Recent Mathematical Stamps: 2001

2001 saw the publication by Springer of my book *Stamping Through Mathematics*, depicting about 400 mathematical stamps with accompanying text. Since then, several new mathematical stamps have appeared, and the next few Stamp Corners will present some of these.

Binary Code

is the means used for representing text or processing instructions for a computer. It is based on the binary number system of two digits 0 and 1, in which a decimal number such as $26 = (2 \times 10^1) + (6 \times 10^0)$ is represented by the binary number $11010 =$

$$(1 \times 2^4) + (1 \times 2^3) + (0 \times 2^2) + (1 \times 2^1) + (0 \times 2^0).$$

Pierre Fermat

(1601–1665) made substantial contributions to the development of analytic geometry but is mainly remembered for his contributions to number theory—notably, his ‘little theorem’ that $a^p - a$ is divisible by p for any natural number a and prime number p ; his observation that any prime of the form $4n + 1$ can be written as the sum of two squares; and his claim (the ‘last theorem’) that the equation $x^n + y^n = z^n$ has no nontrivial solutions in integers when $n > 2$.

Fullerenes

or **buckyballs**, named after the architect Buckminster Fuller, are chemical molecules that take the form of a polyhedron made up of pentagons and hexagons. All of these have just 12 pentagons, and the smallest, C_{60} , corresponds to a truncated icosahedron.

Werner Heisenberg

(1901–1976) took an algebraic approach to quantum theory, repre-

senting quantities such as position, momentum and energy by infinite matrices. Using the fact that matrix multiplication is noncommutative, Heisenberg deduced his famous *Uncertainty Principle* that it is theoretically impossible to determine the position and momentum of an electron at the same time.

Otto Yulievich Schmidt

(1891–1956) was a distinguished algebraist who wrote a celebrated book on the theory of groups and contributed to the ‘Krull-Schmidt Theorem’ on groups with the ascending and descending chain conditions. A well-known polar explorer, he was rescued from a stranded ice-breaker during a polar scientific expedition.

Nasiraddin Tusi

(1201–1274) constructed the first modern astronomical observatory and wrote influential treatises on logic, ethics and theology. He also investigated the sine rule for triangles and Euclid’s parallel postulate.

Binary Code (Bosnia)

Pierre Fermat (France)

Fullerene (Great Britain)

Werner Heisenberg (Germany)

Otto Schmidt (Belarus)

Nasiraddin Tusi (Azerbaijan)

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