Ideal vs. Real Probability

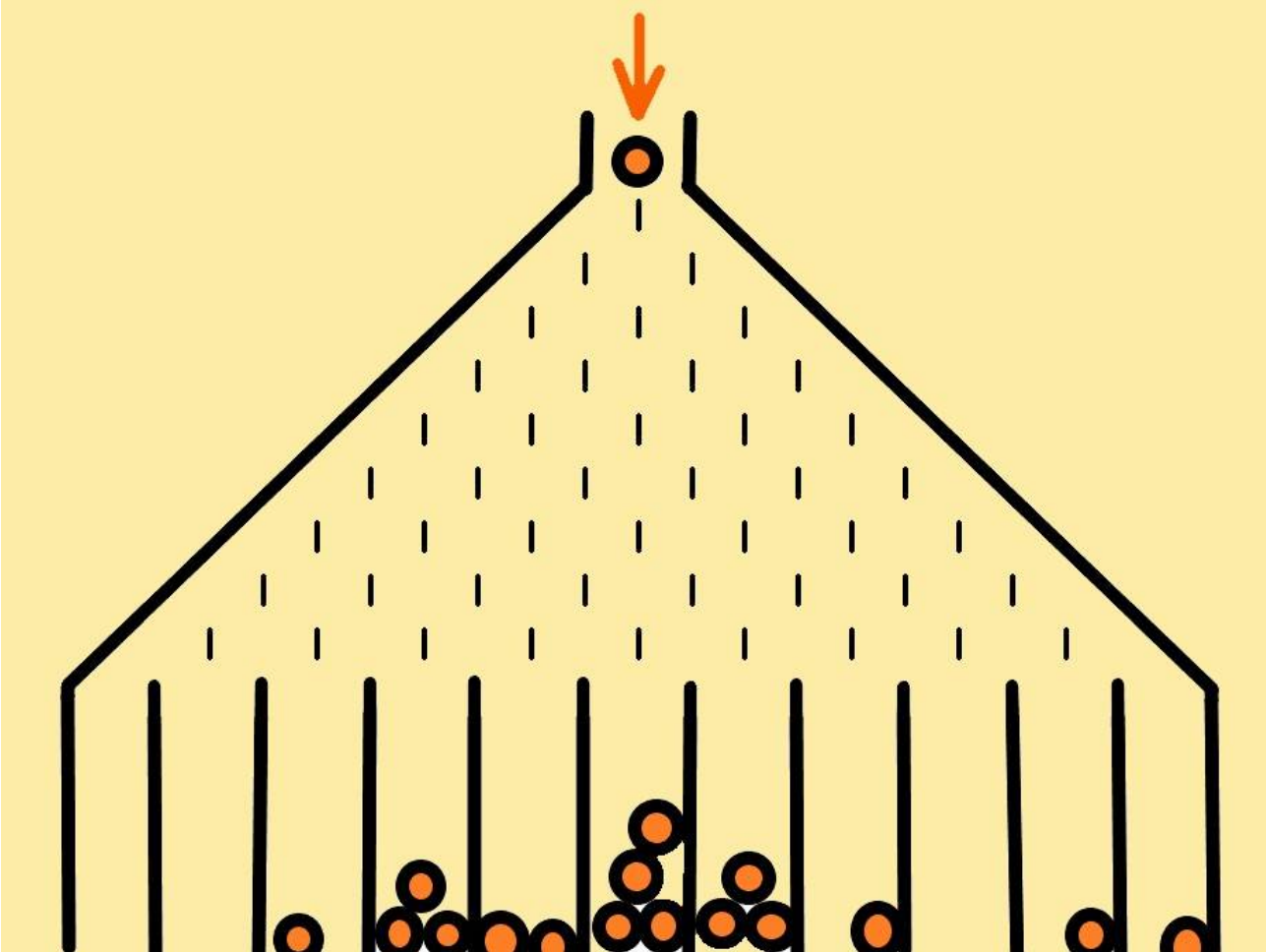Let´s take an example – Galton board. See in Fig. 1

Fig. 1 - Galton board with pegs, falling balls and lower collection boxes

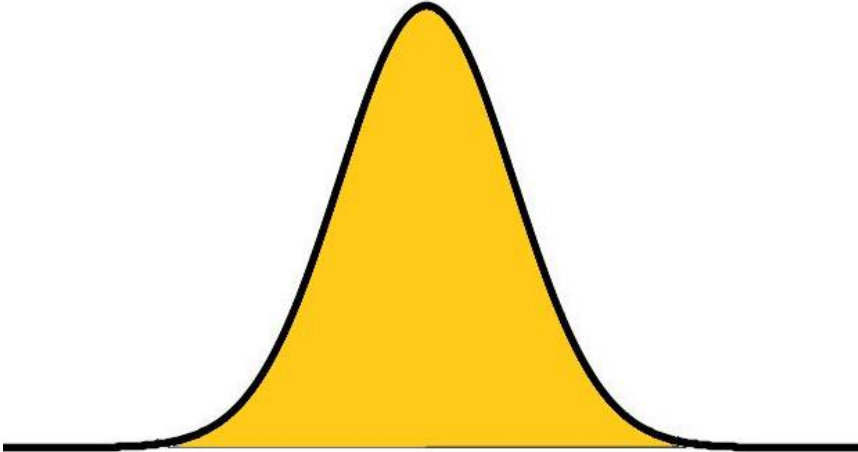The distribution of balls in boxes - see a Gaussian curve – Fig. 2

Fig. 2 – the ideal distribution curve in lower bcollection boxes

Will the distribution curve be the same for any size plate?

The probability in the ideal world is the same – not depends how many balls went down. But in the Real world?

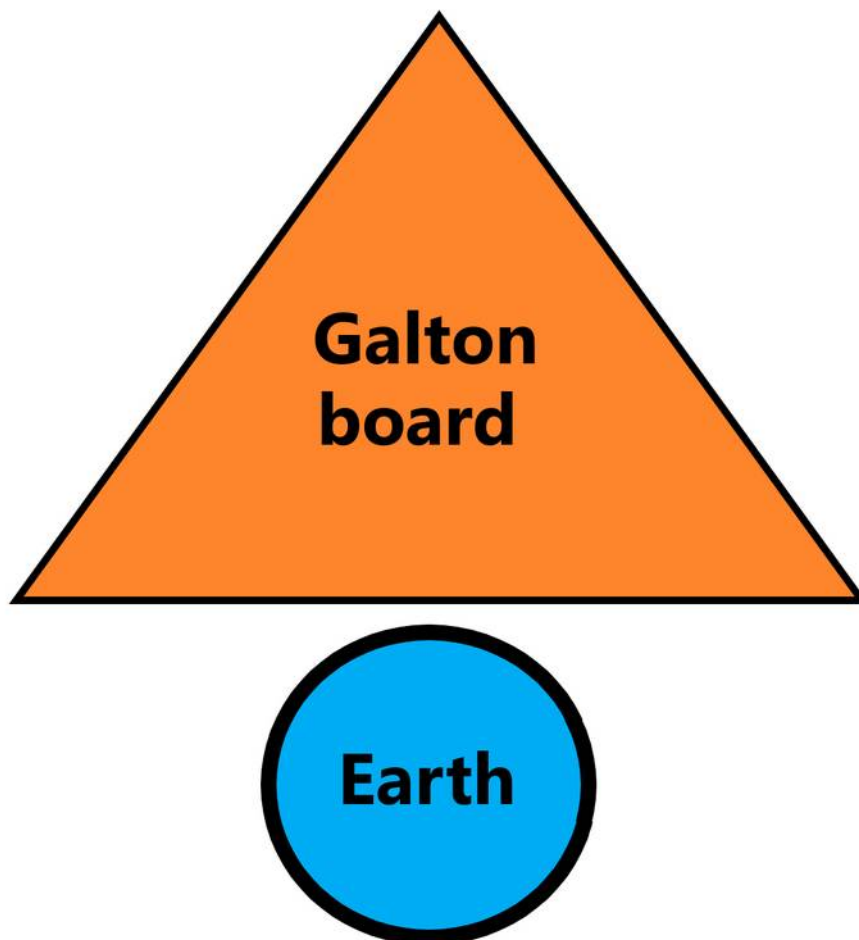**Imagine a very huge Galton board** - see at Fig. 3.

Fig. 3 – very huge Galton board above the Earth

The distribution curve wiil be very different. For the reason of gravity.

In the world there are no ideal points and lines and curves, etc. Such mathematical entities are only abstraction from the real world. Same is valid for Probability. The probability of next event is lower in spite of Ideal Probability where the probability is always equal to ½ at every peg of the Galton board.

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