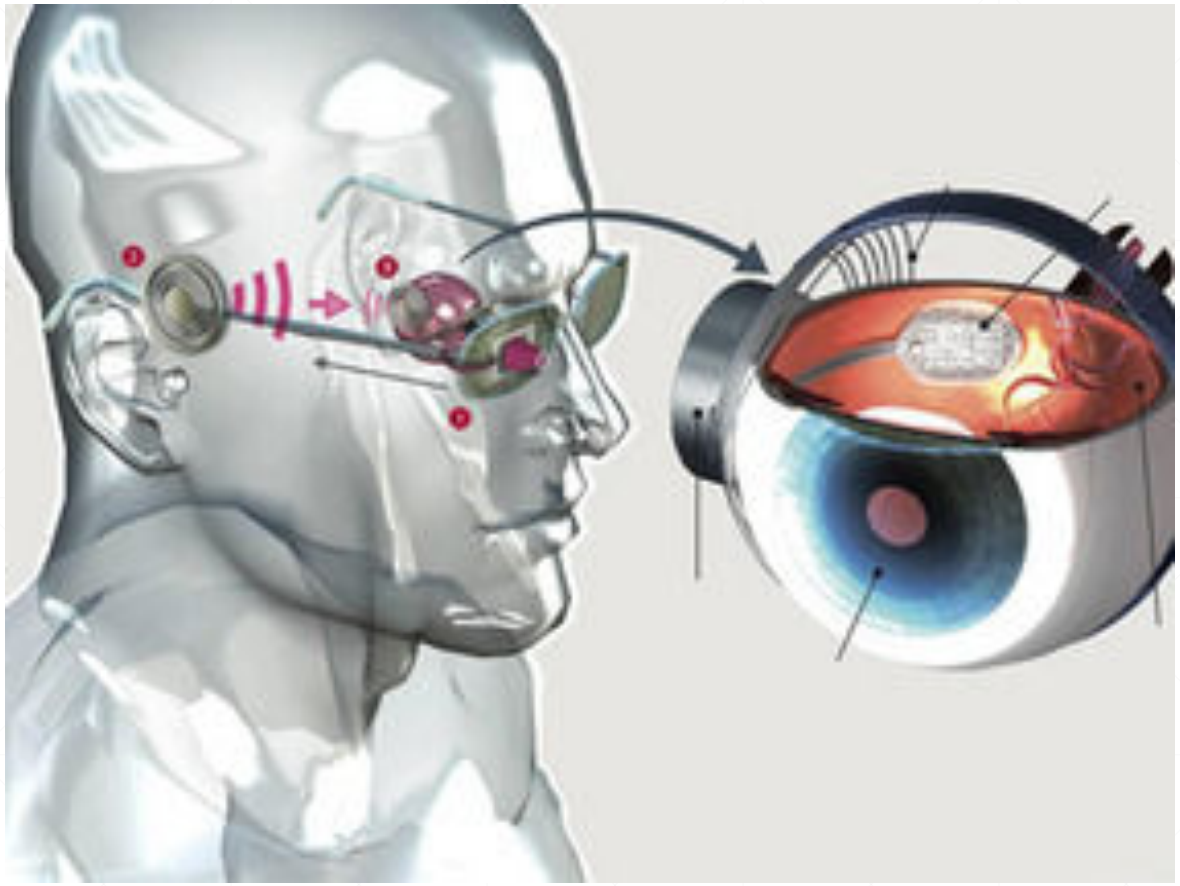
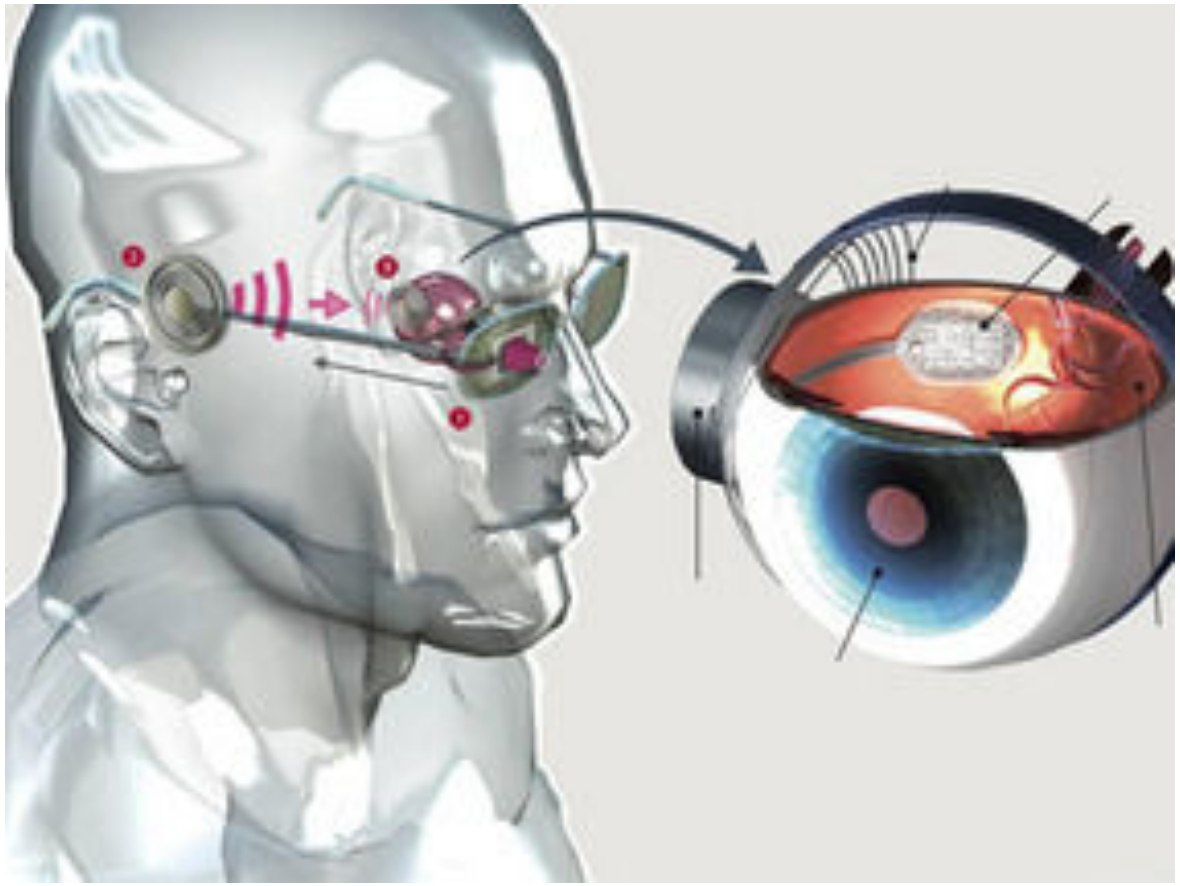
Out of Sight, But Not Out of Mind: Security and Privacy of Bionic Eyes

Anne Marie Goldman
Timothy Brown
Tamara Bonaci

Bionic Eyes – Implanted Visual Prosthesis





Inner Workings of a Bionic Eye

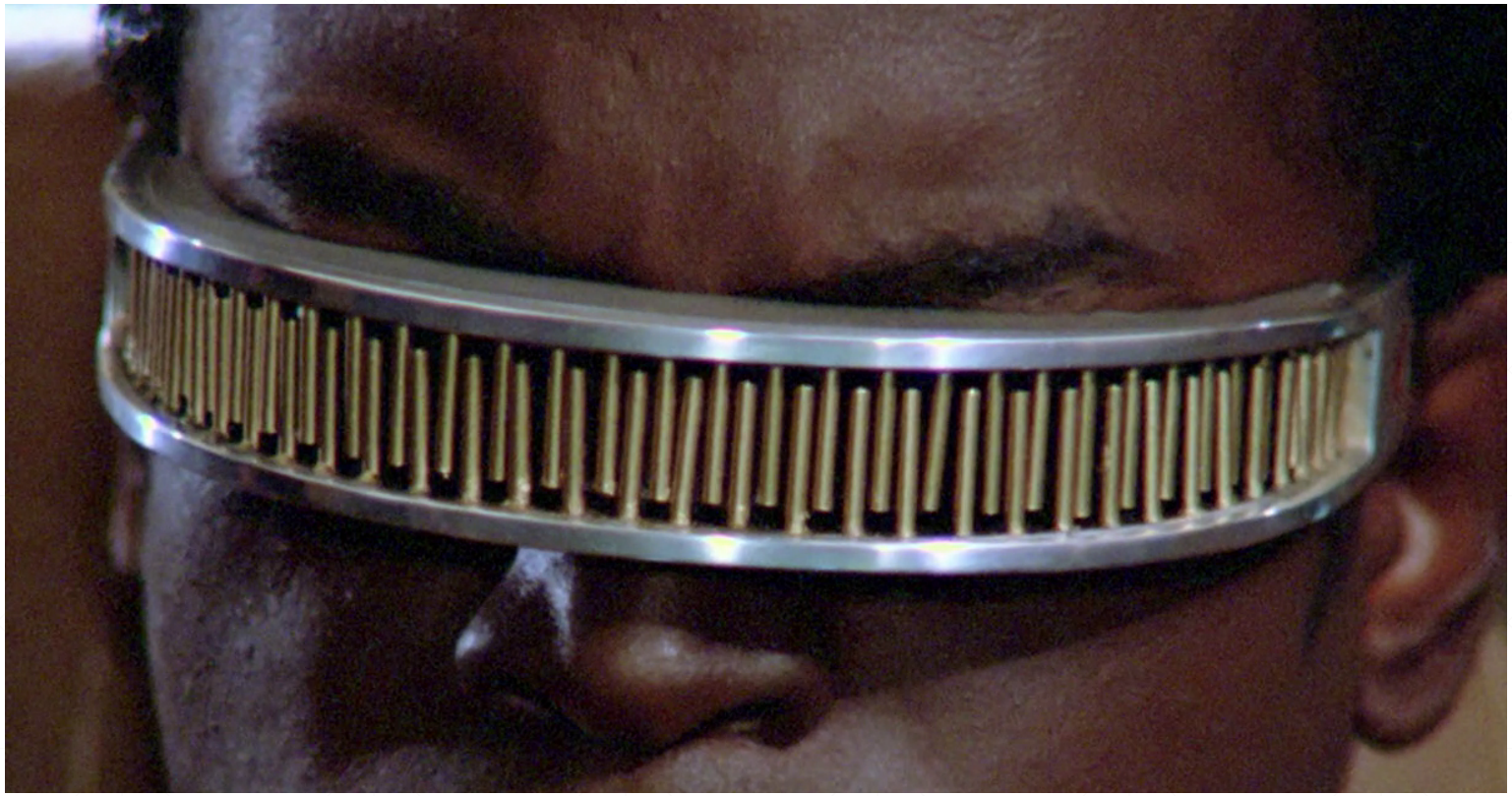
1. External image processing component
2. Surgically implanted component
3. Component enabling wireless communication

Project Prakash and the Future Sight Restoration



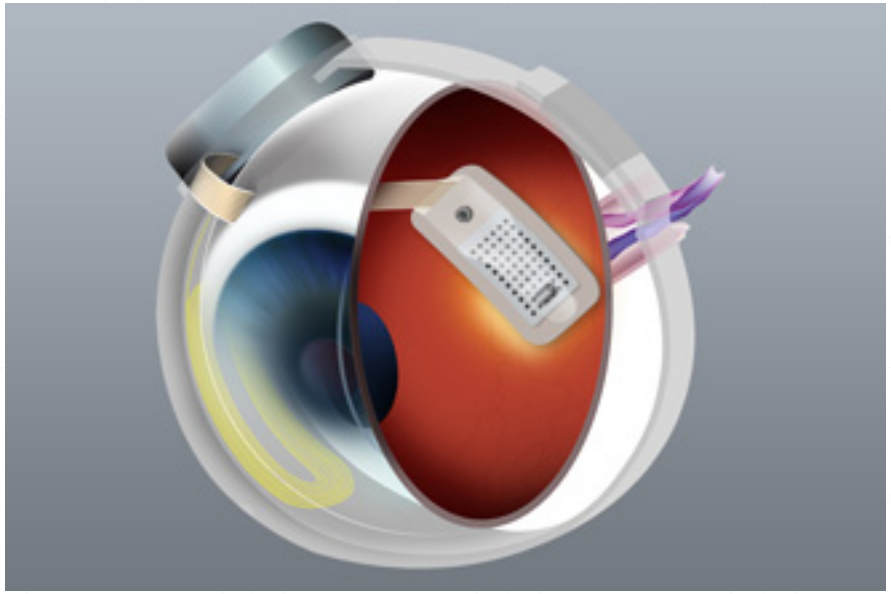
[Picture credit: projectprakash.org, Science Magazine]

Bionic Eyes of The Future



[Picture credit: memory-alpha.wikia.com]

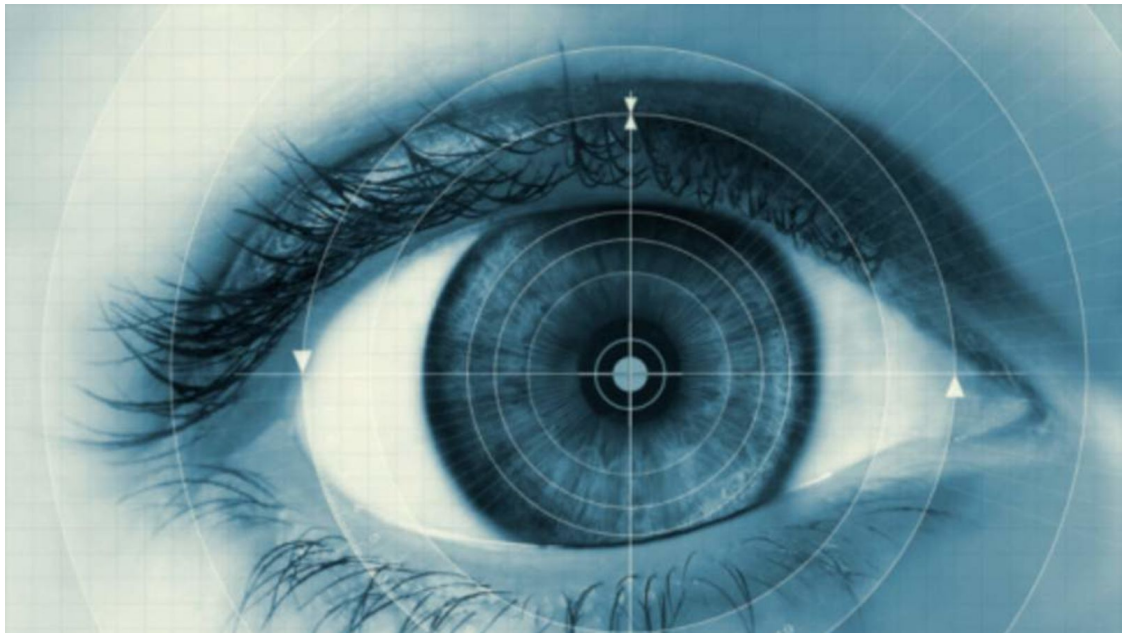
Bionic Eyes = Augmented/Virtual Reality





[Picture credit: allaboutvision.com, gameranx.com]

Difference: surgically implanted component

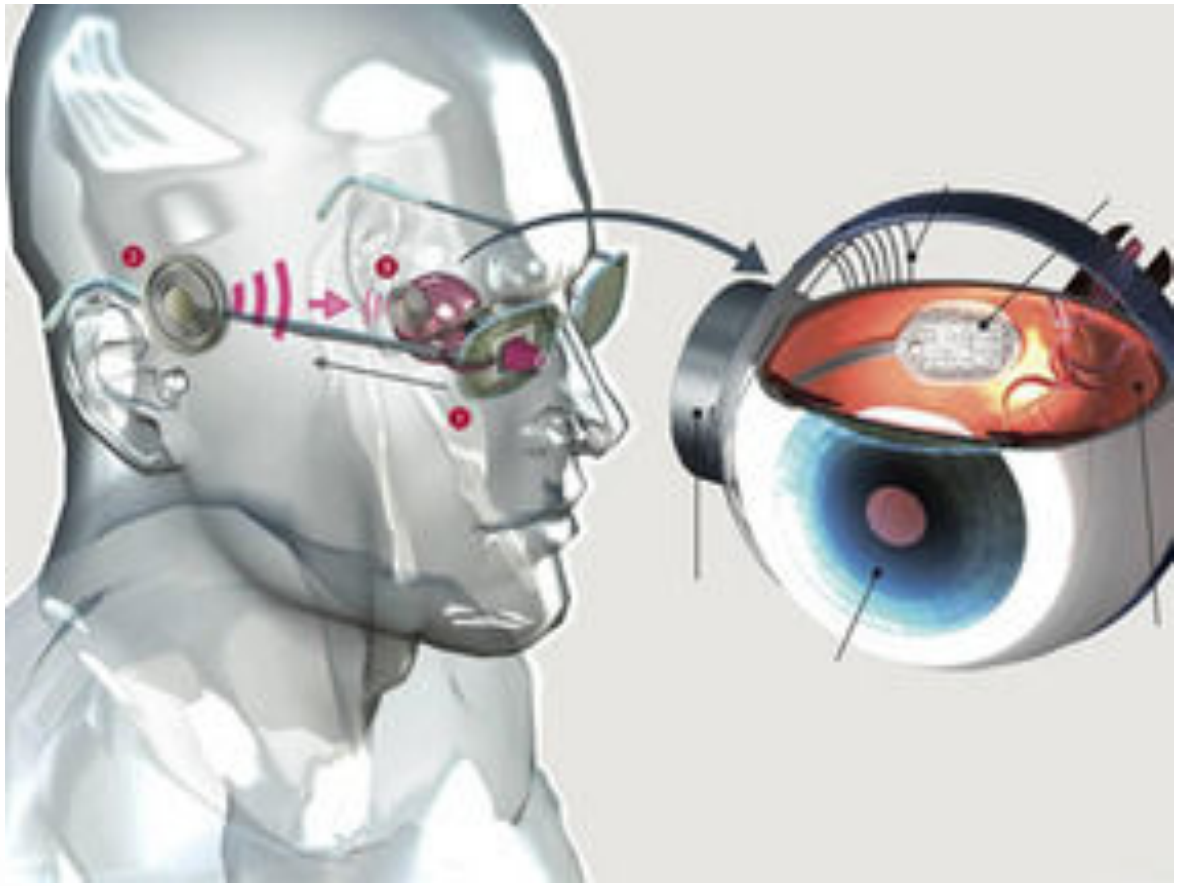


[Picture credit: news.sky.com]

Bionic Eye = AR/VR

Uses of bionic eyes in the future:

1. People who were born blind
2. People who have suffered a sudden loss of sight
3. People experiencing visual degeneration
4. People wanting to enhance their normal vision



Future Bionic Eyes: Possible Problems

- Sense of self and agency
- Legal responsibility
- Privacy
- Safety and security

Gas Lighting Attack – A New Problem



[Picture credit: urban75.org]

Attack targeting the content of delivered messages

Thank you!

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