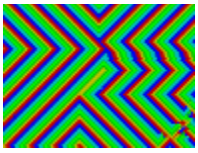
AutoCell 2.0

"Cellular automata are stylized, synthetic universes... They have their own kind of matter which whirls around in a space and a time of their own."

- Tommanso Toffoli (quoted from an A.K. Dewdney article)

MetaLife ***Pattern Breeder***



Spiral Demon ***Computer Components***

AutoCell 2.0 offers a large, variable field, drawing, editing and zooming tools, sophisticated document handling, a 256 color palette, and a user-friendly interface.

Cellular automata represent some of the most interesting and colorful mathematical phenomena. AutoCell 2.0 allows you to explore a virtually infinite number of cellular automaton universes beyond Conway's "Life." Using simple rules, and with drawing and editing tools, you can quickly construct a miniature universe or a cellular computer.

AutoCell 2.0 is available at a cost of $10 U.S. ($12 Can) payable to:

Paul Keet
12726 Southridge Dr.,
Surrey, B.C., Canada
V3X 3C6

Please specify 3-1/2" or 5-1/4" disk format.

Life

"Life" refers to a type of cellular automaton discovered by John Conway, a mathematician at the University of Cambridge, in the sixties. Life is based upon the following rules:

a) Cells may be either black or white;

b) A black cell will remain black if it is touching two or three other black cells, otherwise it will turn white;

c) A white cell will remain white unless it is touching three black cells, in which case it will become black.

These simple rules lead to complex behaviors. Life is the most popular cellular automaton; much has been written about it in books and the Mathematical Recreations column in the Scientific American. Life is, however, only one type of a large variety of cellular automata.

Cellular Automata

Cellular automata are collections of cells whose individual state is determined by its previous state and the state of the cells surrounding it. States in AutoCell 2.0 are represented as colors. Some rules lead to self-replicating patterns, e.g. 'gliders' in Conway's Life, while other rules can yield patterns which exhibit complex and even cooperative behavior.

Cellular automata are divided into four categories:

Class I	Automata form into fixed, homogeneous patterns;
Class II	Automata form simple oscillating patterns;
Class III	Automata become unpredictable, although tending towards certain patterns;
Class IV	Automata form complex, regional patterns.

Class IV cellular automata, Conway's "Life" as an example, are the most interesting type and also the hardest to classify.