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HOW IT WORKS

If You Behave Yourself, I'll Print You a Toy

By PETER WAYNER

VIEWED through the fantastic lens of science fiction, three-dimensional printers seem as amazing as the transporters in "Star Trek." In goes a digital idea of a thing and out comes the thing itself.

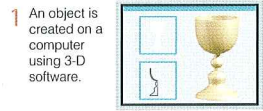
In practice, three-dimensional printing is fairly mundane. Many such machines use a computer-controlled stream of a chemical or laser light to bind a powdery material, layer by layer, into an object. Just as a modern printer uses billions of tiny dots to produce images, three-dimensional printers arrange billions of tiny flecks of plastic or metal to produce objects. Computers ensure that the billions of bits end up in the right place, a process that can take several hours or even a day.

The machines are very expensive, costing tens of thousands of dollars or more, and are used by industrial designers or engineers to make prototypes of parts or other objects.

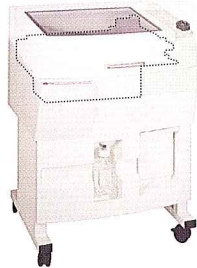
But some companies are considering the possibility of producing a lower-priced version that could eventually find its way into homes. Then, for example, a grandmother

Megabits (of Powder)

Three-dimensional printers are being used increasingly by industrial designers to create prototypes of parts and other objects rapidly. While a variety of technologies are used, many build up objects layer by layer using powder that is bound together with chemicals or laser light.



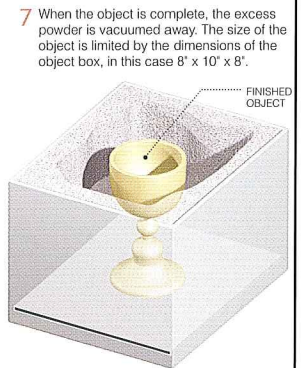
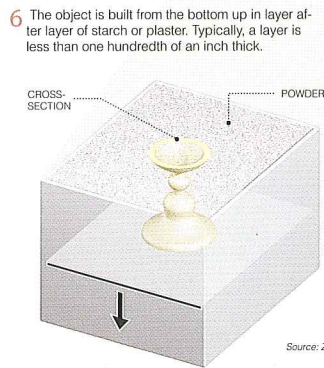
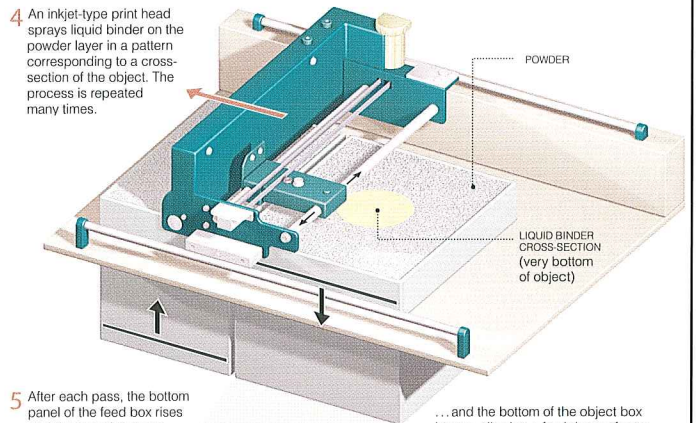
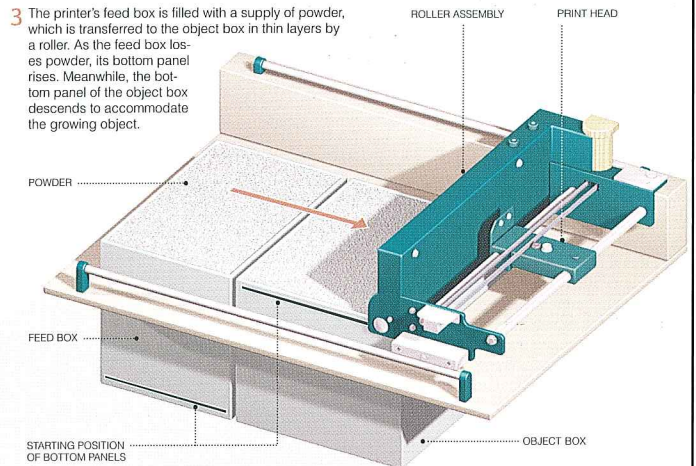
2 The file is sent to the printer. This one uses starch or plaster powder and liquid binder to create the object.



could e-mail a toy to her grandchild by sending a software file, or the angler in the family could prepare for a day of fishing by printing out a few lures, optimized for the season and the weather.

Kevin McAlea, the senior vice president for worldwide revenue generation at 3D Systems, a printer manufacturer based in Valencia, Calif., said that mass production could lower the price of the machines, but that no one knew whether there would be a market.

"Will this just be an adjunct to the engineering plotter business, or a significant addition to the general office or the home?" he said.



Source: Z Corporation