Predictions for the Next 100 Years
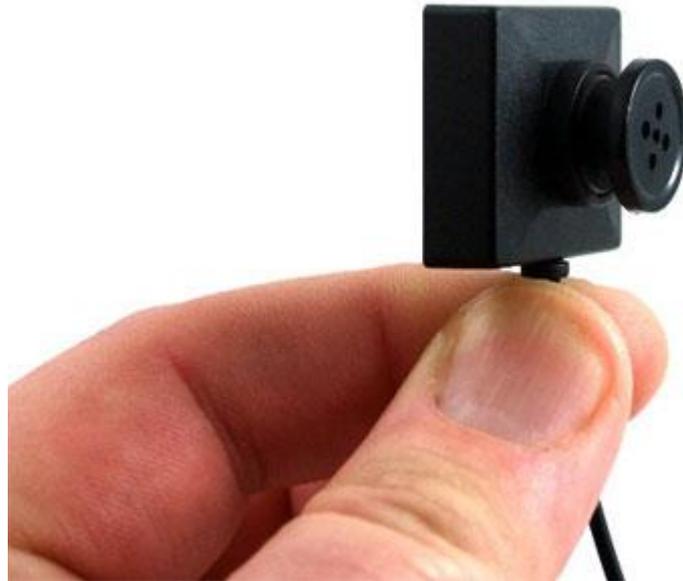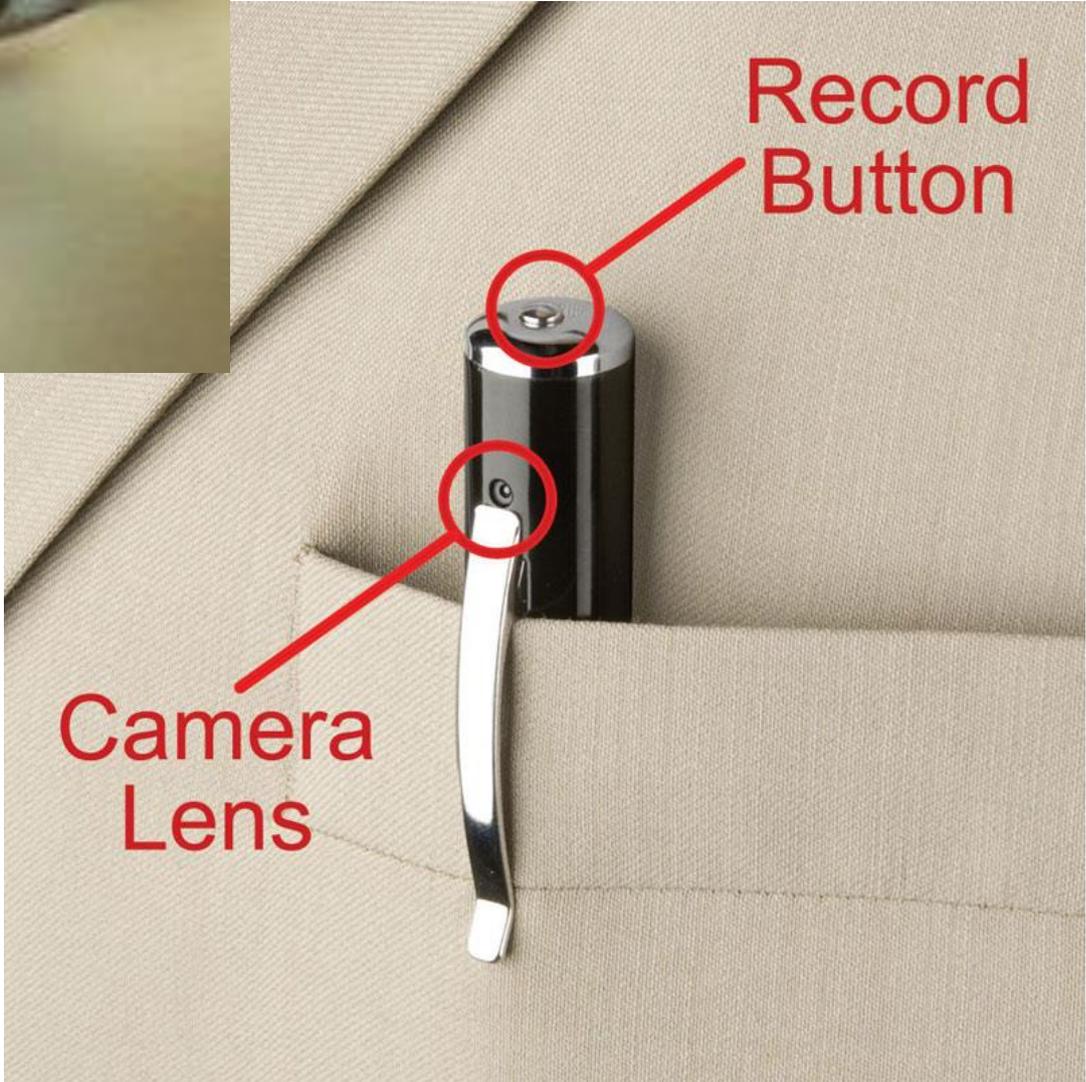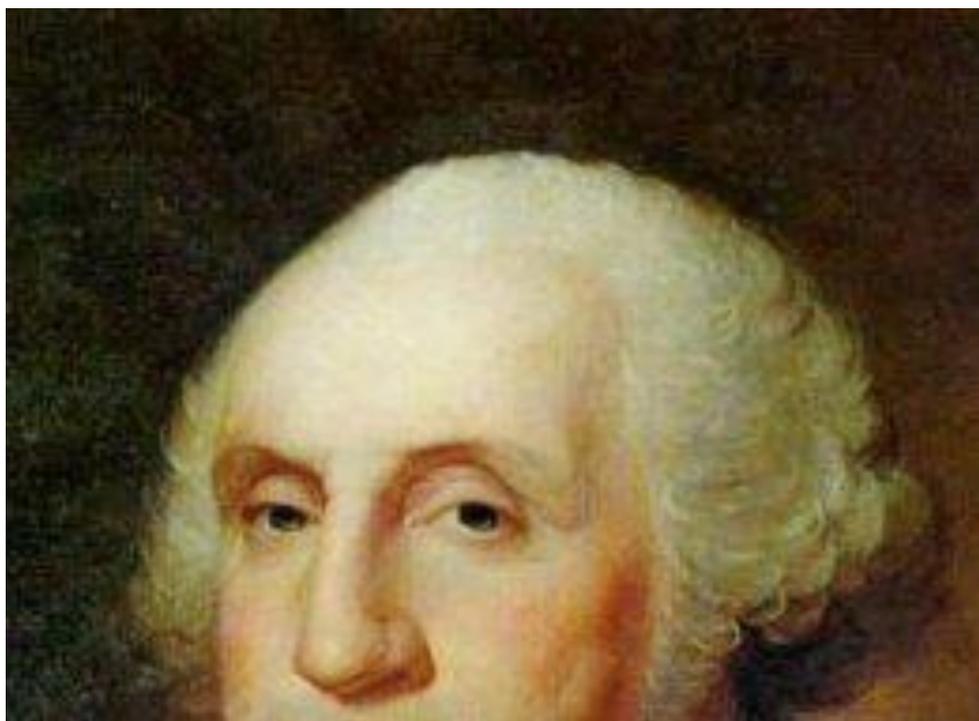
What will be the consequences, and most importantly, what adjustments should we make as a result of these changes?

# Pinhead-sized cameras will be everywhere

Record
Button

Camera
Lens

"Privateness" will become passé. The spread of surveillance technology and the rise of Web sites like YouTube, which receives more than 65,000 video uploads daily, are driving a trend toward cyber-exhibitionism.

The end of identity as we know it: It will be easier than ever to create a new identity or identities for ourselves. All we will have to do is create new avatars in virtual reality. Those avatars will act on our behalf in real life to conduct such high-level tasks as performing intensive research, posting blog entries and Facebook updates, and managing businesses.
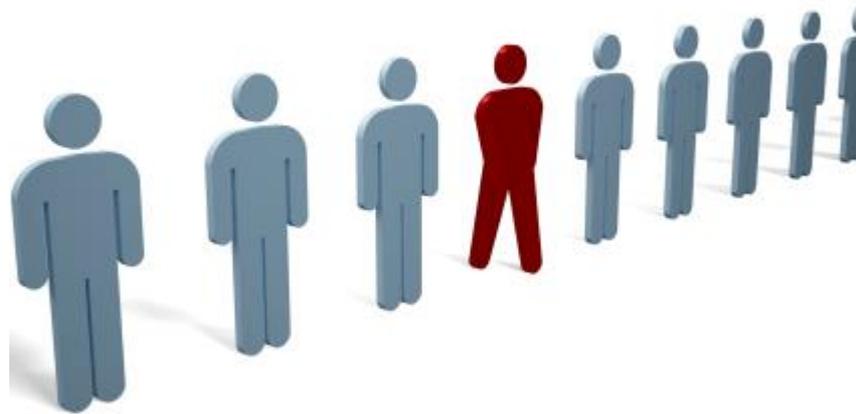
Most human workers spend the majority of their time acquiring new skills and knowledge. Professional knowledge will become obsolete more quickly. An individual's professional knowledge is becoming outdated at a much faster rate than ever before. At any given moment, a substantial portion of the labor force will be in job retraining programs.

A virtual reality headset will stimulate brain waves so people can learn whole libraries of information within hours.
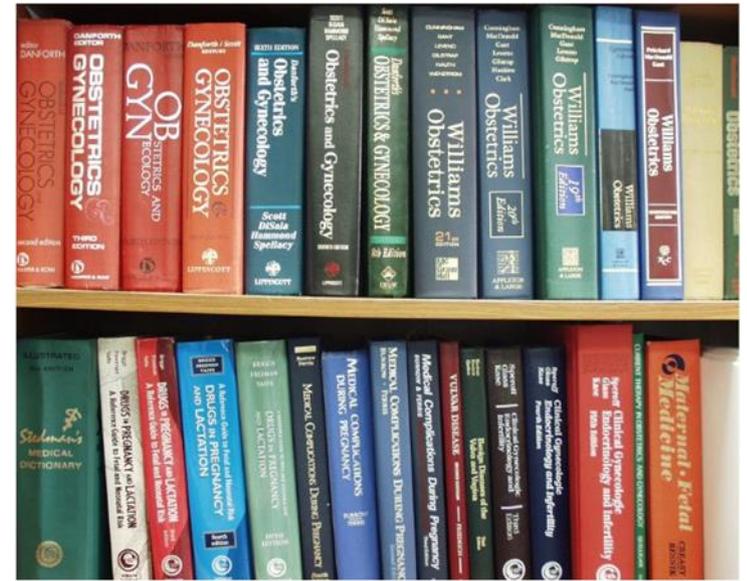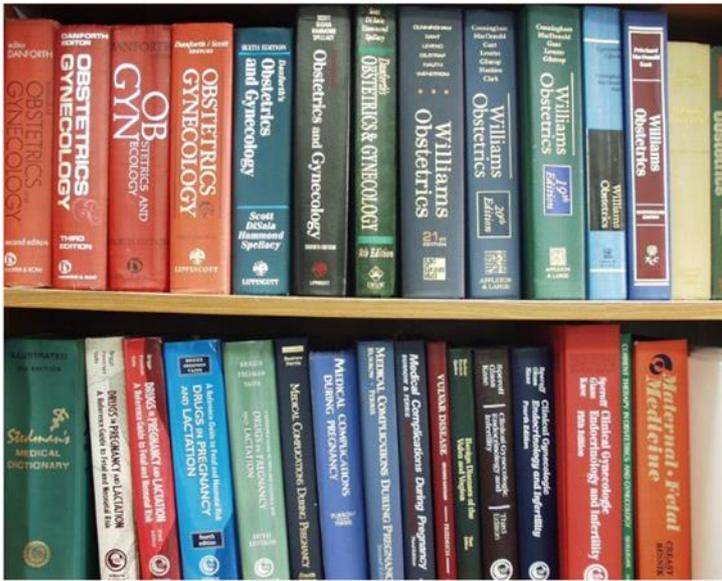
Superlongevity will have a growing influence on career choices. Realizing that their careers might extend for 50 years or more, younger careerists, even those not yet ready for full-time employment, will experiment with unique career patterns.

More young people will opt to not only pursue postgraduate education, they may remain in school well into their 20s or early 30s in order to train for the complex jobs required in our advanced society. More people in their 50s will also return to school to start new careers.

Oceans will be extensively farmed and not just for fish – necessary since two giant dust bowls are currently forming—one in Asia and one in Africa.

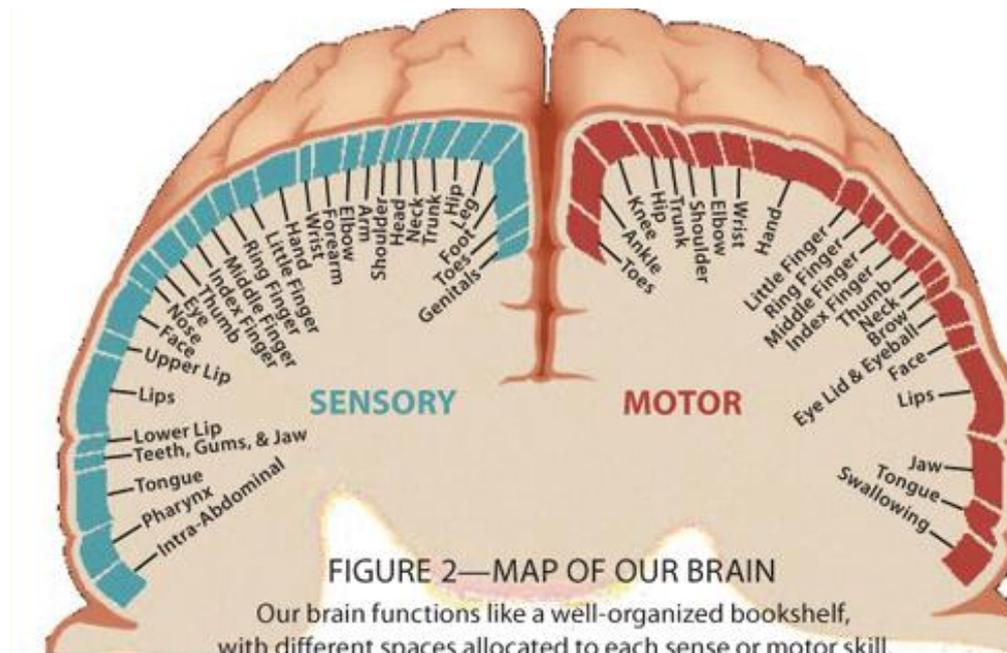The vast majority of business interactions occur between between a human's virtual personal assistant and a simulated retailer.

We will be able to control the weather
Future international diplomacy may increasingly focus on how to control the climate as geoengineering may become imperative by 2015. Protests may lead to violence, especially if different regions have divergent results or demand incompatible outcomes.
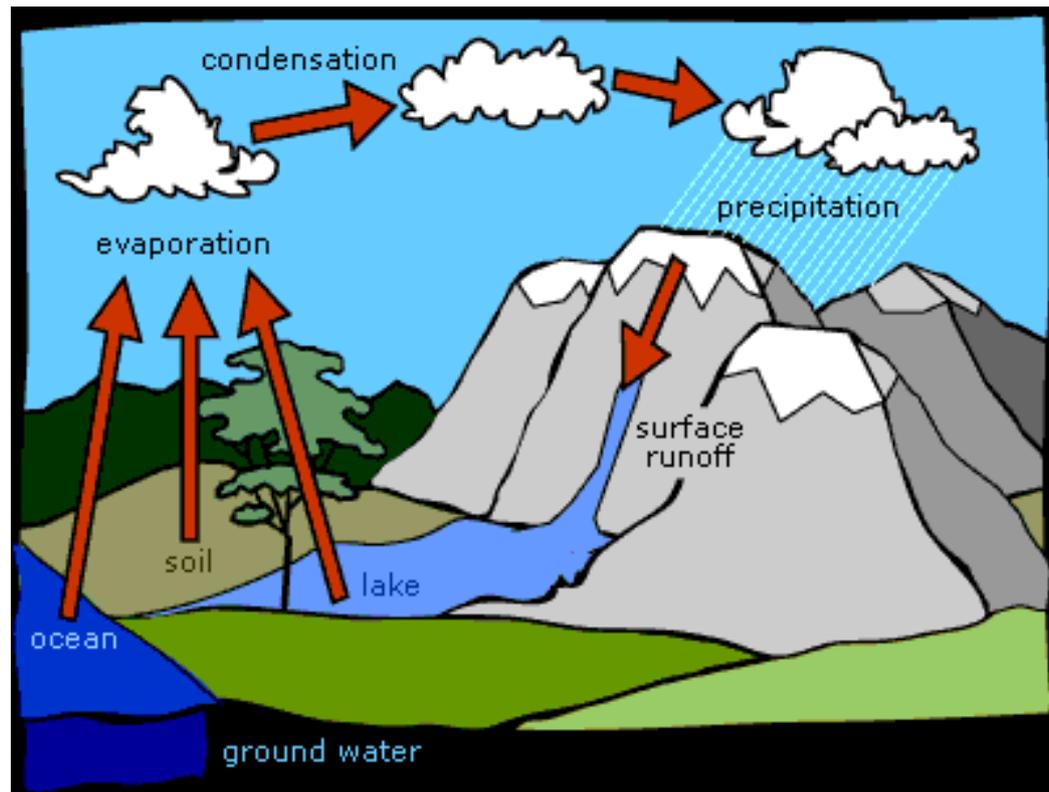
The human brain will have been completely reverse engineered and all aspects of its functioning are understood.

FIGURE 2—MAP OF OUR BRAIN

Our brain functions like a well-organized bookshelf, with different spaces allocated to each sense or motor skill. These books must compete with each other for shelf space. As we increase skills in one area, the brain must take away space from the nearest books.

based on the Wilder Penfield map

There will be museums for almost every aspect of nature, as so much of the world's natural habitat will have been destroyed

# Marriage will be replaced by an annual contract

The last car dealership in North America closes its doors. The popularity of the Web for car buying, and the introduction of FedEx's special car carriers to return cars to regional factory service centers for warranty/repair work

Only 2/3 of American households will own cars, down from 7/8 today. Most new housing will be built in conjunction with high-density, mixed-use developments clustered around rail-transit stations throughout an increasingly urbanized nation
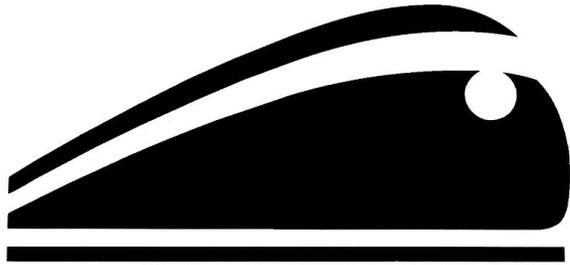
Future cars will become producers of power rather than merely consumers
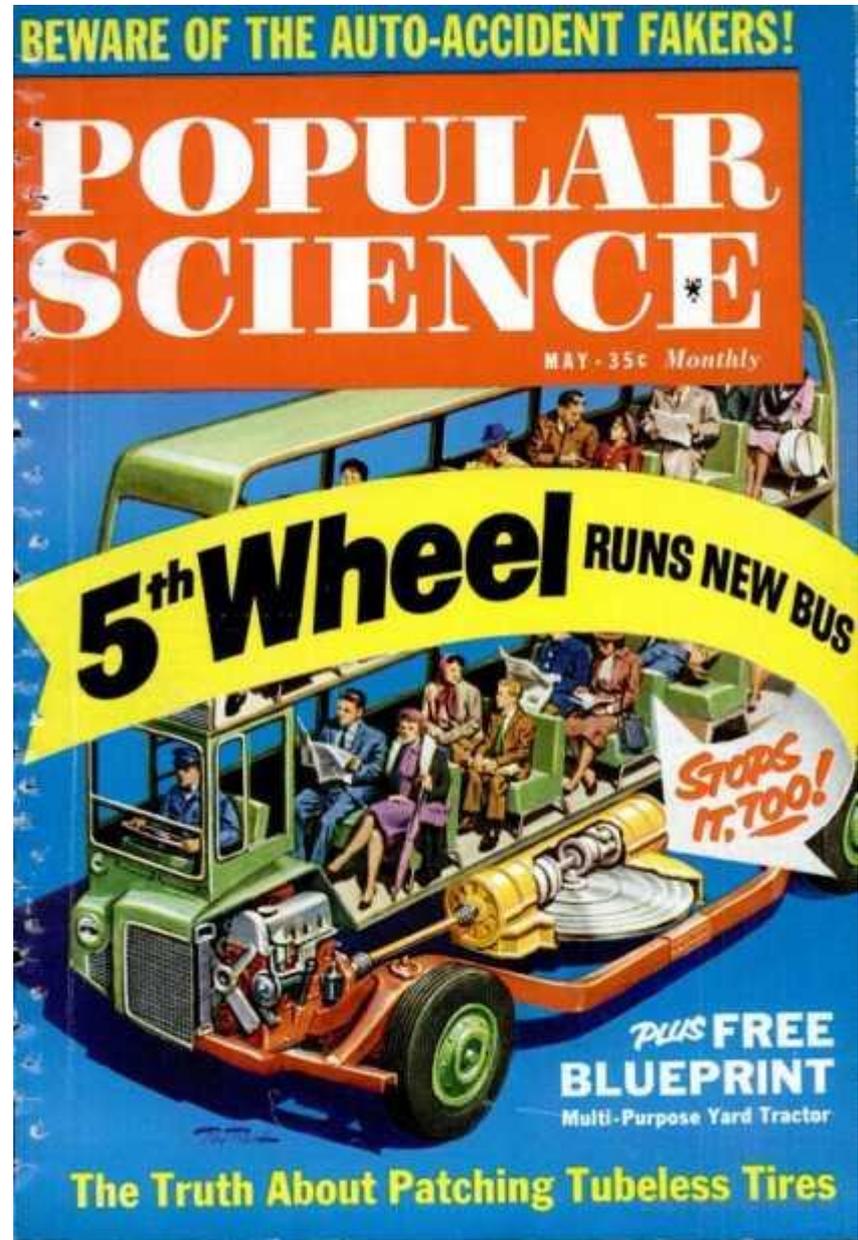
A network of higher speed regional passenger railroads will be built in the US, with high speed – 220 mph - routes connecting them.

There will no longer be any need for passwords – replaced with retinal scans, voice print identification, or fingerprints.

Brain-implantable silicon chip systems will can enable people to maneuver computer cursors with their thoughts.

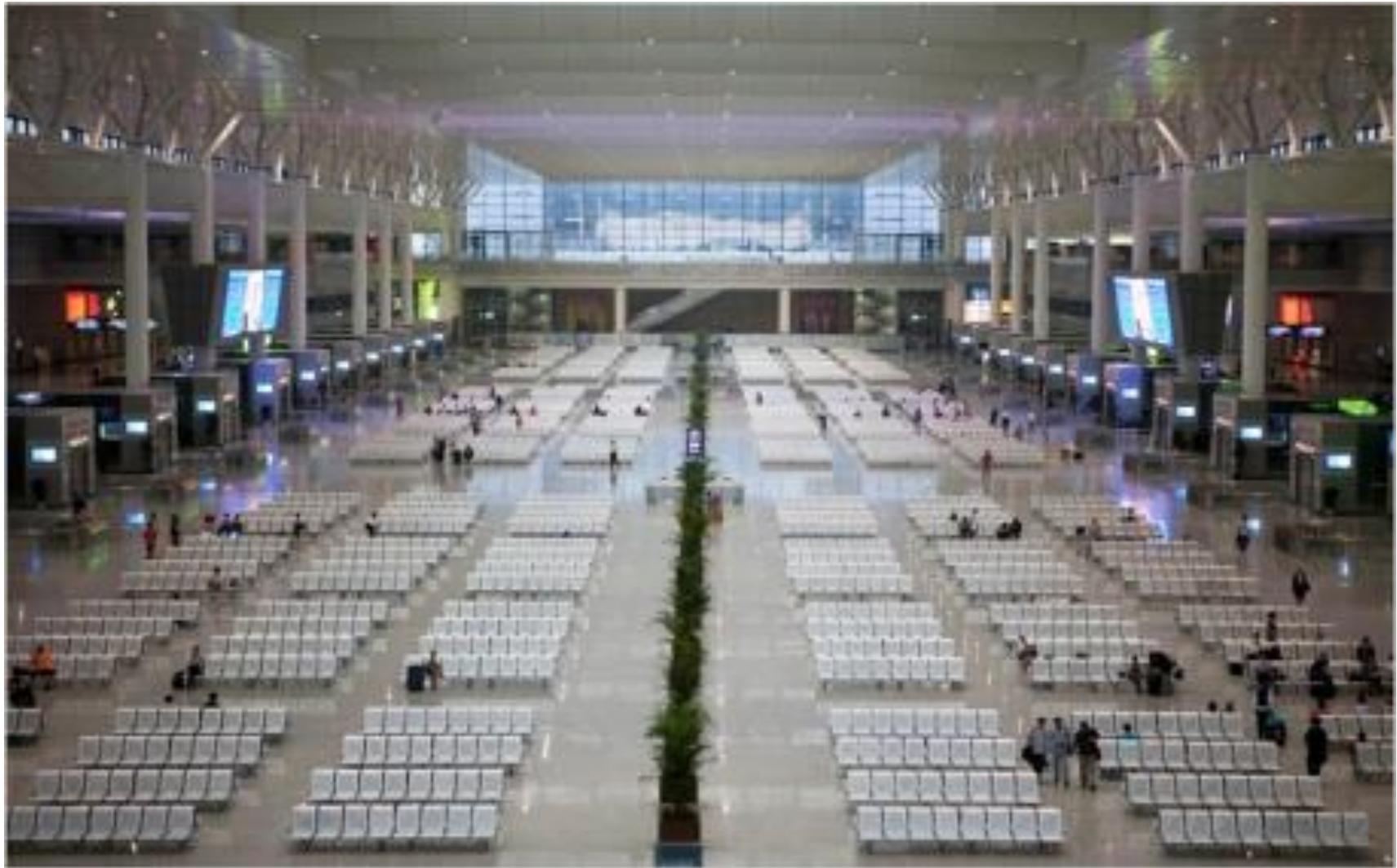# Cities Will Support 5 Billion Humans

Urban areas around the world are expanding at twice the rate of their population.

Reed Saxon / AP file

The influx of rural populations into cities, particularly in developing countries, could further raise greenhouse-gas emissions by another 25%i by mid-century.

Advertisers will stop bothering you if they know they're wasting their time.

The antitechnology Luddite movement will grow increasingly vocal and possibly resort to violence as these people become enraged over the emergence of new technologies that threaten traditional attitudes regarding the nature of human life (radical life extension, genetic engineering, cybernetics) and the supremacy of mankind (artificial intelligence).
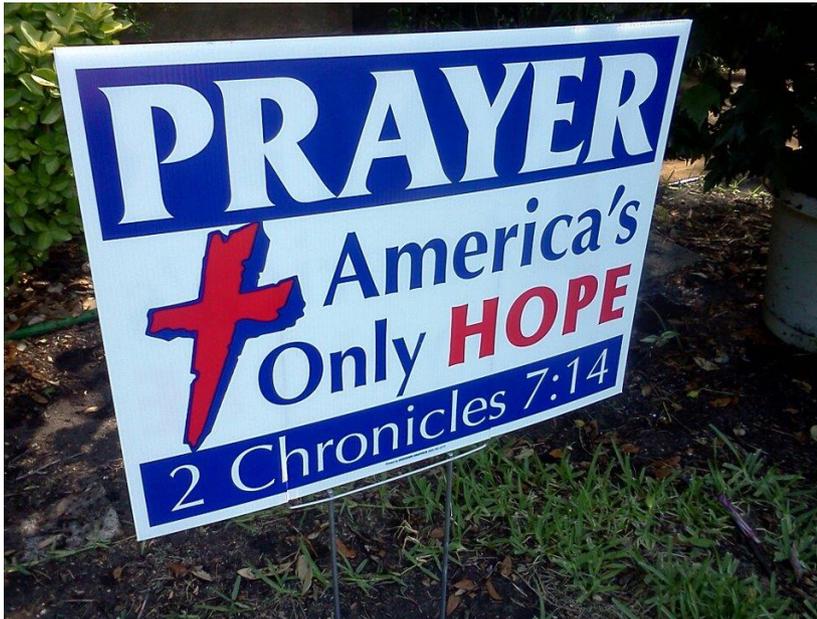
Accelerating change may accelerate resistance to change. The uncertainties and discomfort that accompany rapid changes (such as in new technologies and social structures) often provoke individuals to retreat into rigid belief systems and even aggressive, dysfunctional behavior. People may become more apathetic about the future at a time when they need to be more aware and engaged.

Response to accelerated change

Nanotech-based manufacturing will be in widespread use, radically altering the economy as all sorts of products can suddenly be produced for a fraction of their traditional-manufacture costs. The true cost of any product is now the amount it takes to download the design schematics.

It will be possible to replicate the experience of God using a small electro magnet placed on the right frontal lob of one's brain

Individual beings merge and separate constantly, making it impossible to determine how many "people" there are on Earth.
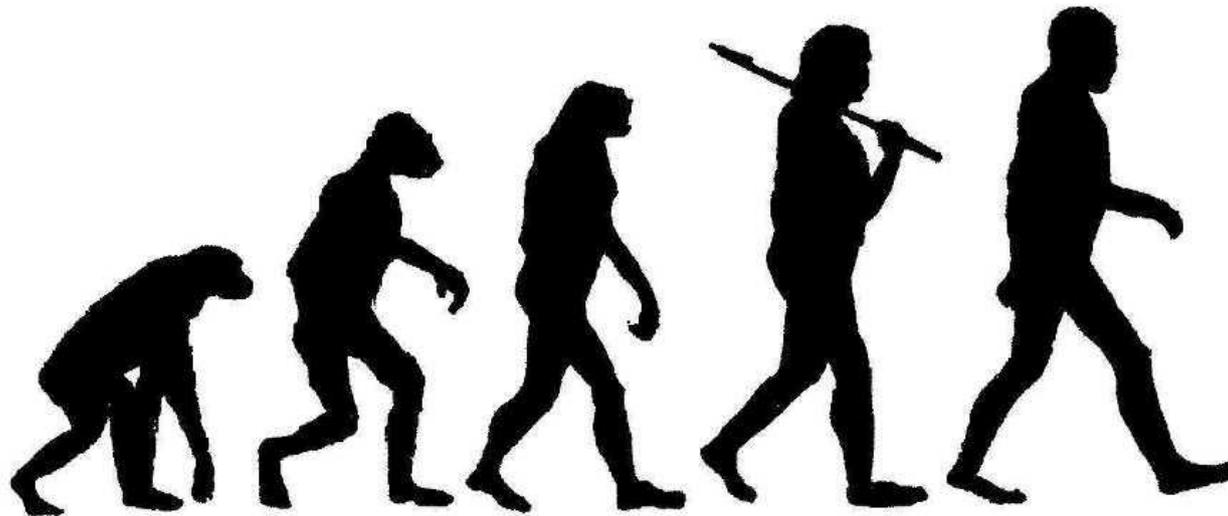
Expect growing resentment toward a new class of genetic elites, or "genobles." The use of genetic technologies could destabilize human civilization as the wealthy use enhancements to increase their advantages over have-nots. The rise of genobility—i.e., genetic nobility—will require societies to set boundaries for emerging society-altering technologies.

There will be one world currency.

Translating telephones allow people to speak to each other in different languages – reduced to only 3.

Transitioning to a mostly cashless society could reduce crime - eliminating illegal underground economies. Based on FBI statistics, eliminating cash robberies would save the US around $144 billion per year. In addition, identity theft and wire fraud would likely decline, since fraudulently wired funds are most often redeemed in cash in order to break audit trails.

Counterfeiting of currency will proliferate, driving the move toward a cashless society. Sophisticated new optical scanning technologies have been a boon for currency counterfeiters, so societies are increasingly putting aside their privacy fears about going cashless. Meanwhile, cashless technologies are improving, making them far easier and safer to use.
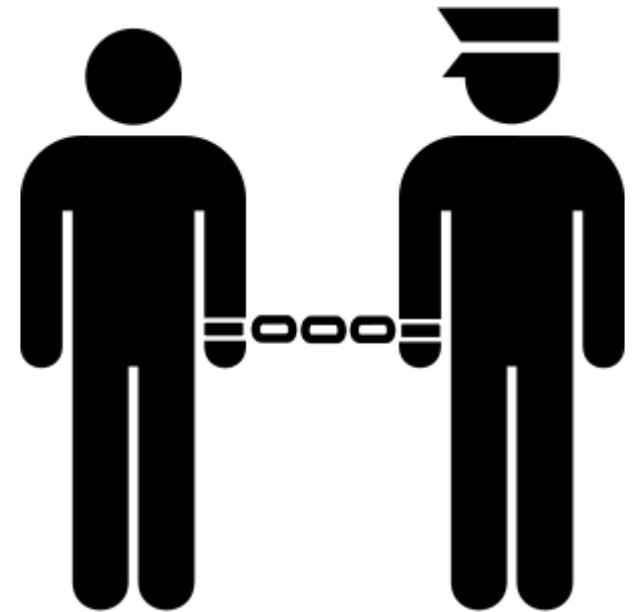
Wristwatch cash card: Store a few extra bucks in a "cashless wallet" embedded in your wristwatch. Buy a can of soda or subway ticket with a simple wave of your hand.

Cylindrical rooms in which people enter to see an automated projection of the clothing and color that would look good on them; select what you want, take your measurements, then two days later pick up the goods.

New exercise equipment that you sit or stand in, and it literally stimulates your muscles with electricity to achieve the same effect as physical exercise

Medicine in pill form goes away; instead we have air-injected delivery through the skin.
People will begin experimenting more freely and recklessly with nano-electronic personal enhancement. One type of nano-device people might try to incorporate into their biological functioning could be artificial blood cells (respirocytes), which could greatly enhance human performance. Unfortunately, they could also cause overheating of the body and breakdowns.

Houses made from pressed paper with plastic coatings. Future buildings may be more responsive to weather fluctuations. "Protocell cladding" that utilizes bioluminescent bacteria or other materials would be applied on building facades to collect water and sunlight, helping to cool the interiors and produce biofuels.
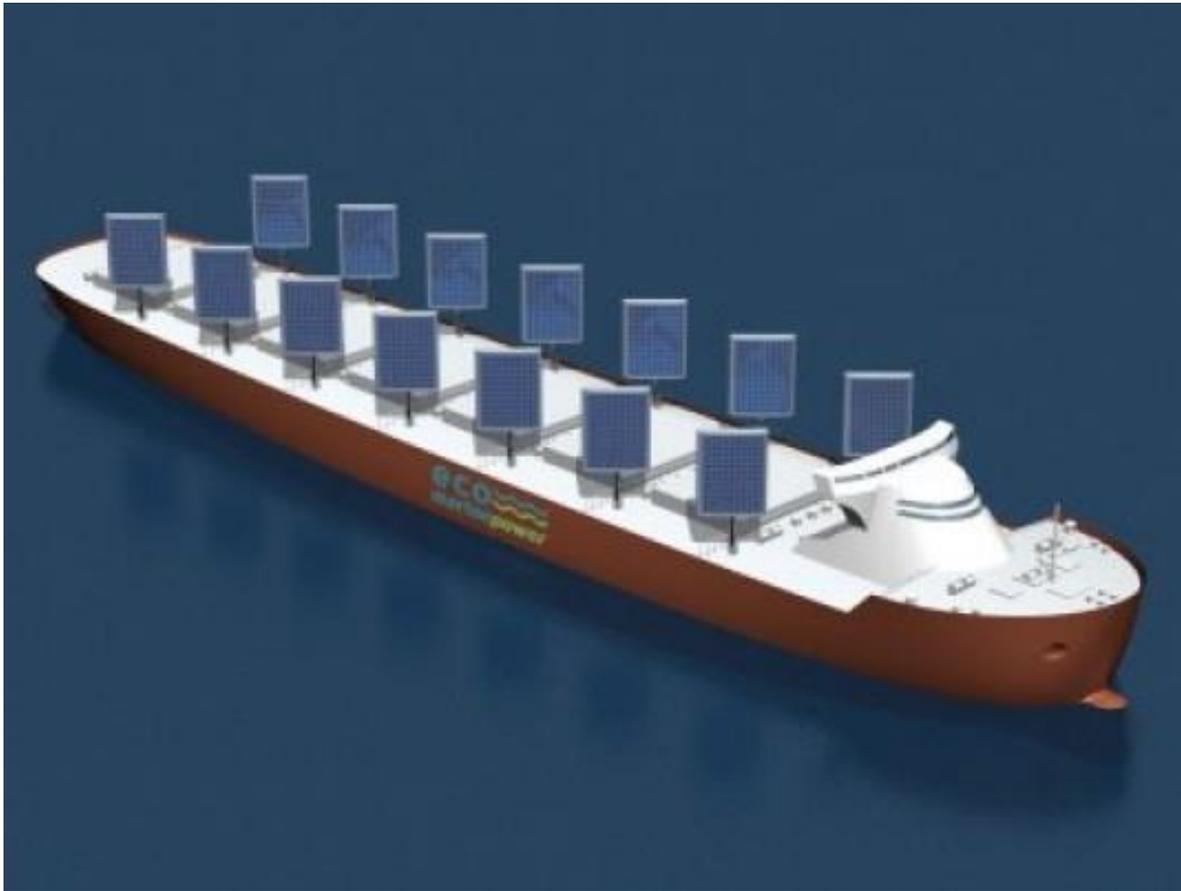
China's economy will stop growing and start shrinking later this century - structural weaknesses threaten to cause major problems in the long term

Factories will be put on ships and sailed to the country where companies can get employees to work at the lowest wages.

Inhabitants of a third world country greeting the arrival of the clothing factory ship.

Archaeologists may one day see a world where no culturally significant site has been left unpillaged. Tourists, tomb raiders, and treasure hunters are a threats to a culture's antiquities, along with individuals living in poverty near valued monuments who increasingly treat these relics as a potential source of cash.
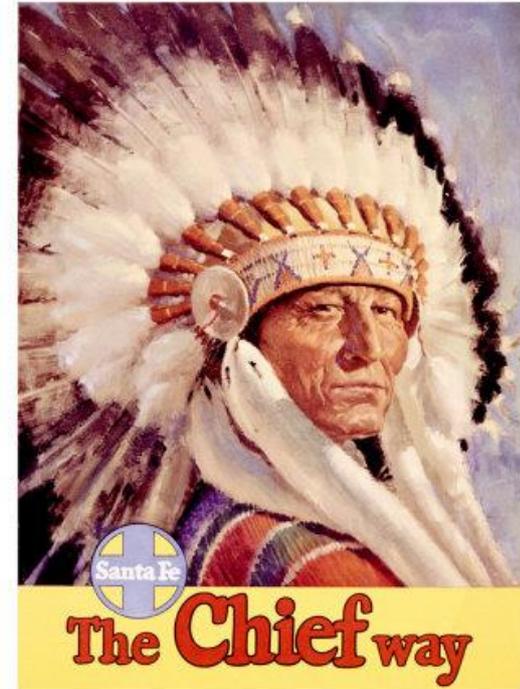
Electronic Stimulants Will Replace Alcohol and Drugs

New technologies will let people customize their own versions of "utopia." Artificial worlds created in Massively Multiplayer Online Role Playing Games (MMORPGs) allow players to indulge in new identities and activities that may not be possible or acceptable in real life. This could provide a psychological safety valve that would let people vent their aggression without hurting others.

There Will No Longer Be Any Small Businesses

The nuclear family will be replaced with networking on the Internet. Communities could see more construction of single-person housing units due to more homeowners having virtual partners instead of live, in-person partners. Virtual marriages might become normal, and the spouses will claim real benefits and legal ties.

Suburbs will be the least desireable place to live, and people living there will feel economic downturns hardest. In hard economic times, suburbanites may feel especially removed from essential city services. The number of poor people moving to the suburbs has been increasing since 1990 even as many suburban townships have reduced or eliminated services.

The "two-front" war will be replaced by the "multicentric" threat. Global structures are no longer distinguished by a state-centric system of sovereign nations. Rather, a varied array of other actors, individuals, and organizations on the global stage exercise authority over their own domain, with innumerable fronts developing simultaneously in any and every part of the world.

We'll harness noise vibrations and other "junk" energy from the environment to power our gadgets. Architects will harness energy from the movement of crowds using floor blocks that generate power as people walk over them. A crowd of 30,000 moving to and fro could create enough power a subway train.

Machine vision will become available in the next 5 to 15 years, with visual range ultimately exceeding that of the human eye. This technology will greatly enhance robotic systems' capabilities.

The "fast fashion" fad may fade. Two competing values drive trends in fashion: the desire for clothes that are fashion-forward and inexpensive, and the desire for clothes that are higher quality and don't quickly go out of style. The future may favor "slow fashion" as consumers look beyond price tags for merchandise that is well made, long lasting, and free of sweatshop labor.

Dissolvable dresses: Fabrics made with clear polymers that break down slowly under normal wear will dissolve quickly when dropped into hot water. Once out of fashion, your clothes could be liquefied rather than thrown into overflowing landfills.
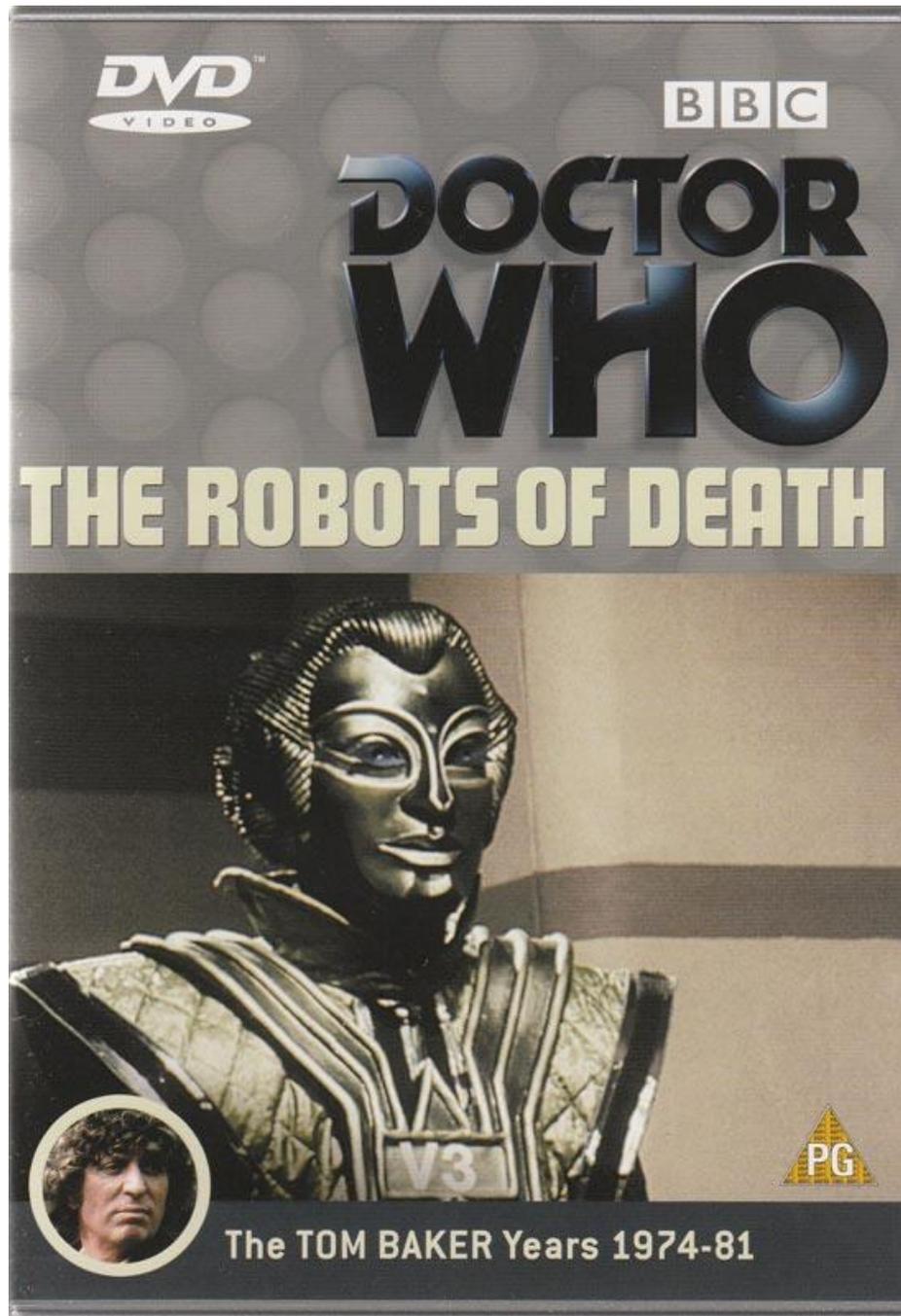
Humans will eventually "lose" the race with robots. Even with every technological enhancement available to them, future human beings will not be able to keep up with the evolutionary pace of robotic humanoids with artificial intelligence. The reason: Robots will be unimpeded by insurmountable biological limitations. The best we can do is to learn from and make friends with our robotic competitors.
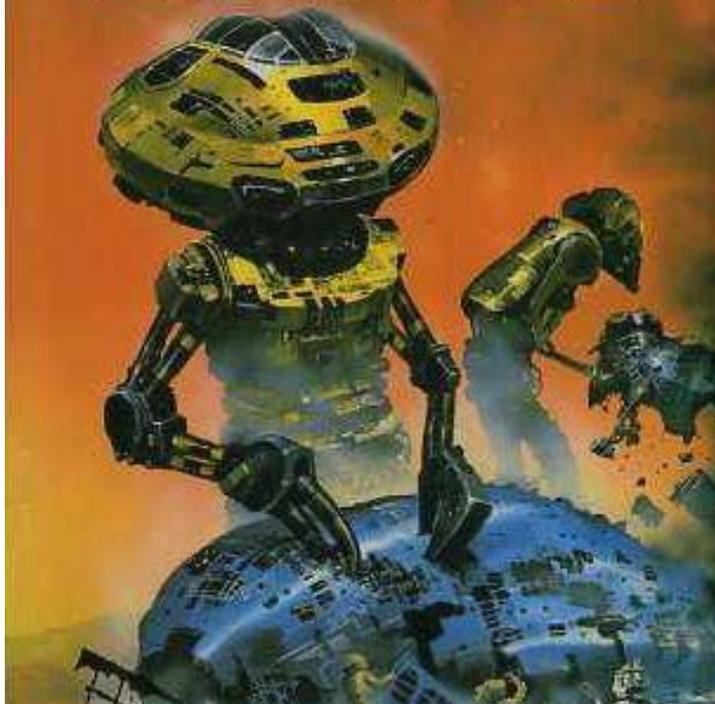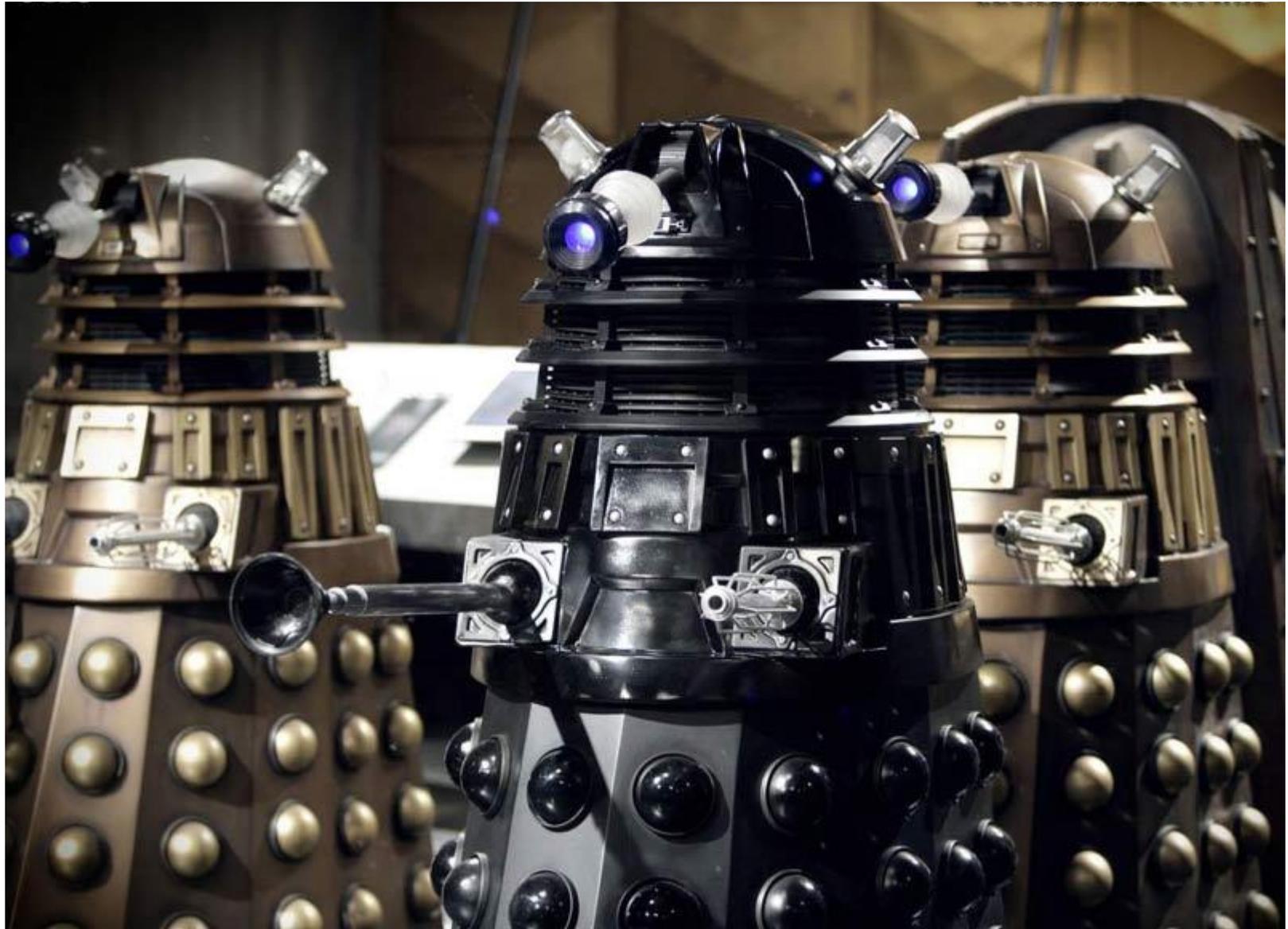
Hydrogen is too light to be a practical fuel source in its own right, but it works great if combined with nitrogen to form ammonia. If we build enough renewable-energy generation and distribution infrastructure, ammonia might become the world's first fuel of choice for household and transportation use.

A future "Internet of bodies" will enable doctors to monitor patients remotely. As sensors and transmitters shrink in size and are embedded in our bodies, public health officials will be able to collect information and predict problems, so frail elderly and disabled individuals will be able to live more independently.

Networks will increasingly become the key to positive political change. The ability to elect a lawmaker or lobby for a cause is built around our capacity to network with one another. This is why the issue of Internet access, and how it is controlled or restricted, is the most important free speech issue of our time.

The two decades between 2020 and 2040 will coincide with material scarcity as "peak everything" takes hold. Supplies of antimony (a strategic mineral essential to the production of semiconductors) will peak between 2020 and 2040. Tantalum (essential to the production of capacitors and resistors) will peak between 2025 and 2035. Zinc (an important metal in the production of batteries) will peak between 2025 and 2035.
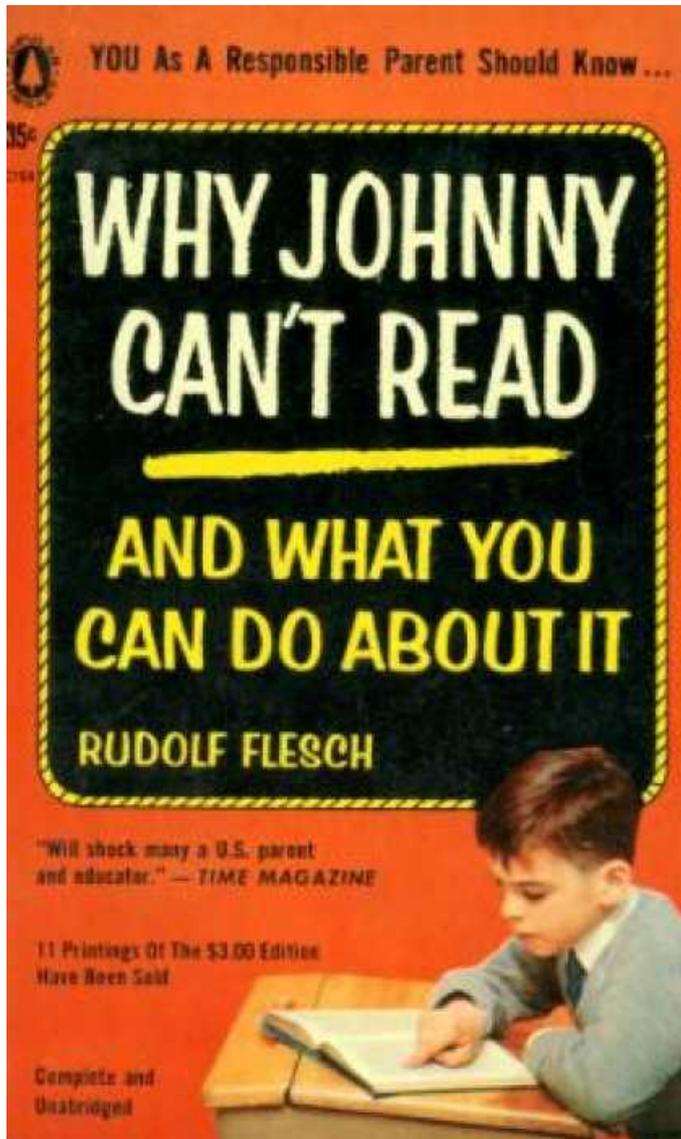
Technology will lead to educated illiterates. When widely used and effective voice-recognition software replaces the keyboard, we will be well on our way toward a world in which traditional concepts of literacy are no longer applicable. Education will shift from teaching reading, writing, and arithmetic and toward encouraging creativity, imagination, and critical thinking.
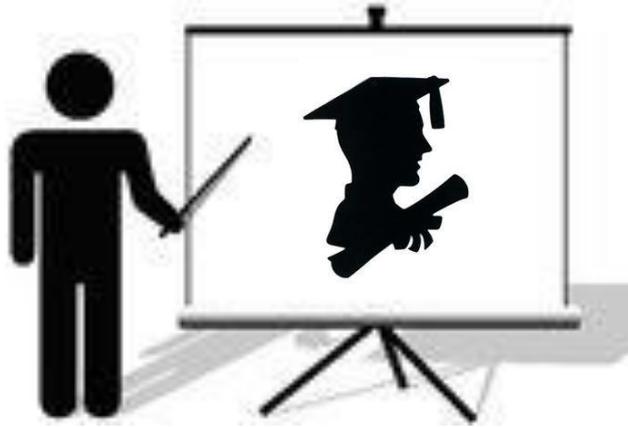
Text will be instantly translated into multimedia presentations. No more waiting for the movie version: Rapid language processing will create multimedia animations of your favorite book (or any text, such as directions to a museum in a foreign city).

Rising levels of CO2 are benefiting GM crops and weeds - atmospheric carbon dioxide has been shown to stimulate growth in genetically modified soybeans – along with fast-growing invasive weeds that could become even more troublesome.

Crops will be genetically modified to be impervious to climate change. Agricultural scientists believe they have isolated the "thermometer" gene in plants that allows them to sense and adapt to temperature changes. Tweaking the gene could create crops that would grow in any climate condition.

Future workers will earn the same anywhere in the world. Companies will likely cast broader nets in hiring. European firms, for instance, are increasingly strained to find qualified job applicants. So a worker would earn the same money in Australia, Sweden, and Japan

UNION ST

HANOVER

ONE WAY

FRIDAYS & SATURDAYS

People are going to seek an alternative to control by Wall Street, CEOs, and multi-national corporations

Virtual immortality may soon be achieved. Vastly improving information storage and processing and sophisticated virtual-reality graphics already create nearly lifelike experiences. Researchers now hope to combine artificial intelligence into the mix. People's appearance, mannerisms, voice, and even their knowledge and experience may one day be digitized, creating a virtual person that would preserve much of our personalities for eternity.

by Charles Paidock for the
College of Complexes