



2020

PREDICTIONS FOR THE NEXT DECADE AND BEYOND

SYNTHETIC BLOOD MADE FROM 'PLASTIC' HEMOGLOBIN WILL SAVE LIVES, ROBOTS WILL AID SURGEONS IN DELICATE PROCEDURES, BONES WILL BE HEALED IN 24 HOURS THANKS TO PROTEIN BUILDING BONE INJECTIONS, AND TAMPERING WITH DNA COULD BECOME THE NEWEST FORM OF STEROID ABUSE.

FROM THE BEGINNING OF THE MILLENNIUM THROUGH 2010, WE SAW A LOT OF CHANGES. WE READ ABOUT RISING POLLUTION, RISING TEMPERATURES, AND THE INEVITABLE DEPLETION OF NATURAL RESOURCES. WE EXPERIENCED A LANDSLIDE OF NEW TECHNOLOGIES, RANGING FROM HIGH SPEED 3G WIRELESS TO THE INTRODUCTION OF CONSUMER-BASED ELECTRIC VEHICLES. DAVE EVANS, THE CISCO FUTURIST OF IBSG, CISCO SYSTEMS INC., REMINDS US THAT IN ALL OUR TECHNOLOGICAL GLORY, WE ACTUALLY ONLY KNOW FIVE PERCENT OF WHAT WE WILL KNOW IN THE NEXT 50 YEARS. "IN OTHER WORDS," DESCRIBES EVANS. "IN 50 YEARS, 95 PERCENT OF WHAT WE WILL KNOW, WILL HAVE BEEN DISCOVERED IN THE PAST 50 YEARS."

PERSONAL PREDICTIONS COMPUTERS

According to Dave Evans, in terms of information saved and spent, we can expect our own personal computer storage needs to escalate from today's 128 gigabytes, to 130 terabytes by the year 2020. Also in 2020, he believes a run of the mill, \$1,000 quantum computer (harnessing the power of atoms and molecules) will contain the raw processing potential of the human brain. Once these systems have been fully integrated (2050), the raw processing power of that same \$1,000 system, will match the neural computing power of the entire world (which in terms of 2050, will be about 9 billion brains).

CYBER-SOFTWARE & PRODUCTS

Thanks to popular social networking sites, the next generation of teenagers will find themselves with more friends (cyberfriends) around the world, than in their own city/school. By 2020, almost every electronic device will be capable of universal language translation. Thanks to accelerated 3D software, we will no longer be limited to web-cams and chat rooms, but will use our avatar's (digital image of self) to meet up with other friend's avatars to shop, travel the world, and engage in romantic dating. Such popular websites as Second Life and Weopia have already opened these opportunities, but such interactions will only become more commonplace.

Fingerprint and iris (eye) scanning could replace the common wallet, but Esther Swilley, assistant professor of marketing at Kansas State University, believes consumers will also be pushed towards using wallet phones. These combination cell phone, credit card, (electronic) car keys, etc., will not warm up to consumers easily, considering misplaced cell phones are an all too common occurrence.

SECURITY, CRIME, AND PRIVACY

Speaking of misplaced phones, identity theft and personal security will become one of the number one threats/crimes in North America. Millions of consumers will have their checking and savings accounts threatened by cyber-

crime. According to Frank Sowa, futurist and CEO of The Xavier Group, criminals in the year 2025 may have the choice to undergo emotion control chip implants to correct behavioral disorders.

According to Gene Stephens, author of *Cybercrime* in the year 2025, while our own personal security may be compromised with technology, the security of businesses and government will only grow stronger as they discover new ways to bring mass surveillance to society. Nothing we say or do will go unseen/unheard. Millions of nanodevices will weave across telephones, IP addresses, walls, and possibly even our own bodies (implants), creating a center stage from which

we will all be given a starring role. In addition, improved capabilities of data storage will allow such captured footage to be stored indefinitely.

MEDICAL

While nanotechnology has been given a bad name by conspiracy theorists, in the medical field it will allow drugs to be distributed to specific areas of the body where they can do the most good. This will decrease the amount of side effects normally caused by destructive chemotherapy, such as Taxol. Synthetic blood made from 'plastic' hemoglobin will save lives, robots will aid surgeons in delicate procedures, bones will be healed in 24 hours thanks to protein building bone injections, and tampering with

DNA could become the newest form of steroid abuse.

According to Frank Sowa and Forecasting International, doctors will be able to fully regenerate artificial limbs in 2022, infectious diseases will be eliminated by 2028, and artificial brain implants will become a reality by 2030. As far as advancements in dentistry go, Sowa believes nanobots in toothpastes could be programmed to attack plaque (2020).

Doctor/patient relationships will be forever changed with the addition of online consultations aided by web-cam. Jacob Teitelbaum M.D., author of the iPhone application, Natural Cures, believes patients will start the process at home entering all symptoms into an analysis program. "The computer will analyze (this information) and determine the likely treatments and tests needed," explains Dr. Teitelbaum. "Then it makes a complete medical record of your case, which your doctor has in hand when you see them."

WORLD PREDICTIONS NATURAL RESOURCES VS. CONSERVATION

The measure of natural resources and our ability to conserve them has been a big topic over the past decade, and will continue to be.

Global water shortages will continue to hit countries hard, due to both drought and the gradual rise in sea level. It is estimated by author Lester R. Brown that fresh water could be reduced an additional

While China and India are currently the fastest growing world powers, they will also become one of the most polluted and dangerous to live in. This is due to their rapid industrialization, which is growing faster than

of the world will have electricity, which is a 10 percent improvement from 1970.

Over the next decade, the world will harness new energy like never before. Large propellers

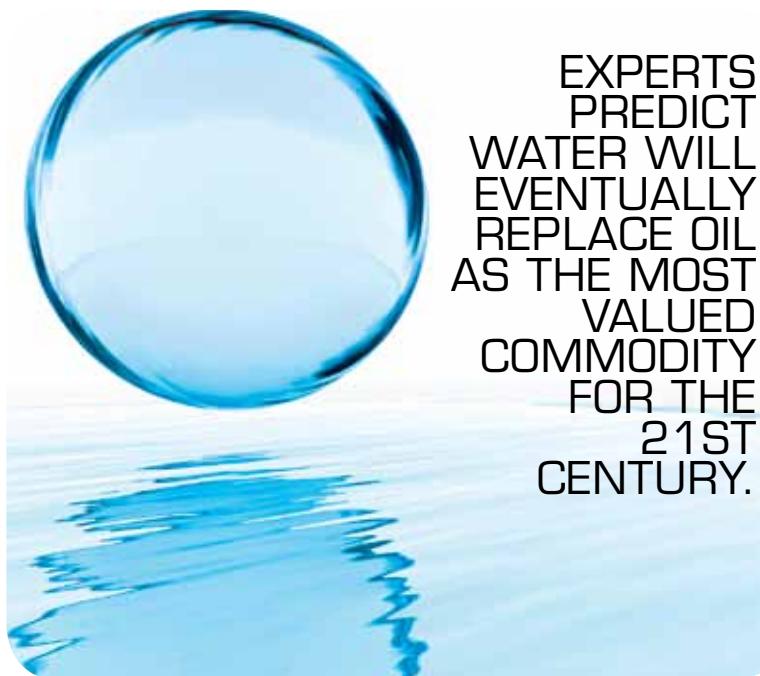
GLOBAL WARMING

The MET office (UK's national weather service), has released reports on the likelihood of global warming, and worst case scenario temperatures could rise as much as 4°C by 2060. This may not seem like much, but consider an increase of 3°C could transform Amazon rain forests into desert, and 4°C could melt Alpine glaciers, submerge low-lying landforms, and accelerate drought and mass animal/plant extinction. Some experts predict scientists may look towards such short-term solutions as injecting sulfur dioxide aerosols into the atmosphere to reflect sunlight, or fertilizing oceans with iron (Geritol Solution) to bolster algae growth (extract more CO₂). Most agree, however, that the hidden effects of such solutions would prove far worse than doing nothing.

TRANSPORTATION

By the year 2025, most experts agree that the number of vehicles in the world will rise from their current 800 million, to over a billion. Hydrogen may be the fuel of choice by 2020, considering its ease of liquification and clean, nitrogen emissions, but the zero emissions of electric vehicles should also be a consideration. The battle of hydrogen vs. electric has only begun, but Chelsea Sexton (Who Killed the Electric Car) believes electric will win out. "I don't personally believe we will see hydrogen on a mass scale for decades," says Sexton, referring to their trillion dollar infrastructure. "Hydrogen is the perfect example of just because you can, doesn't mean that you should."

By 2020, bio-diesel made from soybean, wheat, corn, sugarcane, and algae, will be used for 30 percent of all commercial/consumer vehicles, according to global market surveys. While flying cars have



50 percent of what had been previously thought. Fresh water will become an increasingly valued commodity, offset slightly by the adoption of desalination plants. Experts predict water will eventually replace oil as the most valued commodity for the 21st century.

safety/pollution controls are being put into place. Not only will these countries suffer from more acid rain, deforestation, and toxic pollution levels, citizens will be five times more likely to die of pollution-related pulmonary disease, than the average Canadian. Ultimately we will all suffer from this negligence, considering the earth's ozone will be depleted an additional three percent by 2017, according to the National Center for Atmospheric Research.

New Forms of Energy Organizations today are working harder than ever to place electricity in impoverished countries, such as Uganda, which currently has only 3.7 percent of its country-side electrified. The modern day miracle of light will allow many parts of the world to work, read, and do homework during the evenings. It is estimated that by 2030, 83 percent



NANOBOTS IN TOOTH-PASTES COULD BE PROGRAMMED TO ATTACK PLAQUE (2020).



been predicted by futurists since the 1960s, their weight to propulsion ratio has limited such technology to only the very wealthy. This decade, with the Terrafugia Transition and M400 Skycar (\$200,000+) leading the way, personalized flight may one day become affordable for all.

POPULATION TRENDS
According to Statistics Canada for Canadian Heritage, by 2031, over a quarter of the Canadian population will be foreign born. This is nearly double the proportion reported by the 2006 Census. Vancouver and Toronto will house the majority of these exploding populations (growing at 4X the rate of the rest of the population), which will equate to about 60 percent of both cities' total population.

WAR
Many experts believe the possibilities of 'Hot Wars' could be escalated due to global warming and diminishing resources. According to a CNA (Center for Naval Assessment) report, there are two factors which will increase the threat of war, crowding and competition for habitable land. As global warming depletes land and resources, smaller countries will battle neighboring countries

for territory. In addition, if warming trends uncover new habitable areas in the Arctic, smaller countries will not be the only ones interested. Larger world powers may not care as much about additional territory, but they will be interested in their untapped oil resources.

As far as the warfare itself goes, the greatest threat in the future will be terrorists and bio-attacks. According to author, Marvin J. Cetron, most extremist terrorist groups will acquire the technology of nuclear weapons by 2020. Bio-attack will involve nanoparticles, bacteria, and/or viruses sent undetectably through the air, reaching behind enemy lines and/or populated cities, killing large amounts of people with minimal manpower. According to Frank Sowa and Forecasting International, robotic warriors may become the foot soldier by the year 2022. In addition, 'optical cloaking', a technology capable of bending light around objects (invisibility) is currently under design and testing.

WORLD DOMINATION
According to Frank Sowa, North America will find itself a de-

creasing dominant world power over this next decade. The new world powers to watch for are the Dragon (China) and the Tiger (India). Over the short haul, the Dragon will easily dominate the first half of the century, building its military, negotiating the world's remaining oil supplies, and educating their youth to prospective leaders, scientists, and doctors. The Tiger's democratic leanings, diplomatic freedom, and concentration on defense rather than military dominance, will offer more economic viability/stability over the long haul, making India the more likely dominant power for the second half of the century.

A.I.
Artificial Intelligence (A.I.) is always a hot topic, and while some predict such technology is on its way, others, such as Dr. Stephen L. Thaler, President & CEO of Imagination Engines, claim it is already here. Despite countless warnings from futuristic movies, such as Terminator and iRobot, we are moving towards a world of artificial intelligence, which will one day control our finances, health, education,

environment, and politics. "This is not the beginning of a war waged by machines against men, or vice versa," says Dr. Thaler, reassuringly.

Dr. Thaler is the father of the "Creativity Machine," which is an A.I. program capable of composing music, inventing products (Oral-B CrossAction toothbrush), and even training robotic cockroaches. But the most interesting concept here is that while Dr. Thaler may be the mastermind behind the 'machine', the machine has since taken over, and is now the mastermind behind its own inventions.

What will they (computers) think of next?

THE QUESTION OF WHETHER OR NOT WE ARE ALONE

Many scientists believe that with the rapid advancement of telescopes and space missions, we will have an answer by the end of this decade, as to whether or not we are alone. There have been over 300 planets discovered; exemplifying everything needed for life, according to Harvard astronomer, Dimitar Sasselov. It is likely one will offer the proof we've been looking for.

ARMAGEDDON: 2012

A big scare over the next two years will be 'Armageddon', or what others are calling the prophecy of the Mayans: 2012.

"We have uncovered many prophecies about the last days of this world," says Peter Kling, author of Letters to Earth... You Can Survive Armageddon! "These prophecies come from many peoples in many lands and have been the basis for religious beliefs of cultures like the sun

worshiping Mayans—occult writings or sayings of people like Nostradamus—and information encoded in the Bible."

According to Kling, there are 5 signs before Armageddon will occur. One, a declaration of Peace, followed by a nuclear attack. Two, the formation of a one world government, caused by the nuclear disaster. Three, an end to all religion. Four, world wide unrest, and finally, a sign in the sky (most likely the comet as foretold by Nostradamus).

Many clairvoyants from California Psychics, believe 2012 will not have any significant meaning to our lives. "It will be much like the scare of 1999," says Joey. There are also those that predict only a slight disturbance. "A mass power outage due to a solar flare, but the government could prevent it," says Rondalafay. "We might have a computer glitch—have some money on hand," warns Sherie. One psychic sees a slightly larger disturbance. "There will be a major physical catastrophe (climate change)," says Winter. "(But) it will spark more human compassion and kindness." Another psychic sees very positive change. "There will be a significant increase in the spiritual awareness of our world," says Riley.

"2020—will be business as usual for the human race," says Dr. Stephen L. Thaler. "The battle for gold and pleasure, lots of new gadgets, conflicts galore, and plenty of spin control to convince us that we are in a new and wonderful age, helping to channel the gleaming yellow metal in the right directions."

Caduceus Medical Symbol Photo: Bob Hemphill

Futuristic Hallway Photo: Spectral-Design