

## Synthetic Telepathy - The Article Wikipedia Did Not Want You To Read

Michael Dwyer 2010-05-21 10:28

**The following article is an entry that appeared on Wikipedia. Within the last 24 hours a major "edit war" broke out and it appeared, at least to me, that the information was being suppressed. The article goes into depth about a field of espionage that employs a technology known as "silent sound" or "Synthetic telepathy". If you're interested in high tech espionage, this makes for a very good read.**

### Synthetic telepathy

Synthetic telepathy also known as techlepathy or psychotronics) is a term used to describe the process in brain-computer interfaces by which human thought (as electromagnetic radiation) is intercepted, processed by computer and a return signal generated that is perceptible by the human brain. (ref 1,2,3,4)

**==History==** In 1967, Edmond M. Dewan published a paper in Nature demonstrating the control of Alpha waves, turning them on and off, to produce Morse code. (ref 5) Using an EEG machine, Dewan and his fellow researchers were able to send words and phrases by thought alone.

In 1976, Robert G. Malech was awarded United States Patent 3951134 for remotely monitoring and altering brainwaves using radio.(ref 6) This patent makes reference to demodulating the waveform, displaying it to an operator for viewing and passing this to a computer for further analysis.

In 1988, Farwell, L.A. & Donchin, D. produced a paper describing a method of transmitting linguistic information using the P300 response system. (ref 7) This system combined matching observed information to what the subject was thinking of. In this case, being able to select a letter from the alphabet that the subject was thinking of. In theory, any input could be used and a lexicon constructed.

United States Patent 6,011,991, granted January 4, 2000, describes a method of monitoring an individual's brain waves remotely, for the purposes of communication. Filed December 7, 1998, the patent outlines a system that monitors an individual's brainwaves via a sensor, then transmits this, specifically by satellite, to a computer for analysis. This analysis would determine if the individual was attempting to communicate a "word, phrase, or thought corresponding to the matched stored normalized signal".(ref 8)

**==Theory==** Approaches to synthetic telepathy can be categorized into two major groups, passive and active. Like sonar, the receiver can take part or passively listen.

Passive reception is the ability to "read" a signal without first broadcasting a signal. This can be roughly equated to tuning into a radio station, the brain generates electromagnetic radiation which can be received at a distance. That distanced is determined by the sensitivity of the receiver, the filters used and the bandwidth required. Most universities would have limited budgets and receivers such as EEG (and similar devices) would be used. A related military technology is the surveillance system TEMPEST, the effective range of which is classified. (ref 9) Given that US Congress attempted to enact a bill in Oct 2001 banning these type of devices as "space weapons", (ref 10) may indicate that fluctuations in the human magnetic field can be intercepted by satellite.

Robert G. Malech's approach requires a modulated signal to be broadcast at the target. The method uses an active signal which is interfered with by the brain's modulation. Thus, the return signal can be used to infer the original brainwave. This approach does expose the transmitter, but is ultimately required for generating return signals that can be processed by the brain.

The research of Farwell, L.A. & Donchin, D, is the first public revelation that could lead to a generic lexicon being developed, however, this is implied in the work of Robert G. Malech in 1976.

### **==Current research==**

Current research, as of 2010, is being driven by military for "covert speech", however, given that much of this is unclassified, it would suggest that the bulk of the research was performed much earlier and dedicated to the field of

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intelligence gathering during the cold war. Additional reports suggest that a version is deployed in combat zones to demoralize enemy troops and a smaller number of reports indicate a potential use to undermine governments and cause public unrest. (ref 11, 12)

Today, the driving force appears to be silent communication with battlefield troops. A mere \$4 million was provided to DARPA for the fiscal year 2009/2010 to develop such a system called "Silent Talk". (ref 13) Much of the research is being conducted at The Cognitive NeuroSystems Lab at UC Irvine. (ref 14)

A further \$4 million was allocated by the Army to the University of California to investigate computer-mediated "synthetic telepathy".(ref 15) The research aims to detect and analyze the word-specific neural signals, using EEG, which occur before speech is vocalized, and to see if the patterns are generalizable. (ref 16) The research is part of a wider \$70 million project that began in 2000 which aims to develop hardware capable of adapting to the behavior of its user.(ref 17)

Quite apart from linguistic information, images have been extracted from the brain. Researchers at Japan's ATR Computational Neuroscience Laboratories have been able to reconstruct images that a subject can currently see. The ultimate goal of the unclassified project is to view both retinal and imagined images in real-time, including dreams. (ref 18)

==Computer mediation==

Computer mediation falls into two basic categories, interpretative and interactive.

Interpretative mediation is the passive analysis of signals coming from the human brain. A computer "reads" the signal then compares that signal against a database of signals and their meanings. Using statistical analysis and repetition, false-positives are reduced over time.

Interactive mediation can be in a passive-active mode, or active-active mode. In this case, passive and active denote the method of reading and writing to the brain and whether or not they make use of a broadcast signal. Interactive mediation can also be performed manually or via artificial intelligence.

Manual interactive mediation involves a human operator producing return signals such as speech or images. A.I. mediation leverages the cognitive system of the subject to identify images, pre-speech, objects, sounds and other artifacts, rather than developing A.I. routines to perform such activities. A.I. based systems may incorporate natural language processing interfaces that produce sensations, mental impressions, humor and conversation to provide a mental picture of a computerized personality. Not only can this A.I hold a conversation via the internal monologue but it may also perform routing of information to and from specific groups or individuals. This provides a broad range of potential applications from acting as a communications system to conducting interrogations.

This latter form is currently being researched at UC Irvine for an unclassified US military project. (ref 19) Given the high value to espionage and counter-terrorism, it is likely that such a system is already deployed in a classified manner.

==Military uses==

In a military context, the first obvious uses is to both read and write information to the internal monologue. This provides two major areas of interest, the first being two-way communication for field agents and the second is the intelligence gathering and interrogation. A fundamental problem arises when using the system for communication purposes, in that, it is impossible to authenticate the source of the transmission. Synthetic telepathy has limited uses as a communication system unless direct-contact headset systems are used and supported by encrypted channels. As such, standard radios are more effective in combat situations. Synthetic telepathy also requires the thought stream to be processed which results in a minor lapse of attention, rather like a daydream, that could have deadly consequences on the battlefield.

With respect to intelligence gathering and interrogations, synthetic telepathy has a wide range of drawbacks and limitations. Contrary to popular belief, synthetic telepathy does not provide the ability to read a person's mind or memories. What it does provide is the ability to read the internal monologue (or anything that causes electrical change/radiation) and the trick is to get the subject to "voice" their memories and cross-reference that with their emotional state. In other words, basic psychological manipulation is a key factor and makes the technology not much more reliable than a standard lie-detector test. In practice, passive monitoring of the internal monologue over a long time period (months-years) is probably the most effective method of intelligence gathering.

The capability to put a person into a state of hypnosis is often touted by conspiracy theorists. In actual fact, the suggestive

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capabilities of synthetic telepathy use a different mechanism, basic impulses and sensations. This is merely a different form of writing to the brain. To formulate thought, the brain has a pipeline through which information is processed. (ref 20) At its most basic, impulses guide human behavior and manipulation of these impulses provides a strategic advantage in both combat and political situations. By altering the motivational factors of a target subject or group, it makes it easier to guide their higher level decision making processes.

Crowd or riot control can be achieved by generating impulses that are essentially common to all humans, resulting in the dispersion of crowds or a willingness to co-operate with authorities. This type of synthetic telepathy is arguably a political tool as it suppresses dissent. (ref 21)

Amnesia (retrograde and anterograde) can be induced as any active signal is essentially interfering with normal operations of the brain. Thus, transfer from shortterm to longterm memory can be inhibited. (ref 22) Vision and auditory systems could also be compromised, as with any neural processing system, corruption of the inputs would result in hallucinations, much like the effects of LSD. With a proper interface to such regions, events such as "alien abductions" or "seeing God" could be faked quite readily and "mental illness" used as a cover for the extraction of information. (ref 23, 24, 25)

#### ==Silent Sound Spread Spectrum (SSSS/S-Quad)==

ITV News Service, in March 1991, produced a report of ultrasound piggybacked on a commercial radio broadcast (100Mhz) aimed at entraining the brains of Iraqi troops and creating feelings of despair. (ref 26) This has been related to United States Patent 5,159,703 awarded to Oliver M. Lowery which refers to a "silent communications system in which nonaural carriers, in the very low or very high audio frequency range or in the adjacent ultrasonic frequency spectrum, are amplitude or frequency modulated with the desired intelligence and propagated acoustically or vibrationally, for inducement into the brain, typically through the use of loudspeakers, earphones or piezoelectric transducers."(ref 27)

Human hearing is roughly in the range of 20Hz-20,000Hz (20&nbsp;kHz), although a human adult will lose the ability to hear the higher ranges as they grow older. In addition, most cheap radios have a limited frequency response range (ref 28) that will be unable to reproduce silent sound as encoded originally making it ineffective.

As such, an alternative explanation for the effectiveness of S-Quad is provided in human biology:

1. Cells amplifying radio signals at certain frequencies.
2. Cells can demodulate voice on a basic carrier wave.

This is not as strange as it seems, it has been noted for a long time that fillings, or dental braces, can result in radio stations being heard in the mouth of an individual. (ref 29)

#### ==Mind control==

Conspiracy theory and popular science fiction would have the world believe that the human mind can be remotely controlled. That individuals can be turned into mindless automatons and directly controlled by computers to produce sleepers or assassins. (ref 30) The reality is much less clear.

Interfacing remotely to write to the brain is performed using electrical interference rather like crosstalk (electronics). (ref 31) Much like a drill next to a television, the interference pattern is processed by the brain as information, a variant which induces sensations and feelings is known as Transcranial Magnetic Stimulation. (ref 32) As such, an externally generated monologue will be weaker than the internal monologue of the target subject due to a lesser signal strength. An over-powering signal would interrupt a wide range of neural functions that could impact critical autonomic systems resulting in death.

Two possible methods exist that could result in an individual killing another through the use of synthetic telepathy. The first is to leverage the natural behavior of the target subject, that is, use an individual who would kill another. The second is to induce psychotic symptoms and diminish their mental control (ref 33, 34) In both cases, the underlying mechanics are the same, to provide impulses and sensations that urge the individual to commit murder. This is not hypnosis, but merely physiological manipulation without the knowledge of the target.

Another area of interest and arguably more feasible, is the manipulation of political figures. (ref 35) Thoughts, sensations and impulses can be combined to influence political and personal decision making processes. A similar process can be used to effect the population at large to drive agendas or to maintain power for certain groups, undermining free will and self-expression. (ref 36) As the technology matures and expands to regimes throughout the globe, this will be a major source of

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concern for governments world-wide.

Finally, we come to the area of interrogations which can be conducted remotely whilst an individual or groups is conducting their normal daily business. The internet is saturated with such reports (ref 37) and as a possible side-effect is psychosis, it is quite likely that at least some of them are accurate.

==In law== The term "psychotronic", short for psycho-electronic ( ref 38) was used in the proposed Bill H.R. 2977 Space Preservation Act of 2001, which listed "psychotronic" as a list of possible spaceborne weapons which would be banned by the Act (ref 39)

In 2001, President Vladimir V. Putin signed into law a bill making it illegal to employ "electromagnetic, infrasound ... radiators" and other weapons of "psychotronic influence" with intent to cause harm.

As a completely unnatural event, it is arguable that this type of technology when employed in interrogations would be classified as "cruel or unusual". Further to this, A.I. mediated events such as mock executions or death threats would also violate the Geneva convention, International law and laws of most nations in the developed world. Counter-claims focusing on National Security would be invalid as criminal activity is, in itself, a gross violation of National Security

The European Parliament adopted a resolution on January 28, 1999[38], 28.1.99 Environment, security and foreign affairs A4-0005/99:

23. Calls on the European Union to seek to have the new 'non-lethal' weapons technology and the development of new arms strategies also covered and regulated by international conventions ...

27. Calls for an international convention introducing a global ban on all developments and deployments of weapons which might enable any form of manipulation of human beings

==In the media==

60 Minutes correspondent Lesley Stahl interviewed Tom Mitchell of Carnegie Mellon University on his work in "Thought Identification" using fMRI. (ref 40) The segment, published Jan. 4, 2009 and available on the CBS website, shows associate producer Meghan Frank having his thoughts identified by computer. (ref 41) The segment shows that a generalizable pattern exists in the human brain that can be used to identify thoughts without training a computer for each individual with 100% accuracy.

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