

<http://www.examiner.com/article/seven-assistive-technologies-born-from-science-fiction>

Oscar Wilde wrote “Life imitates Art far more than Art imitates Life”. One area Wilde’s comments may be disproportionately inverse is the current technological evolution. Whether it is prognostication or just very well developed details for the storyline, comics and science fiction in general have invented or showcased [assistive technologies](#) well before their time.

[Comic-Con](#) opens its doors July 12 for another year of elves, witches and superheroes running amuck in full garb. Body paint, fur and silicone composite are being readied and Vulcan is being practiced all over the globe in preparation for the world’s largest comic convention. In the spirit of this great feast of geekdom, here are a few assistive technologies that were utilized on the page and silver screen way ahead of their actual introduction to real life:

Stan Lee, the man behind Marvel Comics, has created some of the most iconic characters in history and foresaw many assistive technologies.

Speech and Voice Recognition in Star Trek

Star Trek (Paramount Television) portrayed numerous technologies that are currently in use, but were not even thought possible during its original airing. The series first ran from 1966-1969 and featured instruments from handheld communication devices to teleportation. A major part of the show utilized voice recognition to access ship communication capabilities and computers. Somehow the artificial intelligence within the USS Enterprise could decipher voice commands from regular conversation flawlessly knowing when to operate and when to stay dormant. Speech recognition was most apparent at the end of each episode when Captain James T. Kirk recorded his daily log recapping the previous and setting up the next adventure in the last frontier.

Today’s computer power in terms of processing and memory afford speech and voice recognition the ability to provide highly quality, accurate speech-to-text. Dragon NaturalSpeaking has come to the forefront of inputting personal speech and offering close to 90% accuracy out of the box. ReadWriteWeb has an interesting infographic developed by Wavelink about the [history of speech and voice recognition](#).

Neural Interface in X-Men and The Matrix

X-Men (Marvel Comics) and The Matrix (Warner Bros. Pictures) exhibit actual physical connections between a human and a computer. Professor Charles Xavier, founder of the X-Men, has his spherical computer where he is able to amplify his telepathic powers. Neo, Keanu Reeves, discovers in The Matrix that his reality has been nothing but a computer program which is ported into his conscious via a plug in the brainstem.

Unlike the devices used or forced upon Professor X and Neo, neural interfaces are no longer science fiction. Companies like [BrainGate](#) are developing neurotransmitters that allow an individual’s brain to move a computer mouse and prosthetic limbs. A quadriplegic is able to write an email or grab a cup by [moving a mechanical arm using only thoughts](#).

Exoskeleton in Iron Man

Iron Man (Marvel Comics) is a great example of how robotic suits can enhance human capabilities. Tony Stark who is a genius and billionaire develops the suit in order to rid the world of less-desirables. He quickly finds that the military is interested in his creation, but chooses to go on his own and ultimately join up with The Avengers.

As with many assistive technologies, devices that are created for military use especially instruments that make a soldier's life easier are generally found to be very beneficial for those suffering disabilities. Raytheon, for example, has developed the [XOS 2 Exoskeleton](#) which although originally designed for the military has significant opportunities to assist those with physical impairments. In addition, Cyberdyne invented the [Robotic Suit HAL](#). HAL stands for Hybrid Assisted Limb which, according to their website, "is a cyborg-type robot that can expand and improve physical capability."

Autonomous Robot in Star Wars

Star Wars (Lucasfilm) offers an excellent example of an autonomous robot in action. The beloved C-3PO and his sidekick R2-D2 show how artificial intelligence in robotic form can prove to be life-saving. This tandem could not only interpret voice commands (speech recognition), but also could act upon and communicate with other robots and in C-3PO's case humans as well.

Honda has created the most lifelike robot currently in production with [ASIMO](#). This remarkable robot comes in various sizes and performs several assistive deeds for those around them. Those with disabilities can greatly benefit from this type of assistance. Independence from caregivers of the human species is greatly desired by most in the disabled community and ASIMO offers a glimpse into what could become the new caregiver.

Computer Interface in Minority Report

[Engadget](#) has a very good article detailing how the computer interface from the movie Minority Report (Twentieth Century Fox) is much closer than one might think and is in some regards already a reality. In the blockbuster, Captain John Anderton, Tom Cruise, utilizes a holographic projection of a computer screen. Using only his hands, Captain Anderton operates a lightning fast computer interface that provides all types of information and must be connected to every government and private database known to man.

Capt. Anderton utilizes mouse emulation and on-screen keyboards to input information and retrieve the desired output. These applications are very important for the interaction of computers and individuals with physical disabilities. Origin Instruments Corp. has developed the [HeadMouse Extreme](#) a leading mouse emulator for those with physical impairments. With simple head movements, a user can move the mouse across the screen by a device which is the approximate size of a pack of playing cards and a tracking dot located on the user. One recent development by Microsoft shows how the [Kinect for Xbox](#) utilizes movement to operate computer devices. Creative developers have also been able to use the Kinect to control everything from computers to televisions.

Physical Monitoring and Assistance in Batman

Batman (DC Comics) is a superhero with a very cool fanny pack. Bruce Wayne, Batman's alter ego, is a billionaire who has developed many devices that are mostly found and incorporated into his Batbelt. On this belt, he has the Batmonitor which wirelessly relays physical and mental activities to the Batwave – the ever vigilant computer found within the Batcave. Another handy device found on the Batbelt is the Batbreather. This is a rebreather that provides the superhero with the ability to breathe when no oxygen exists or is impossible to attain.

Rebreathers are currently found mainly in the scuba diving industry, but can be utilized by those with disabilities or who have issues breathing. With more than 50 million disabled people in America alone and over 12 million of those becoming 55 or older by 2018, physical and mental monitoring as well as portable oxygen devices are becoming more and more important. Batman utilizes these to fight crime while those with breathing disabilities such as CP and the elderly rely on them for life-sustaining support. Unfortunately, while monitoring devices can fit on a standard belt, the smallest oxygen creation machines are about the size of a backpack.

Personal Mobility in Wall-E

Wall-E (Pixar Animation Studios/ Walt Disney Pictures) is a widely popular animated movie that takes place in a time where Earth has been depleted of its natural resources and the human race has moved beyond our galaxy. The movie shows humans as an obese, lazy race that is dependent upon machines to take care of their every need and want. One scene in the movie has the hero a small artificially intelligent robot named Wall-E traversing through a highway of humans carried by reclining seats in a spaceship.

While this movie exhibits an extreme of what the human race could become, personal mobility is an issue for many humans worldwide. Honda has also created the [U3-X Personal Mobility Prototype](#). Much like a Segway, the U3-X is a unicycle type device that transports the individual by simply sitting on top and using balance to control its movement. Those with mobility impairments can find both the standing Segway and the sitting U3-X useful devices as long as one can keep their balance.

This is not an exhaustive list of how science fiction brought about [assistive technology](#) in ways that could only be dreamed of even a few decades ago. What it does show, however, is a good foundation for how today's imagination can prove to be very beneficial to the disabled of tomorrow.

Do you have an example of a technology that was shown in the comics or in science fiction movies that only later came to be a reality? If so, leave a comment and let the world appreciate some of the great innovators of our time.