



A GLIMPSE INTO THE

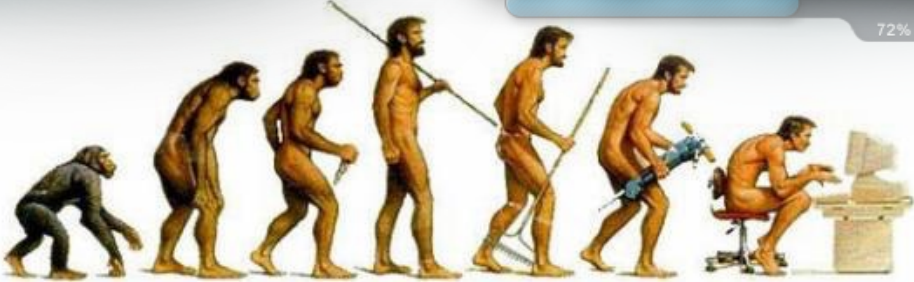
FUTUREWARE

72%





A GLIMPSE INTO THE FUTURE



The idea of Progress

Space and Exchange

1. Discuss the documents.

- Give your impressions.
- Explain



Evolution of the Mobile Phone





what is the future of communication?

Fifty years ago, the tools we rely upon to communicate today were only science fiction. Today, you can purchase a smartphone and make calls, surf the Web, play games, run applications and accomplish more than most speculative fiction authors dared to dream. So what's next?

In the short term, we'll likely see basic cell phones slowly fade away. As smartphones become more common and less expensive, more people will adopt them. The process is gradual. As with most new technologies, a group of enthusiastic adopters lead the way. Sometimes, the general population will follow the early pioneers.

Smartphones seem to be in the first category. Products like the Apple iPhone and Google's Android operating system have pushed the smartphone out of the world of gadget geeks and into the mass market.

The Internet will continue to play an increasing role in communication. Voice over Internet protocol (VoIP) already plays a large role in several communication products and services. Sites like Facebook and Twitter allow users to communicate with networks of people. With the rise of the Web, people now have a platform from which they can address the world. In the past, only celebrities and politicians could address so many people at one time. Now, anyone with an Internet connection can do the same thing.

This may lead to changes in everything from entertainment to politics. Using the Web as a communication tool, people with aspirations may be able to find an audience more easily than ever before. It may not be long until a relatively unknown person uses the Internet to win enough support to be elected president of the United States.

So far we've looked at some fairly mundane advances in communication. But what about the distant future?

One way we might see communication change in the future is through augmented reality. In an augmented-reality system, you view the world through a technological overlay. This could take the form of a hand-held device like a smartphone -- there are several augmented-reality applications already available for some phones. Another possible application is through a set of augmented-reality glasses. In either case, you can view the world around you and see real-time digital information about what you're viewing.

The classic example of augmented reality is the restaurant review. You could stand in front of a restaurant and, through

an augmented-reality system, read customer reviews or view the daily specials without ever walking inside. But the applications don't have to stop with locations. Augmented-reality systems might extend to people as well. Imagine looking at a stranger and seeing that person's name, Facebook profile, Twitter handle and other information. Clearly, augmented reality systems will raise concerns about privacy and safety, but such systems are already in development.

Then there's video conferencing. While the technology has existed for years, video calls aren't popular in the United States. It might be because the hardware hasn't been compelling or cost-effective enough. But now webcams are starting to appear on televisions and are standard on many laptops. Are we about to enter an era of video conferencing, or is it too much work to make sure you and your house look nice before you order that pizza?

One drawback to video conferencing is that it either requires you to stay in one place for the duration of the call or to hold a device so that you're visible for the whole conversation. We've become used to having a great deal of freedom while on the phone. Will we really adopt a technology that will necessitate that we keep still? Perhaps we'll use video conferencing for special occasions or short conversations.


Language barriers are disappearing as well. Devices that can translate languages in real time are allowing people from different countries and cultures to communicate without the need for an interpreter.

In the distant future, we may be able to communicate by sending our thoughts through a network directly into someone else's brain. We're decades away from such technology, but scientists are working on creating brain-computer interfaces that allow people to transmit thoughts directly to a computer. Perhaps 50 years from now we'll all use an electronic version of telepathy.


The technology of communication evolves at a blistering pace. It may turn out that our predictions don't even scratch the surface. Only time will tell.

Jonathan Strickland
electronics.howstuffworks.com



- 
1. Introduce the document
 2. Can you list the inventions mentioned?
 3. What is internet changing today in communications?
 4. What is augmented reality?
 - Have you ever used it?
 - What do you think about it?
 5. What changes with video conference calls?
 - Have you ever experienced that?



- 
1. Introduce the document
 2. Can you list the inventions mentioned?
 3. What is internet changing today in communications?
 4. What is augmented reality?
 - Have you ever used it?
 - What do you think about it?
 5. What changes with video conference calls?
 - Have you ever experienced that?





The Idea of Progress
Space and Exchange

a new generation of cars

google's self-driving car: how does it work and when can we drive one?

Google unveiled a brand new self-driving car prototype; the first company to build a car with no a steering wheel, accelerator or brake pedal.

What is it?

5 It is the first truly driverless electric car prototype built by Google to test the next stage of its five-year-old self-driving car project. It looks like a cross between a Smart car and a Nissan Micra, with two seats and room enough for a small amount of luggage.

What does it do?

10 It ferries two people from one place to another without any user interaction. The car is summoned by a smartphone for pick up at the user's location with the destination set. There is no steering wheel or manual control, simply a start button and a big red emergency stop button. In front of the passengers there is a small screen showing the weather, the current speed and a small countdown animation to launch.


15 Once the journey is done, the small screen displays a message to remind you to take your personal belongings – reinforcing that this is not aiming to be a substitute for your personal car at the moment, but more as a replacement for
20 the taxi without the human driver.

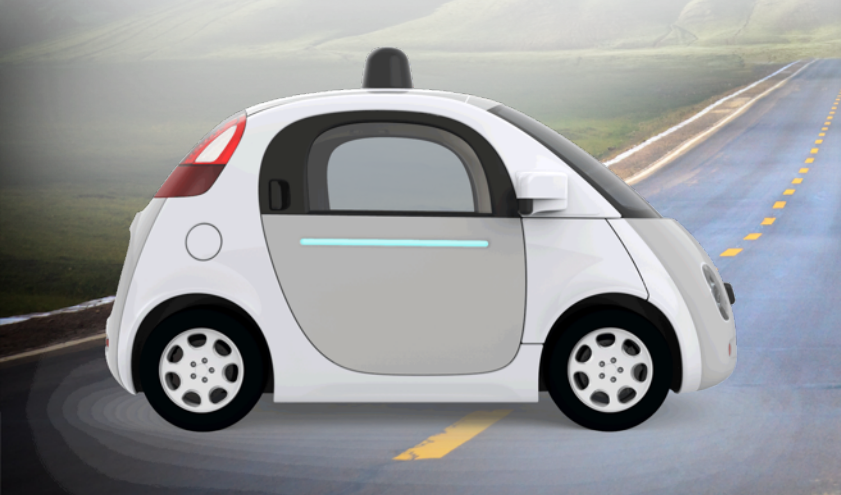
How safe is it?

The new car is the next evolution of Google's self-driving car. While the new frame is untested, the company's previous versions have clocked up over 700,000 miles of testing on public roads, mainly around California, including over 1,000 miles of driving in the most complex situations and cities like 25 San Francisco's hills and busy streets.

The car itself is limited to 25 mph, which restricts it to certain roads, but also minimises the kinetic energy it could carry into a crash if one should happen. The front of the car is also made to be as kind to pedestrians as possible with a foam bumper and a flexible windscreen that is designed to absorb energy 30 from an impact with a person's body.

Samuel Gibbs, May 29th 2014
www.theguardian.com

- 
1. Introduce the document
 2. What is this car?
 - Who built it?
 - Is it their first model?
 3. Explain what this car can do.
 4. Is it safe?
 5. Would you like to test it or even to have one as your principal car?





fountain of youth: progress in slowing aging, at least in mice



Did you see the Super Bowl commercial showing those old codgers acting like teenagers? It's enough to make you turn against the whole idea of extending the human lifespan.

5 However, scientists the world over are busy in their labs trying to figure out just where Ponce de Leon left his elusive fountain of youth. They may never find it, but new research suggests that even if we can't live a few hundred years, we may at least be able to reverse some of the degenerative effects of what scientists call the "normal aging process."

10 Scientists at two of the world's leading research institutions, Harvard and the University of California, Berkeley, achieved what Berkeley is calling a "major advance," if not a breakthrough, in the search for a way to stem the ravages of time.

15 They were able to make old mice seem young again, or at least pick up where nature left off and regenerate the production of blood cells.

20 They did it by injecting a longevity gene that reversed the decline that had been brought on by aging. That's no fountain of youth, but it could be a really big thing. If scientists can figure out how to slow aging, or even repair its damages, it may be possible to curb some very debilitating diseases ranging from cancer to dementia.

25 "Our study is really the first one demonstrating that sirtuins (proteins known to regulate aging) can reverse aging-associated degeneration, and I think that's very exciting," Danica Chen, a Berkeley assistant professor of nutritional science and toxicology and coauthor of a study published in Cell Reports, said in releasing the paper. "This opens the door to potential treatments for age-related degenerative diseases."

30 One of the most important signs of aging, in all animals, is the gradual loss of the ability to maintain tissues and, especially, blood cells. In time, the body just loses its ability to generate new blood cells to replace those that have fallen along the way.

35 But as organisms age, the adult stem cells that are supposed to maintain and repair tissue decline in number. The researchers found that when they injected the longevity gene into aging mice, they stepped up the production of new adult stem cells, thus fending off the decline that would have been expected from normal aging. But it's even more than that. It actually repaired a system that had deteriorated because of aging.

40

45

This particular protein has been demonstrated to suppress tumors, so the possibilities are tantalizing. Could it be that simply injecting this longevity gene into a senior could someday be enough to fight cancer and rehabilitate the blood supply? It's too soon to know that, but the study ends with a positive note, suggesting that this protein – SIRT3 – may play a huge role in the years ahead.

50 "We speculate that SIRT3 may regulate stem cells in other tissues," the report says. "Given that adult stem cells are thought to be central to tissue maintenance and organismal survival, SIRT3 may promote organismal longevity by maintaining the integrity of tissue-specific stem cells."

55 But the scientists caution that "future studies" will have to decide that.

60 So is it the fountain of youth? It may be at least the first sip. However, it should be noted that there is a great deal of skepticism among experts over whether human longevity can be increased significantly. Aging is a very complex process, and it is not well understood.

65 Thus, any discussion of the matter usually shifts quickly away from longevity. Even if we can't extend our lifespans, it should be possible to maintain the quality of life for much longer, and on that issue there is much more optimism. This kind of research may be part of the solution.

Lee Dye, ABC News, February 6th 2013



1. Introduce the document
 2. Who achieved a major advance about slowing aging?
 3. How can they make a mouse seem young again?
 4. What type of diseases could be treated or cured?
 5. How can you define the process of aging?
 6. What could be the dangers of controlling our DNA?
 7. What might be the real application of such a discovery?
- Expression**
8. Do you want to live forever? Discuss.



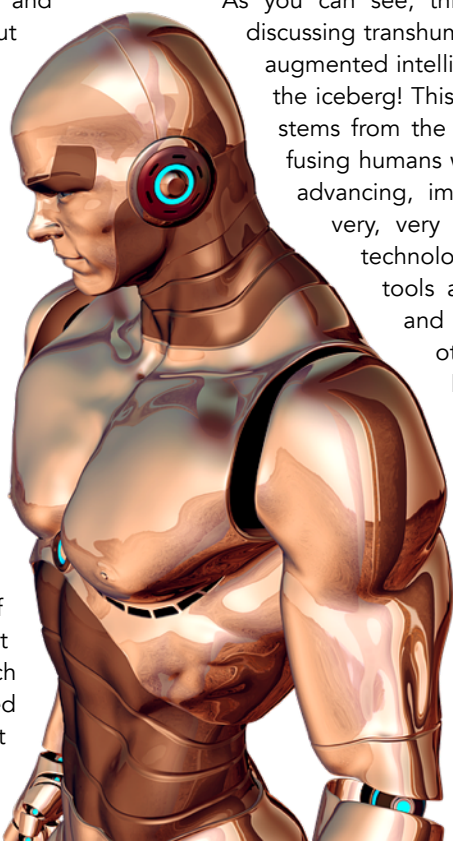
the road to transhumanism

or what does it mean to be human?

5 **What does it mean to be human? Biology has a simple answer: If your DNA is consistent with Homo sapiens, you are human — but we all know that humanity is a lot more complex and nuanced than that. Other schools of science might classify humans by their sociological or psychological behavior, but again we know that actually being human is more than just the sum of our thoughts and actions. You can also look at being human as a sliding scale. If you were to build a human from scratch, from the bottom up, at some point you cross the threshold into humanity — if you believe in evolution, at some point we ceased being a great ape and became human. Likewise, if you slowly remove parts from a human, you cross the threshold into inhumanity. Again, though, we run into the same problem: How do we codify, classify, and ratify what actually makes us human?**

Does adding empathy make us human? Does removing the desire to procreate make us inhuman? If I physically alter my brain to behave in a different, non-standard way, am I still human? If I have all my limbs removed and my head spliced onto a robot, am I still human? At first glance these questions might sound inflammatory and hyperbolic, or perhaps surreal and sci-fi, but don't be fooled: In the next decade, given the continued acceleration of computer technology and biomedicine, we will be forced to confront these questions and attempt to find some answers.

Transhumanism is a cultural and intellectual movement that believes we can, and should, improve the human condition through the use of advanced technologies. One of the core concepts in transhumanist thinking is life extension: Through genetic engineering, nanotech, cloning, and other emerging technologies, eternal life may soon be possible. Likewise, transhumanists are interested in the ever-increasing number of technologies that can boost our physical, intellectual, and psychological capabilities beyond what humans are naturally capable of (thus the term *transhuman*). Transcranial direct current stimulation (tDCS), for example, which speeds up reaction times and learning speed by running a very weak electric current



through your brain, has already been used by the US military to train snipers. On the more extreme side, transhumanism deals with the concepts of mind uploading (to a computer), and what happens when we finally craft a computer with greater-than-human intelligence (the technological singularity).

Beyond the obvious benefits of eternal life or superhuman strength, transhumanism also investigates the potential dangers and ethical pitfalls of human enhancement. In the case of life extension, if every human on Earth suddenly stopped dying, overpopulation would trigger a very rapid and very dramatic socioeconomic disaster. Unless we stopped giving birth to babies, of course, but that merely rips open another can of worms: Without birth and death, would society and humanity continue to grow and evolve, or would it stagnate, suffocated by the accumulated ego of intellectuals and demagogues who just *will not die*? Likewise, if only the rich have access to intelligence- and strength-boosting drugs and technologies, what would happen to society? Should everyone have the right to boost their intellect? Would society still operate smoothly if everyone had an IQ of 300 and five doctorate degrees?

As you can see, things get complicated quickly when discussing transhumanist ideas — and life extension and augmented intelligence and strength are just the tip of the iceberg! This philosophical and ethical complexity stems from the fact that transhumanism is all about fusing humans with technology — and technology is advancing, improving, and breaking new ground very, very quickly. Humans have always used technology, of course — our ability to use tools and grasp concepts such as science and physics are what set us apart from other animals — but never has society been so intrinsically linked and underpinned by it. As we have seen in just the last few years, with the advent of the smartphone and ubiquitous high-speed mobile networks, just a handful of new technologies now have the power to completely change how we interact with the world and people around us.

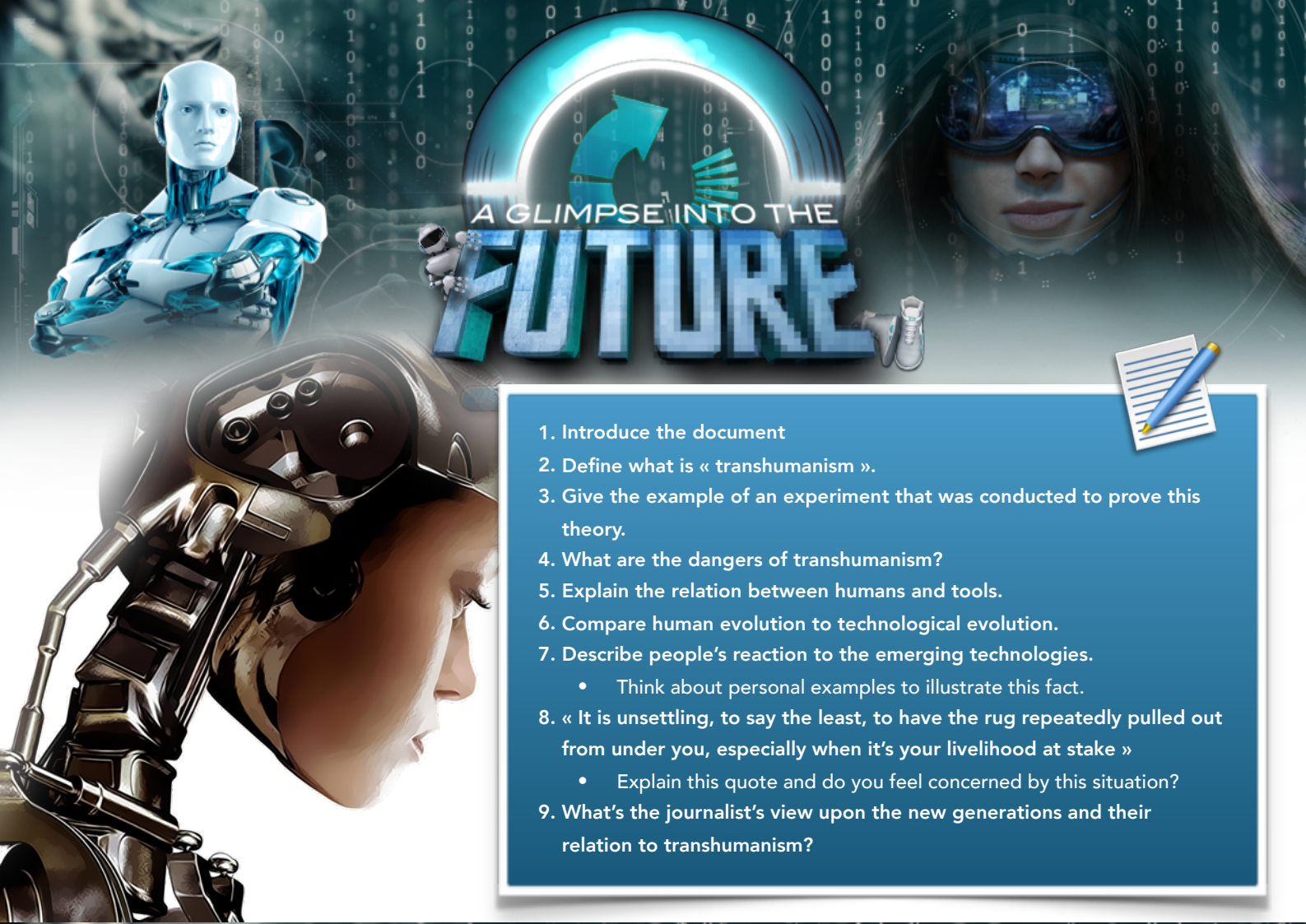


90 Humans, on the other hand, and the civilizations that they
95 build, move relatively slowly. It took us millions of years to
100 discover language, and thousands more to discover
105 medicine and the scientific method. In the few thousand
110 years since, up until the last century or so, we doubled the
115 human life span, but neurology and physiology were
120 impenetrable black boxes. In just the last 100 years, we've
125 doubled our life span again, created bionic eyes and
130 powered exoskeletons, begun to understand how the
135 human brain actually works, and started to make serious
headway with boosting intellectual and physical prowess.
We've already mentioned how tDCS is being used to boost
cranial capacity, and as we've seen in recent years,
sportspeople have definitely shown the efficacy of physical
doping. It is due to this jarring juxtaposition — the
historical slowness of human and societal evolution vs. the
breakneck pace of modern technology — that many find
transhumanism to be unpalatable. After all, as I've
described it here, transhumanism is almost the very
definition of *unnatural*. You're quite within your rights to
find transhumanism a bit, well, weird. And it is weird, don't
get me wrong — but so are most emerging technologies.
Do you think that your great grandparents weren't wigged
out by the first television sets? Before it garnered the name
"television," one of its inventors gave it the rather spooky
name of "distant electric vision." Can you imagine the
wariness in which passengers approached the first steam
trains? Vast mechanical beasts that could pull hundreds of
tons and moved far faster than the humble — but state-of-
the-art — horse and carriage.
The uneasiness that surround new, paradigm-shifting
technologies isn't new, and it has only been amplified by
the exponential acceleration of technology that has
occurred during our lifetime. If you were born 500 years
ago, odds are that you wouldn't experience a single
societal-shifting technology in your lifetime — today, a 40
year old will have lived through the creation of the PC, the
internet, the smartphone, and brain implants, to name
just a few life-changing technologies. It is
unsettling, to say the least, to have the rug
repeatedly pulled out from under you,
especially when it's your livelihood at stake.
Just think about how many industries and
jobs have been obliterated or subsumed
by the arrival of the digital computer, and
it's easy to see why we're wary of
transhumanist technologies that will
change the very fabric of human
civilization.
The good news, though, is that humans are
almost infinitely adaptable. While you or

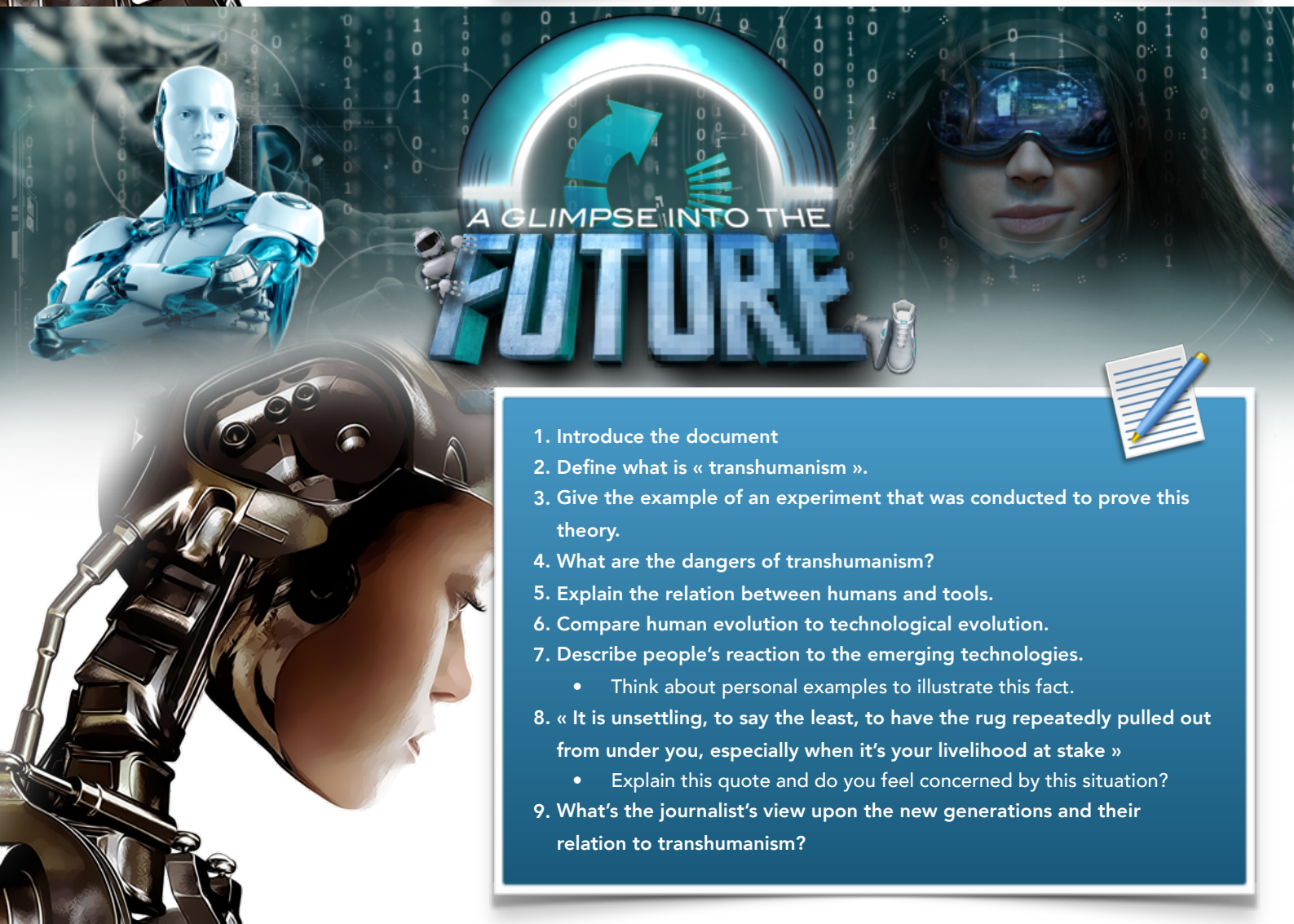
140 I might balk at the idea of a brain-computer interface that
145 allows us to download our memories to a PC, and perhaps
150 upload new memories a la *The Matrix*, our children — who
155 can use smartphones at the age of 24 months, and
160 communicate chiefly through digital means — will probably
165 think nothing of it. For the children of tomorrow, living
through a series of disruptive technologies that completely
change their lives will be the norm. There might still be
some resistance when I opt to have my head spliced onto a
robotic exoskeleton, but within a generation children will
be used to seeing Iron Seb saving people from car crashes
and flying alongside airplanes.
The fact of the matter is that transhumanism is just a
modern term for an age-old phenomenon. We have been
augmenting our *humanity* — our strength, our wisdom, our
empathy — with tools since prehistory. We have always
been spooked by technologies that seem unnatural or that
cause us to act in inhuman ways — it's simply human
nature. That all changes with the children of today,
however. To them, anything that *isn't* computerized, digital,
and touch-enabled seems unnatural. To them, the
smartphone is already an extension of the brain; to them,
mind uploading, bionic implants and augmentations, and
powered exoskeletons will just be par for the course. To
them, transhumanism will just seem like natural evolution —
and anyone who doesn't follow suit, just like those fuddy-
duddies who still don't have a smartphone, will seem
thoroughly inhuman.

Sebastian Anthony, April 1, 2013
www.extremetech.com





1. Introduce the document
2. Define what is « transhumanism ».
3. Give the example of an experiment that was conducted to prove this theory.
4. What are the dangers of transhumanism?
5. Explain the relation between humans and tools.
6. Compare human evolution to technological evolution.
7. Describe people's reaction to the emerging technologies.
 - Think about personal examples to illustrate this fact.
8. « It is unsettling, to say the least, to have the rug repeatedly pulled out from under you, especially when it's your livelihood at stake »
 - Explain this quote and do you feel concerned by this situation?
9. What's the journalist's view upon the new generations and their relation to transhumanism?



1. Introduce the document
2. Define what is « transhumanism ».
3. Give the example of an experiment that was conducted to prove this theory.
4. What are the dangers of transhumanism?
5. Explain the relation between humans and tools.
6. Compare human evolution to technological evolution.
7. Describe people's reaction to the emerging technologies.
 - Think about personal examples to illustrate this fact.
8. « It is unsettling, to say the least, to have the rug repeatedly pulled out from under you, especially when it's your livelihood at stake »
 - Explain this quote and do you feel concerned by this situation?
9. What's the journalist's view upon the new generations and their relation to transhumanism?



A GLIMPSE INTO THE FUTURE



72%

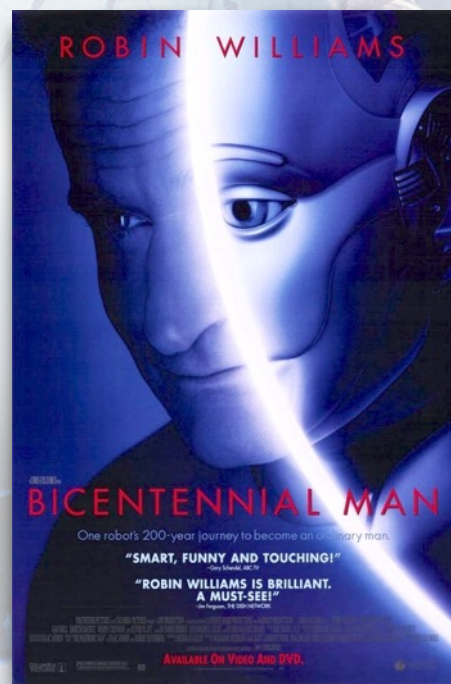
bicentennial man - the movie



bicentennial man - the movie - part 1



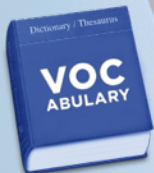
1. Introduce the document
2. Can you explain the situation?
3. What type of family is it? Take into account the house and surroundings.
4. What's the reaction of the family when the box opens?
5. What is the robot's name given by the family? Why?
6. What does the robot do to introduce himself?
7. Identify and write these 3 laws.
8. In the basement, what happens between the father and the robot? Explain.



bicentennial man - the movie - part 2



1. Introduce the document
2. What is Richard Martin doing here?
3. How does Dennis Mansky call the Robot?
4. Why is this robot special? What are its characteristics?
5. What is « its » name?
6. What is special about the objects shown by Richard Martin?
7. Can you explain Dennis Mansky's reaction ? How does he qualify the robot?
8. Both men can't agree about the robot. Why?
9. What is Richard Martin's opinion about his robot?



to run amok = to lose control and suddenly attack people
pathway = sequence of reactions within a cell or organism
household appliance = appareil électroménager



the bicentennial man

72%

Space
and
Exchange

Places and
Forms of
Power

Myths
and
Heroes

The idea
of
Progress

Congresswoman Li-hsing was considerably older than she had been when Andrew had first met her. Her transparent garments were long gone. Her hair was now close-cropped and her coverings were tubular. Yet still Andrew clung, as closely as he could within the limits of reasonable taste, to the style of clothing that had prevailed when he had first adopted clothing more than a century before.

5 "We've gone as far as we can, Andrew," Li-hsing admitted. "We'll try once more after recess, but, to be honest, defeat is certain and then the whole thing will have to be given up. All my most recent efforts have only earned me certain defeat in the coming congressional campaign."

"I know," said Andrew, "and it distressed me. You said once you would abandon me if it came to that. Why have you not done so?"

10 "One can change one's mind, you know. Somehow, abandoning you became a higher price than I cared to pay for just one more term. As it is, I've been in the Legislature, for over a quarter of a century. It's enough."

"Is there no way we can change minds, Chee?"

15 "We've changed all that are amenable to reason. The rest-- the majority-- cannot be moved from their emotional antipathies."

"Emotional antipathy is not a valid reason for voting one way or the other."

"I know that, Andrew, but they don't advance emotional antipathy as their reason."

20 "It all comes down to the brain, then," Andrew said cautiously. "But must we leave it at the level of cells versus positrons? Is there no way of forcing a functional definition? Must we say that a brain is made of this or that? May we not say that a brain is something-- anything-- capable of a certain level of thought?"

"Won't work," said Li-hsing. "Your brain is manmade, the human brain is not. Your brain is constructed, theirs developed. To any human being who is intent on keeping up the barrier between himself and a robot, those differences are a steel wall a mile high and a mile thick."

"If we could get at the source of their antipathy, the very source--"

25 "After all your years," Li-hsing said, sadly, "you are still trying to reason out the human being. Poor Andrew, don't be angry, but it's the robot in you that drives you in that direction."

"I don't know," said Andrew. "If I could bring myself--"

If he could bring himself--

30 He had known for a long time it might come to that, and in the end he was at the surgeon's. He had found one, skillful enough for the job at hand-- which meant a surgeon-- robot, for no human surgeon could be trusted in this connection, either in ability or in intention.

The surgeon could not have performed the operation on a human being, so Andrew, after putting off the moment of decision with a sad line of questioning that reflected the turmoil within himself, had put First Law to one side by saying "I, too, am a robot."

35 He then said, as firmly as he had learned to form the words even at human beings over these past decades, "I order you to carry through the operation on me."

In the absence of the First Law, an order so firmly given from one who looked so much like a man activated the Second Law sufficiently to carry the day.

40 Andrew's feeling of weakness was, he was sure, quite imaginary. He had recovered from the-- operation. Nevertheless, he leaned, as unobtrusively as he could manage, against the wall. It would be entirely too revealing to sit.

Li-hsing said, "The final vote will come this week, Andrew. I've been able to delay it no longer, and we must lose. And that will be it, Andrew." to."



45 "I am grateful for your skill at delay. It gave me the time I needed, and I took the gamble I had
 "What gamble is this?" Li-hsing asked with open concern.
 "I couldn't tell you, or even the people at Feingold and Martin. I was sure I would be stopped. See here, if it is
 the brain that is at issue, isn't the greatest difference of all the matter of immortality. Who really cares what a
 brain looks like or is built of or how it was formed. What matters is that human brain cells die; must die. Even if
 50 every other organ in the body is maintained or replaced, the brain cells, which cannot be replaced without
 changing and therefore killing the personality, must eventually die.
 "My own positronic pathways have lasted nearly two centuries without perceptible change, and can last for
 centuries more. Isn't that the fundamental barrier? Human beings can tolerate an immortal robot, for it doesn't
 matter how long a machine lasts, but they cannot tolerate an immortal human being since their own mortality is
 55 endurable only so long as it is universal. And for that reason they won't make me a human being."
 "What is it you're leading up to, Andrew?" Li-hsing asked.
 "I have removed that problem. Decades ago, my positronic brain was connected to organic nerves. Now, one
 last operation has arranged that connection in such a way that slowly-- quite slowly-- the potential is being
 drained from my pathways."
 60 Li-hsing's finely wrinkled face showed no expression for a moment. Then her lips tightened. "Do you mean
 you've arranged to die, Andrew? You can't have. That violates the Third Law."
 "No," said Andrew, "I have chosen between the death of my body and the death of my aspirations and desires.
 To have let my body live at the cost of the greater death is what would have violated the Third Law."
 Li-hsing seized his arm as though she were about to shake him. She stopped herself. "Andrew, it won't work!
 65 Change it back."
 "It can't be done. Too much damage was done. I have a year to live more or less. I will last through the two-
 hundredth anniversary of my construction. I was weak enough to arrange that."
 "How can it be worth it? Andrew, you're a fool."
 "If it brings me humanity, that will be worth it. If it doesn't, it will bring an end to striving and that will be worth
 it, too."
 Then Li-hsing did something that astonished herself. Quietly, she began to weep.



Isaac Asimov, *The Bicentennial Man*, 1976

1. Introduce the document.
2. Who is Andrew?
 - Quote to prove.
3. What is his intention?
4. Can you explain why people won't give him what he's asking for?
5. What is to be human?
 - Use the examples from the text.
6. Finally, what does he decide? Why?

make a link

7. What is the relation between this text and the one before? « Fountain of Youth: Progress in Slowing Aging, at Least in Mice »
8. Can you link what happens to Andrew to the concept of « Transhumanism »?

