Article

New mathematical vision on hazardous games

Abstract

In this article we will show a curious fact that comes to prove that nature uses the mathematic as a tool to determine its natural rules. The draws of numbers at any kind of `hazard games are not, as we thought until here, random occurrence. This discovery will revolutionize the classic statistic concept.

We will analysis here the results of the `megasena` very popular lottery in Brazil which grand prix consists to hit six of sixty numbers. These, kept in rest, guards, as if it were in hibernation, all its 'qualities'. This mathematic discovery let us astonished. Its 'qualities' remains independently of the day or hour of the draw; it are always there; it 'awake up' when touched.

Through the theory 'The Mathematic of Evolution' we could decipher 'partially' the secret of hazard games. We discover that each number drawn is inclined to 'appear', 'to show off', with its 'qualities' at the same number of draws. It means that each number appears certain and 'constant' number of times for the same number of draws.

Text

The theory 'the mathematic of evolution' that rules all the 'evolutions' (transformations) of the nature has an expression which origin will be not explained here.

$$H_{n,i} = \binom{n}{i} \frac{B^{i}}{C^{(n-1)}} \left[(C - B)^{(n-i)}\right] \qquad \text{(a)}$$

The expression $\binom{n}{i}$ represents the 'binomial number of Newton' and must be calculated as: $n! / [(n-i)!\,(i!)]$ (n factorial divided by the product of (n – i) factorial and the i ! factorial); C is the quantity of numbers available for the draws (here, C = 60); B is the quantity of numbers draws (here, B = 6); n is the number of draws that we study; i represents the family, that is, the group of numbers who were drawn `0` time; `1` time; `2` times; `3`times; etc. . Hn,i represents the quantity of times a number appears in the family `i = 0`, or in the family `i = 1`, or in the family `i = 2`; etc., after n draws.

If we consider the results of 15, 19 e 24 draws, in the examples that is shown below, we will obtain the joints that we can classify as those that: was drawn not one time (i = 0), those that have been drawn one time (i = 1), those that have been drawn twice (i = 2); etc..

The quantity of numbers Hn,i in each group, experimentally drawn, obey to the fundamental equation shown in (a), above. Disposed in a table the experimental values (*) obtained and the values calculated Hn,i, we will have an easy comparative vision. We took the draws of numbers 157, 183 and 205 for this article.

Numbers of draws	Experimental values (*)	Calculated values	
H15,0	12.0	12.4	
H15,1	22.0	21.0	(*) - observed

H15,2	14.0	16.3	n = 15
H15,3	8.0	7.9	i = 0,1,2,3,4,5
H15,4	4.0	2.6	Ref. MS-157
H15,5	0.0	0.6	
H19,0	9.0	8.2	
H19,1	17.0	17.1	(*) - observed
H19,2	17.0	17.1	n = 19
H19,3	10.0	10.8	i = 0,1,2,3,4,5
H19,4	4.0	4.8	Ref. MS-183
H19,5	3.0	2.0	
H24,0	2.0	5.0	
H24,1	14.0	13.0	(*) - observed
H24,2	15.0	16.0	n = 24
H24,3	20.0	14.0	i = 0,1,2,3,4,5,6
H24,4	7.0	8.0	Ref. MS-205
H24,5	1.0	3.0	
H24,6	1.0	1.0	

The probability in the classic concept allows that for a simple bet of six numbers is contemplated at the `Megasena` (MS) is of 1 to 50,063,860 (we could say: 1 chance in 50 millions of draws). Under the new theory we will have another's values. See, for instance that we can be contemplated in the `Megasena` (MS) if we hit a number of each one of the joints H24,0; H24,1; H24,2; H24,3; H24,4 and H24,5. The probability or this case is: P = 1 / [(5/60)*(13/60)*(16/60)*(14/60)*(8/60)*(3/60)] = 1 / 133,516, that is very different of 1 / 50 millions. The knowledge that gives us the new theory 'The mathematic of evolution' will revolutionize the calculus of probability in all fields of Science. In others words we can say that while a naive individual plays with the probability of 1 / 50 billion the other well informed will play with the probability of 1 / 133 thousands (or may be smaller . . . dependant better studies).

In these examples shown of the lottery `Megasena' (MS) we can see the beauty of the balance over the joints; when the numbers of a family goes up or goes down, such differences will corrected in relation to the numbers calculated (right column) in the next draws. This fact shows the behavior of nature; it is not only in the examples that we gave above but in all experiments we tested the theory.

At the beginning of our researches we proceed with a mix of observations and calculus of various natural phenomena besides the hazard games as those about 'Isotopic Radioactive Atoms' variations. Then we extend to others observations to conclude about the equation (a) shown at the beginning of this article.

Plagiarizing Lavoisier we would like to say that 'in nature nothing is lost, nothing grows up, everything transform itself' second the theory of the 'The mathematic of evolution'.

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