1056-54-109Okan Gurel* (protein@attglobal.net), 630 First Avenue, New York, NY 10016, and Demet
Gurel, 27-33 W23 St, New York, NY 10010. Fibonacci Hexagon and Genetic Tableau.

The Fibonacci numbers and their corresponding Fibonacci squares [1202, Liber Abaci] not only show the morphogenesis of sea shells, but the fundamental basis of life. The number of the amino acids (phenotype) and their distribution are determined by the Fibonacci numbers (0 1 1 2 3 5 8). Fibonacci squares corresponding to Fibonacci numbers cover the planar space by spiraling out. We show that four concentric hexagons corresponding to (0 1 1 2) represent a bundle of six Fibonacci spirals, which we named the Fibonacci Hexagon. Rearranging "The Genetic Code", a matrix with both rows and columns as (TCAG), by elements of the cyclic group, (CGAT, CTGA, CATG) defined on the Genetic Tetrahedron yields the Genetic Tableau, [1969 (January), The Structure of the Genetic Code, IBM NYSC 320-2963]. This brings out the asymmetric structure of the genetic code. The sequence of amino acids 1 through 20, Gly to Trp, in increasing number of carbons in their residues, forming six spiraling triangles with edges (3 5 8) cover the Fibonacci hexagon. This covering corresponds precisely to the positions of the amino acids on the asymmetric Genetic Tableau (genotype). (Received July 27, 2009)