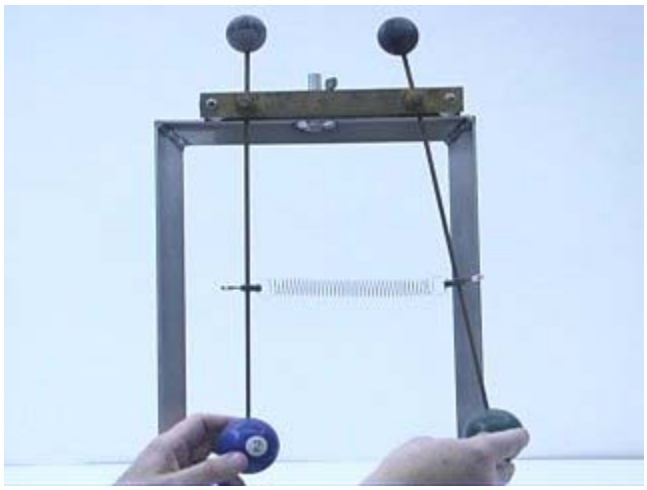
Answer #241

The answer is (c): they will execute a different type of motion in which the emergy will couple back and forth between the pendula, as seen in an mpeg video by clicking your mouse on the photograph below.



Because the pendula are the same length, their periods are the same, and a resonance occurs with the coupling provided by the spring. This type of physical phenomenon occurs regularly when any two oscillating systems with the same natural frequency are coupled. An example involves pairs of piano strings for the same note executing a coupling resonance, with the coupling occurring through the sounding board, lengthening the duration of the note. If you have two identical tuning bars, striking one while damping the other, then releasing the second bar, allows *the air* to couple the motion of the struck bar to the second one, as seen in this video

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Dr. Richard E. Berg by e-mail or using phone number or regular mail address
given on the Lecture-Demonstration Home Page.