# PASCAL'S TRIANGLE AND SOME FAMOUS NUMBER SEQUENCES

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The Fibonacci sequence has a well-known relationship to certain diagonals of Pascal's Triangle.

Another interesting relationship exists between the double numbers of Pascal's Triangle and each of two sequences well known in atomic and nuclear physics.

One of these two sequences represents the numbers of electrons (2, 8, 18, 32, 50, $\cdots$), and another — the numbers of nucleons (2, 8, 20, $\cdots$ and 28, 50, 82, 126, $\cdots$) in the occupied shell structures of atoms and their nuclei respectively.

The details are shown in the following figure.
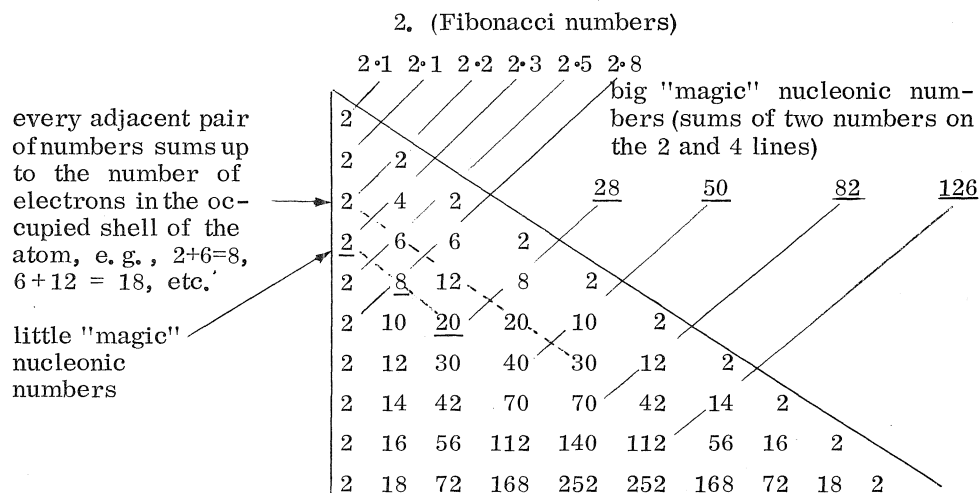
Pascal's Triangle   (with double numbers)

*Remark. The definition does not exclude: $0 + 2 = 2$.

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