to that it takes up under tension P. The rapidity of this retraction bespeaks the virtual absence of viscous retarding forces and we therefore refer to the SEC as an undamped elasticity. From the results of a series of quick releases at different loads as shown in Fig. 1, it is found that the extension-load curve of the SEC ... linear (26, 40), following an approximately exponential