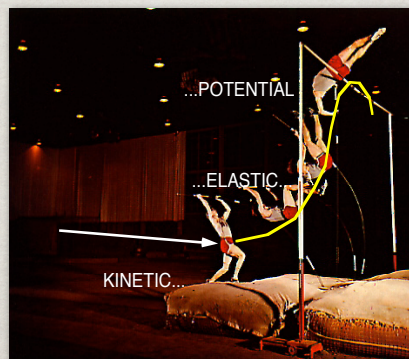
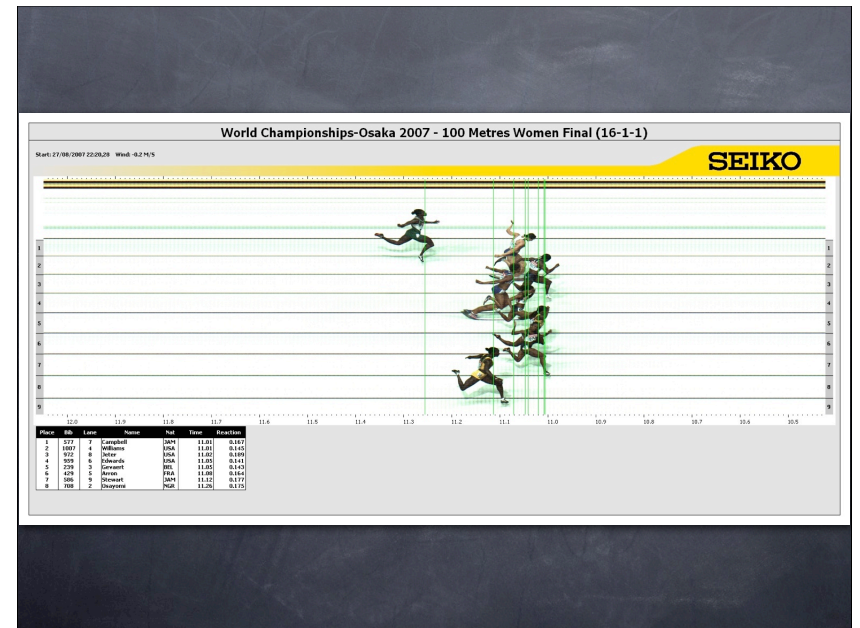


Biomeccanica II

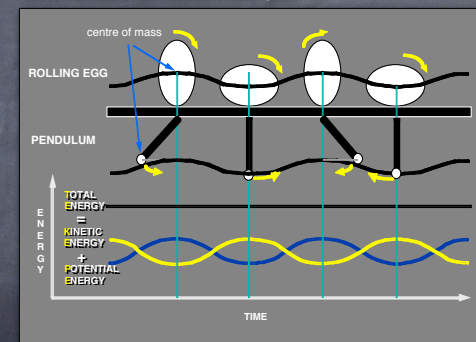
Lez. BM10

Lunedì 4 Maggio 2009 10:30÷12

Luca P. Ardigò



WALKING: a pendulum-like gait



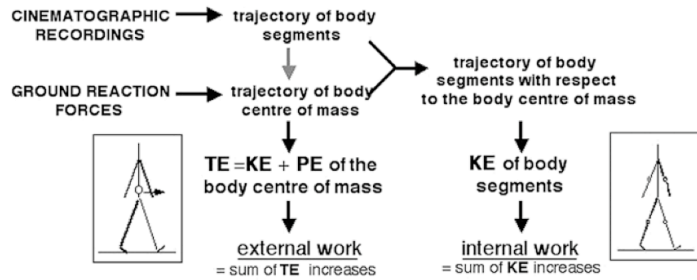
EXPERIMENTAL MEASUREMENT OF THE MECHANICAL WORK OF LOCOMOTION

Kinetic Energy \propto speed²

Potential Energy \propto vertical position

Total Energy: $TE = KE + PE$

Work = ΔTE



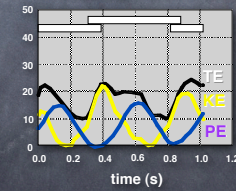
$$W_{tot} = W_{ext} + W_{int}$$

method by Cavagna and Kaneko, J. Physiol. 1977
 modified by Minetti et al., J. Physiol. 1993

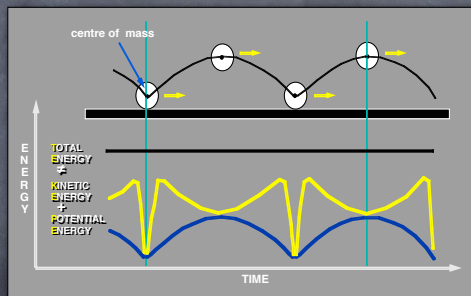
gait:
 - WALKING

locomotion paradigm:
 - (INVERTED) PENDULUM

Walking at 4.7 km/h



RUNNING: a bouncing gait



RUNNING: a bouncing gait

