

Exemplar Informational Texts: Science, Mathematics, and Technical Subjects – “The Coming Merger of Mind and Machine”

Kurzweil, Ray. “The Coming Merger of Mind and Machine.” *Scientific American Special Edition* January 2008. (2008)

The accelerating pace of technological progress means that our intelligent creations will soon eclipse us—and that their creations will eventually eclipse them.

Sometime early in this century the intelligence of machines will exceed that of humans. Within a quarter of a century, machines will exhibit the full range of human intellect, emotions and skills, ranging from musical and other creative aptitudes to physical movement. They will claim to have feelings and, unlike today’s virtual personalities, will be very convincing when they tell us so. By around 2020 a \$1,000 computer will at least match the processing power of the human brain. By 2029 the software for intelligence will have been largely mastered, and the average personal computer will be equivalent to 1,000 brains.

Once computers achieve a level of intelligence comparable to that of humans, they will necessarily soar past it. For example, if I learn French, I can’t readily download that learning to you. The reason is that for us, learning involves successions of stunningly complex patterns of interconnections among brain cells (neurons) and among the concentrations of biochemicals known as neurotransmitters that enable impulses to travel from neuron to neuron. We have no way of quickly downloading these patterns. But quick downloading will allow our nonbiological creations to share immediately what they learn with billions of other machines. Ultimately, nonbiological entities will master not only the sum total of their own knowledge but all of ours as well.