An Overview of Cyborg

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Abstract **-- Neural interfacing is a powerful means, which can generate a bridge between humans and machines. In this paper we focus on neural interfacing as an evolving trend in wireless communications by taking into account one of its important application i.e. cyborgs. In an attempt to promote greater interaction between humans and computers, companies that generate cybernetic technologies participate in a variety of strategies that incorporate the cyborg discourse. Some of these facts persuade individuals to concede to particular philosophies, such as the argument that artifacts and instrumental reasoning are needed for effective social development. With the experiments to be held in future, and in the process given a brief description of the advantages and disadvantages of this technology.**

Figure 1:Cyborg

I. INTRODUCTION

A cyborg is essentially a man-machine system in which the control mechanisms of the human portion are modified externally by drugs or regulatory devices so that the being can live in an environment different from the normal one.A brain-computer interface provides a direct path of communication from the brain to an external device, effectively creating a cyborg.cyborg a compound word derived from cybernetics and organism.It is a term coined by Manfred Clynes in 1960 to artificially enhance biological functions.A cyborg reffered to a hman being with bodily functions aided or controlled by techonological devices.

According to the idea, a cyborg is defined by its hybrid condition: a combination of biological and technological parts. The history of cinema has depicted cyborgs in many ways , particularly science fable and horror, and, due to their constitutive equivocation, frequently mixing themwith aliens, mutants, androids, copies, homunculi, robots and monsters. Body modification, a growing practice and culturing that now spans the world, has made substancial gains in merging the body with technology. Extend earlobes, facial tattooing, and dermal implants have become more observable as of late in many urban locales, and it is not so surprising to find people going to greater lengths to modify their bodies in sometimes distinct and shocking ways. For more examples, disburse some time on one of the most popular online body modification community websites. The site documents the diverse array of practices that members engage in to explore, test, extend, and construct their bodies in new ways.

II. TYPES OF CYBORG

A. Robot

A cyborg can literally be a robotic form which helps humans in everyday tasks. They can be used for medical resolution, military purposes, or individual use. Service robots help human's by performing everyday tasks for them, including cleaning, doing launderatte, and even cooking. Service robots are organised to listen to a humans instructions, but those instructions must be correct in order for a service robot to accomplish that task.

B. Computer

Another form of a cyborg is a computer, or any processor which takes in data and snap information back out. A computer is the significant form of this type of cyborg. We communicate to computers what we need, and they fulfill a task for us. In this sense, we are interacting with a robotic form, much like a service robot. It is for our own gain.

C. Human

Yes, we are a form of a cyborg. We create cyborgs everyday when we judge someone unfit to be a human. Preconception, manipulation, and demands make humans act like cyborgs.

III. APPLICATIONS

A. In Finance

Due to advances in computer technology, investors are able to enrol super computers to engage in financial activities such as trading, banking, brokering, and money management. Because of the increased dependence on artificial intelligence and advanced computerization, modern finance is becoming “cybo rg finance” because the key players are part human and part machine. One key characteristic of cyborg finance is the use of incredibly powerful and fast computers to analyze and execute trading opportunities based on complex mathematical models. The software employing these

algorithms is often branded and non-transparent, thus it is sometimes referred to as "blackbox".

B. In Medicine

In medicine, there are two important and different types of cyborgs: the restorative and the raised. Restorative technologies "restore missed function, organs, and limbs". The key fact of restorative cyborgization is the repair of broken or missing processes to turn to a healthy or average level of function. There is no raising to the original faculties and processes that were missed.

On the difference, the cyborg "follows a principle, and it is the principle of optimal performance: maximising output (the information or modifications obtained) and minimising input".

Figure 2: Medical Application

Figure 3:Medical Application

A brain computer interface , gives a direct path of communication from the brain to an external device, effectively creating a cyborg. Research of Invasive BCIs, which uses electrodes embedded directly into the grey matter of the brain, has focused on restoring destroyed eyesight in the blind and giving functionality to inactivated people, most notably those with severe cases, such asLocked in syndrome. This technology could enable people who are missing a limb or are in a wheelchair the power to manage the devices that aid them through neural signals sent from the brain implants to computers or the devices. It is possible that this technology will also lastly be used with healthy people.

C. In Military

Miltary organisations research has lately focused on the utilization of cyborg animals for the purposes of a supposed tactical advantage. DARPA has declared its interest in developing "cyborg insects" to transmit data from sensors implanted into the insect during the pupal stage. The insect's movement would be controlled from a Micro-Electro-Mechanical System (MEMS) and could conceivably survey an environment or identify explosives and gas. Similarly, DARPA is generating a neural implant to perhance control the movement of sharks. The shark's distinct senses would then be abused to provide data feedback in relation to enemy ship movement or underwater explosives.

D. In Sports

Cyborgs have also been contained in sports by athletes that uses performance enhancements drugs in many of the sports that played worldwide like baseball, football, etc. Players that have been offenced of PEDs contains Barry Bonds, Roger Clemens, Alex from the MLB. These players by using PEDs became cyborgs in the sport since the PEDs are bioengineered in a lab using computer technology that is genetically made to match their needs. Although, these kind of cyborgs are the only kind that bring attention there are other kind of cyborgs. In the NFL there is a player from the Seattle seahawks named Derrike Coleman who is the first stone player to ever play in the NFL and the fact that he uses a earshot aid makes him a cyborg. The reason being that he is using that technology to reestablish his hearing. If his hearing aids are on, he said his hearing is about 60-80 percent of what normal people hear (and about 20 percent without the hearing aids). Another way, that cyborgs can be present in sports through the players being tedious cyborgs and this can happen every time they are using their equipment. They become one with their equipment because they are mentally aware that they are using their equipment.

E. In Space

Sending humans to space is a dangerous task in which the execution of different cyborg technologies could be used in the future for risk diminution. Stephen Hawking, a eminent physicists stated "Life on Earth is at the ever-increasing risk of being wiped out by a disaster such as sudden global warming, nuclear war... I think the human race has no future if it doesn't go into space." The difficulties corresponding with space travel could mean it might be centuries before humans ever become a multi-planet species. There are many result of spaceflight on the humanbody.

IV. ADVANTAGES

- Extends life
- Allows one to lead a normal life
- Entrust a part of the body back
- Enhances the quality of life

V. DISADVANTAGES

- Practice is needed for doctors
- They are all costly
- Psychological issues
- Feeling ‘dissimilar' to everyone else
- The threat of rejection/infection
- suffering during operation
- cyborgs do not cure body damage

VI. CONCLUSION

The Cyborg concept supports symbols of living beings as machines. It relieve distinctions between genders, between human and other animals, between organisms and machines. In doing so it may disregard some fundamental differences that will always remain.

From the relatively tedious starting point of cybernetics, the cyborg provide startling chances for the future. It does not however address moral problems that these forecast raise. Maybe we are already Cyborgs to some degree; maybe this is just the starting point.

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