Blues for Deep Blue

When IBM's Deep Blue bested world chess champion Gary Kasparov last year, some scientists hailed the victory as a landmark on the way to creation of a machine with intelligence equal to the human sort. Bringsjord, who teaches logic and artificial intelligence (AI) at Rensselaer Polytechnic Institute, argues that while computers may regularly checkmate human grand masters one day, they will never achieve intellectual parity with their creators.

Deep Blue's triumph was a victory for proponents of so-called strong AI, who believe that all human thought can be broken down into a series of mathematical operations. If that sounds impossible, so, until recently, did formidable chess-playing computers—at least to some experts. In his 1992 book *What Computers Still Can't Do*, Hubert Dreyfus, a philosophy professor at the University of California, Berkeley, said that such machines would forever remain science fiction. Yet chess, Bringsjord points out, theoretically *can* be reduced to a series of mathematical operations. The true test of computer intelligence, he argues, lies in something far more elusive: the ability to create.

A genuinely intelligent computer, for example, would be able to write fiction that is rich in language, plot, and characterization. For the last seven years, Bringsjord has been working to build "a formidable artificial author of short short stories." The latest result, he says, is a machine named Brutus.I, which can compose very short stories, provided they "are based on the notion of betrayal (as well as self-deception, evil, and to some extent voyeurism)." This feat was made possible because Bringsjord and a colleague were able to devise a formal mathematical definition of betrayal and implant it in the machine. But Brutus.I gets writer's block when it comes to other great literary themes, such as revenge and unrequited love.

Bringsjord's 10-year quest to construct a "silicon Hemingway" has three years left, he notes, but it already "seems pretty clear that computers will never best human storytellers in even a short short story competition." For a machine to tell a "truly compelling story," he points out, it would have to understand the characters' "inner lives"—and that would require not just swift calculation à la Deep Blue but the ability "to think experientially," mixing memory and perception as an artist does. The chess champs of the future may have reason to worry, but John Updike and his successors do not.

The Spices of Life

Folk wisdom has it that people in hot climes favor "hot" food because pungent spices mask the taste of food that's past its prime. In fact, the spices have a far more sophisticated function: killing or inhibiting bacteria and other microorganisms that can spoil food and threaten human health.

Billing and Sherman, a graduate student and a professor, respectively, in Cornell University's Section of Neurobiology and Behavior, believe that the taste for spices is an evolutionary adaptation. They looked at how often 43 spices were used in the meat-based cuisines of 36 countries. Ninety-three percent of the more than 4,500 recipes they found called for at least one spice, and the average recipe called for about four. Onion (used in 65 percent of the recipes) and pepper (63 percent) were the most frequently used flavor enhancers, followed by garlic (only 35 percent), capsicums, lemon and lime juice, parsley, ginger, and bay leaf.

In 10 countries—Ethiopia, Kenya, Greece, India, Indonesia, Iran, Malaysia, Morocco, Nigeria, and Thailand—*every* meat-based recipe called for at least one spice. By contrast, in Finland and Norway, about one-third of the recipes called for no spices at all.

Not only did people living in hot climates, where the food is more likely to spoil, use