

Inner Voice, Target Tracking, and Behavioral Influence Technologies

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People discerning remote manipulation by technology capable of such influence have formed protest organizations across the world.^{1 2 3 4} Educated society is uninformed regarding authentic documentation of the development and existence of these technologies, and is without appreciation of the hazard. Complaint of 'hearing voices' and perception of other remote manipulation must receive appropriate scientific and legal investigation with protection. Professional awareness is virtually absent with eminent texts and opinion being presumptive, without appraisal of the evidence.

Herein is substantiated:

1. Remote wireless microwave and ultrasound inner voice transmission.
2. Human tracking technologies.
3. References recognizing behavioral influence capabilities and the use of such technologies against humans.

MICROWAVE HEARING

The first American^{c 5} to publish on the microwave hearing effect was Allan H. Frey in 1962,⁶ yet World War II⁷ and late 1940's⁸ radar technicians had microwave perception anecdotes. Normal subjects, even with earplugs, can hear appropriately pulsed microwaves at least up to thousands of feet from the transmitter.⁹ Transmitter parameters above those producing the effect result in a severe buffeting of the head with dizziness and nausea, while parameters below the effect induce a pins and needles sensation. Peak power is the major determinant of loudness, though there is some dependence on pulse width.⁹ Pulse modulation appears to influence pitch and timbre. The effect "is the most easily and reliably replicated of low power density (microwave) illumination."¹⁰ The hearing phenomenon is the most universally accepted of microwave low power effects, because it is experienced by many microwave workers with well replicated animal definition. (8, Postow) Review of human and animal microwave hearing confirmation by independent investigators establishes validity.^{7 11 12}

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^c American discovery may not be the first. A translated Russian treatment is the next text reference, which refers to F. Cazzamalli, an Italian, who mentioned 'radiofrequency hallucination/ about 1920.

¹³ ¹⁴ ¹⁵ Designs for scaring birds away from aircraft or other hazards by microwave hearing ¹⁶ and induction of vertigo ¹⁷ exist. ¹⁸ ¹⁹

While working for the Advanced Research Projects Agency at Walter Reed Army Institute of Research, Sharp and Grove discovered “receiverless” and “wireless” voice transmission. ²⁰ Their method was simple: the negative deflections of voiceprints from recorded spoken numbers were caused to trigger microwave pulses. Upon illumination by such verbally modulated energy, the words were understood remotely. The discovery’s applications are “obviously not limited to therapeutic medicine” according to James C. Lin in Microwave Auditory Effects and Applications. ²¹

A Defense Intelligence Agency review of Communist literature affirmed microwave sound and indicated voice transmission. The report states: “Sounds and possibly even words which appear to be originating intracranially (within the head) can be induced by signal modulation at very low average power densities.” ²² Among microwave weapon implications are “great potential for development into a system for disorientating or disrupting the behavior patterns of military or diplomatic personnel.” An Army Mobility Equipment Research and Development Command report affirms microwave speech transmission with applications of “camouflage, decoy, and deception operations.” ²³ “One decoy and deception concept presently being considered is to remotely create noise in the heads of personnel by exposing them to low power, pulsed microwaves . . . By proper choice of pulse characteristics, intelligible speech may be created” quotes the report.

The Brunkan Patent # 4877027 “Hearing system” is a device capable of verbal microwave hearing. ²⁴ The invention converts speech for remote introduction into the head by parabolic antenna with the patent indicating direct microwave influence on neural activity. The microwave spectrum granted is broad: 100-10,000 MHz (0.1-10 GHz.) Pulse characteristics are essential to perception. Bursts of narrowly grouped, evenly spaced pulses determine sound intensity by their amount per unit time. Although a wide spectrum is patented with pulse and burst duration ranges, preferred is 100 nanosecond pulse and 2 microsecond burst duration operating at 1000 MHz, which is the frequency of optimal tissue penetration. ²⁵ Another microwave voice transmission patent application that is based on microwave bursts is “designed in such a way that the burst frequencies are at least virtually equal to the sound frequencies of the sounds picked up by the microphone,” though the transducer here is not remote. ²⁶ Microwave hearing literature confirms the ability of microwave bursts to modulate sound intensity, and Lin extends frequencies capable of the effect into the ‘tens of gigahertz.’ ⁷

Stocklin Patent # 4858612 “Hearing device” ²⁷ affirms microwave voice transmission. Stocklin gives exposition to the concept that a microwave component is part of neurophysiology and electroencephalogram (EEG) potentials. ²⁸ Microwaves are considered both emitted and absorbed by nerve cell membrane proteins. Microwaves generally excite the brain ²⁹ perhaps by influencing calcium, ³⁰ a central ion in nerve firing. ³¹ Stocklin represents the auditory cortex as normally producing microwave energy, which the device simulates, thus eliciting sound sensation. Each acoustic tone is weighted for several microwave frequencies by a formula called the mode matrix, which is used to calculate best perception requirements. Observation of EEG brain wave amplitude, desynchronization, and delta waves helps calibrate the device. ³² The lowest frequency for hearing is estimated by the cephalic index. Microwave speech

transmission in this patent is unremote with the antenna over and sized for the auditory cortex. Other patents considered based on radiowave elicited hearing have non-remote transducers,³³ one of which, the Neurophone, is on sale over the internet.^{34 35}

Some patents attribute microwave hearing to direct neural influence. However, the most accepted mechanism in review is by thermoelastic expansion,¹³ most likely inducing bone conducted hearing. The cochlea does appear to be involved, but not the middle ear.¹⁵ This divergence of mechanism illustrates the non-thermal/thermal controversy. US exposure standards are based on thermal effects, yet there are low power effects very difficult to explain by thermodynamics.^{14 36} All accept thermal effects at some level, yet the thermal only school is rather dogmatic related to capability and liability issues of commercial³⁷ and national security concern.³⁸ It must be said that the open literature regarding microwave hearing indicates a thermo-acoustic mechanism.

“Communicating Via the Microwave Auditory Effect.” is the title of a small business contract for the Department of Defense. Communication initial results are: “The feasibility of the concept has been established” using both low and high power systems.³⁹ A Freedom of Information Act (FOIA) request as to the project’s outcome met with denial on the part of the Air Force, on the grounds that disclosure “could reasonably be expected to cause damage to national security.”⁴⁰ Though the Air Force denied this FOIA disclosure, such a contract’s purpose is elaborated by the Air Force’s “New World Vistas” report: “It would also appear possible to create high fidelity speech in the human body, raising the possibility of covert suggestion and psychological direction If a pulse stream is used, it should be possible to create an internal acoustic field in the 5-15 kilohertz range, which is audible. Thus it may be possible to ‘talk’ to selected adversaries in a fashion that would be most disturbing to them.”^{41 42} Robert O. Becker, whose eminence was enough to have been twice nominated for the Nobel Prize in biological electromagnetic fields research, is explicit regarding clandestine use: “Such a device has obvious applications in covert operations designed to drive a target crazy with “voices” or deliver undetectable instructions to a programmed assassin.”⁴³

A microwave voice transmission non-lethal weapon is referenced in the thesaurus of the Center for Army Lessons Learned, which is a military instruction website (*Vide infra* for discussion of the analogously listed “Silent Sound” device.)¹⁹ An article from a magazine that publishes notably non-mainstream views details microwave inner voice device demonstration by Dr. Dave Morgan at a 1993 classified Johns Hopkins sponsored non-lethal weapon conference, manufacture by Lockheed-Sanders, and use by the CIA, who call the process ‘voice synthesis’ or ‘synthetic telepathy.’⁴⁴

Electromagnetic signatures of spoken words applied to the head at very low field levels (1 microTorr), affect word choice significantly along the emotional dimensions of the applied word.⁴⁵ Though inspired by microwave hearing, this report is not of direct hearing. The author suggests that such an influence, even though weak, could shift the direction of group decisions in large populations, and has previously elaborated on the possibility of a less specific electromagnetic influence on populations.⁴⁶

ULTRASOUND TRANSMISSION OF VOICE

Ultrasound-based technology also evidences internal voice capability. Lowrey Patent # 6052336 “Apparatus and method of broadcasting audible sound using ultrasonic

sound as a carrier” clearly focuses on non-lethal weapon application against crowds or as directed at an individual.⁴⁷ Communication is understood as an inner voice with loss of the directional quality of sound perception. “Since most cultures attribute inner voices either as a sign of madness, or as messages from spirits or demons, both of which . . . evoke powerful emotional reactions”, quotes the Lowrey patent’s effect on people. Replaying speech, with a delay impedes talking and causes stuttering. Normal brain wave patterns can be changed (or entrained), which “may cause temporary incapacitation, intense feelings of discomfort.” Entrainment technique is detailed by Monroe Patent # 5356368 “Method of and apparatus for inducing desired states of consciousness”, with license to Interstate Industries and involves an auditory replication of brainwave patterns to entrain the EEG as desired.⁴⁸

Norris Patent # 5889870 “Acoustic heterodyne device and method”, directionally produces sound on interference (or heterodyning) of two ultrasound beams.⁴⁹ The cancellation leaves the carried audible sound perceivable. The effect becomes apparent particularly within cavities such as the ear canal. An individual readily understands communication across a noisy crowded room without nearby discernment. Sound can also be produced from mid-air or as reflecting from surfaces.

American Technology Corporation (ATC), which licensed this latter patent, has an acoustic non-lethal weapons technology,⁵⁰ which is deployed to the US Navy, Army, Coast Guard, and Marine Corps.⁵¹ The corporation’s Long Range Acoustic Devices (LRAD™) account for 60% of military sales, and are being integrated into the Navy’s situational awareness & radar surveillance systems⁵² The device has also been deployed in Iraq⁵³ and Afghanistan.⁵⁴ A law enforcement trade journal recognizes the ATC system,⁵⁵ and writers describe the device’s inner nature of sound perception⁵⁶ as well as some experience with a more weaponized version.⁵⁷ A similar ultrasound method of limiting sound to one person, Audio Spotlight is marketed, with exhibition at Boston’s Museum of Science and the Smithsonian National Air & Space Museum.⁵⁸ The American Technology and Audio Spotlight devices are discussed in an article with some history of ultrasound acoustics, which has origins in sonar.⁵⁹ From separate references, non-lethal weapons treatments affirm sound localization and individual ultrasound effect limitation⁶⁰ with obvious lack of nearby discernment;⁶¹ the latter by a non-lethal weapons program director. Other acoustic influence methods may utilize ultrasound.^{62 d}

TARGET TRACKING TECHNOLOGY

The maintenance of effects on people requires obstacle penetration and target tracking. Internal voice capable energy forms penetrate obstruction and can be localized. Sound transmission through enclosures is a common experience. Solid defect inspection is one use of ultrasound, which is being developed to discern movement through walls,⁶³⁶⁴⁶⁵ but human tracking ability is not nearly as apparent for ultrasound as for microwave radar. Though ultrasound is unnoticed even at high intensity, a significant portion of the encoded sound audibly reflects upon striking hard flat surfaces.

^d Loos Patent # 6017302 “Subliminal acoustic manipulation of nervous system” can “cause relaxation, drowsiness, or sexual excitement, depending on the precise acoustic frequency near ½ Hz used. The effects of the 2.5 Hz resonance include slowing of certain cortical processes, sleepiness, and disorientation.”

Common technology utilizes the microwave hearing spectrum, which partly or completely encompasses cell phone,^{66 67} TV, and radar frequencies.⁶⁸ Commercial signals are not perceived, since the hearing effect requires pulsation within the limits that elicit perception. A variety of antennae localize the structurally penetrating microwave illumination with collimation or focusing.^{69 70} The Luneburg lens emits parallel rays and has over 50 years utilization.⁷¹ Masers are another method of collimation.⁷²

Microwave methods of breathing and heartbeat detection were given full description as early as 1967,⁷³ and are reviewed particularly respecting medical and possible rescue use.⁷⁴ The US Military has an interest in a non-contact vital signs monitor.⁷⁵ The capacity is evaluated for obtaining covert polygraph information.^{76 77}

Hablov Patent # 5448501 "Electronic life detection system" describes radar that detects vital organ motion, and distinguishes individuals through obstruction.⁷⁸ Therein is stated: "the modulated component of the reflected microwave signal . . . subjected to frequency analysis . . . forms a type of "electronic fingerprint" of the living being with characteristic features, which . . . permits a distinction between different living beings." Though this patent applies to trapped victim rescue, another Hablov et. al. Patent # 5530429 "Electronic surveillance system" detects interlopers with security emphasis.⁷⁹ Individual variance of human radar signatures is otherwise known⁸⁰ than these patents, with gait⁸¹ and heartbeat⁸² considered as biometric identifiers.

Spurred by non-lethal weapon declassifications promoted by the Clinton Administration, and current Homeland Security initiatives, several through-the-wall surveillance (TWS) radars have considerable commercial development. Fullerton et al. Patent # 6400307 "System and method for intrusion detection using a time domain radar array"⁸³ is licensed to Time Domain,⁸⁴ which has Federal Communications Commission approval for sale of 2,500 of its RadarVision units in the US.^{85 86} RadarVision is marketed internationally,⁸⁷ and the company is developing a SoldierVision unit for the US Army.^{88 89} Georgia Tech is developing their Radar Flashlight for security and rescue applications.^{90 91} Both of these TWS systems operate by detecting vital organ motion, and are battery operated, highly compact (10 pounds or less) models for the widest commercial potential, but this limits range. Presently RadarVision detects within 30 feet, while the Radar Flashlight only ranges 10 feet.

Other through-the-wall radars simply detect motion, a usual state of awake humans. Raytheon's Enhanced Motion and Ranging System is battery operated, briefcase sized, lists maximum range as 100 feet, provides two dimensional tracking, and can report range to motion of up to 16 targets.^{92 93 94} Defense Research and Development Canada of their Defense Department commissioned a consulting company to examine the feasibility of constructing from off the shelf components an Ultra Wide-Band (UWB) through-the-wall radar.⁹⁵ Subsequent demonstrations show that such systems can locate a moving target within a building from 60 meters away, with methods being refined to provide building layout, and denote non-moving targets.⁹⁶ Ultra Wide-Band radars are a relatively recent technology, which decrease interference with commercial sources and detection capacity. Multiple frequencies use is advantageous (*vide infra*.) Another UWB radar detects personnel through several intervening walls, and an extended range system can track human targets in excess of 1000 feet, with tracking data used to point a camera in the target direction.⁹⁷ Other developers of commercial TWS systems are Patriot

Scientific Corporation,⁹⁸ AKELA, Inc.,⁹⁹ SRI International,¹⁰⁰ and Hughes Missile Systems Co.¹⁰¹

Surveys or overviews of unclassified through-the-wall radar are available.^{102 103 104} Most materials negligibly attenuate radar at the lower microwave frequencies. High frequencies in the millimeter wavelengths (95 GHz = 3 mm) can provide detailed imaging of humans, but are not suitable for brick and concrete.¹⁰³ Though without detail, some human image can be obtained at frequencies as low as 10 GHz, which also has good building material penetration.¹⁰³ Humans are actually emissive of millimeter wavelengths,¹⁰⁵ and otherwise have good reflectance,¹⁰⁴ with a radar cross section of one square meter,¹⁰⁶ which approximates the two dimensional profile. Human emission of millimeter wavelengths even allows some measure of passive detection through walls,¹⁰³ though weapons detection under clothing is most developed.^{107 108} Radar detection software for personal computer display is sold.¹⁰⁹ A Russian report describes an ability to record the frequency spectrum of speech as well as heartbeat and respiration.¹¹⁰ Since through-wall surveillance systems evident in the open literature are subject to commercial regulatory, pricing, portability, imaging, and multiple subject observation constraints, they cannot be regarded as the limit of capability.

Rowan Patent # 4893815 “Interactive transector device commercial and military grade” describes the acquisition, locking onto, and tracking of human targets.¹¹¹ Stated therein: “Potentially dangerous individuals can be efficiently subdued, apprehended and appropriately detained.” The capability of “isolating suspected terrorists from their hostages . . . or individuals within a group without affecting other members of the group” is stated. Laser, radar, infrared, and acoustic sensor fusion is utilized to identify, seek, and locate targets. Locking illumination upon the target until weapons engagement accomplishes tracking. Tracking data automatically aims weapons, and the system even provides remote physiological stress assessment during attack. Among available non-lethal weapons is an incapacitating electromagnetic painful pulse.

Military radar systems listing human tracking capability include: Advanced Radar Surveillance System (ARSS-1) by Telephonics;¹¹² Beagle Portable Ground Surveillance Radar by Pro Patria;¹¹³ AN/PPS-5D Man-Portable Battlefield Surveillance Radar by Syracuse Research Corp.;¹¹⁴ Squire LPI Ground Surveillance Radar by MSSC Corp.;¹¹⁵ and Manportable Surveillance and Target Acquisition Radar (MSTAR) by Systems & Electronics, Inc.,¹¹⁶ which have ranges from 8-12 km for personnel detection. Some of these internet examinable references extend their capability from that listed in the 2000-2001 Jane’s Radar and Electronic Warfare Systems, which lists 13 target acquisition or tracking systems specifying such capability on personnel, produced for or purchased by militaries of some 27 countries.¹¹⁷ Besides Russian manufacture, there are also East European producers of such systems.^{117 118}

The most widely deployed system is the Rasit ground surveillance radar by Thomson CSF AIRSYS, which lists 20 km as 90% probability of detection for humans.¹¹⁷ Earlier systems have been in use since the Vietnam War.¹¹⁹ These designs feature infantry portability or mobile forward deployment, and cannot be regarded as the limit of capability, since larger radars have a range of 100 miles,¹⁰⁴ though lacking human detection specification. Basic operation of these systems involves a track initiation

processor acquiring^e a target, while a data association filter maintains a tracking lock on the target.¹²⁰ An original method for target tracking is the Kalman filter.

A 25 year old Jane's Weapon Systems lists some 32 weapons fire control systems whereby aiming can be entirely determined by radar tracking data with at least 10 systems primarily designed for control of one weapon system.¹²¹ Eight weapons guidance systems utilize microwave target illumination by a dedicated surface beam (called semi-active homing.)¹²¹ More recent active guidance sensors also illuminate targets by both laser¹²² microwave radar^{123 124} units that are compact enough to be onboard the missile, and so inexpensive as to be weapon disposable. Target illumination tracking systems have nanosecond to microsecond response times. Such responses do not require a wide scan area to lock illumination upon persons at achievable speeds. At 90 miles per hour an auto travels less than 1/100 of an inch in a microsecond.

RECOGNITION OF BEHAVIORAL INFLUENCE TECHNOLOGIES

References to behavioral influence weapons by government bodies and international organizations are numerous. Negotiation submissions to the United Nations Committee on Disarmament affirm the reality of microwave weapon nervous system effects.¹²⁵ European Parliament passage of resolutions calling for conventions regulating non-lethal weapons and the banning of "weapons which might enable any form of manipulation of human beings"¹²⁶ includes neuro-influence capability.¹²⁷ A resolution relates to the US High Frequency Active Auroral Research Project (HAARP), which has environmental consequences, and although utilizing high frequency, ionospheric extra low frequency (ELF) emanation results. Since ELF is within brain wave frequencies the project has capacity to influence whole populations.^{46 128} President Carter's National Security Advisor, Zbigniew Brzezinski, predicted development of such capacity.¹²⁹ A US draft law prohibiting land, sea, or space-based weapons using electromagnetic, psychotronic (behavioral influence), and sound technologies "directed at individual persons or targeted populations for the purpose of information war, mood management, or mind control" has not yet passed.¹³⁰ Use of electromagnetic devices against people or electronics in Michigan is a serious felony.¹³¹ Russian electromagnetic standards are nearly 1000 times lower than the West, so their weapon law forbidding electromagnetic weapons exceeding Health Department parameters is strict.¹³² A Russian draft law explicitly references behavioral influence non-lethal weapons, and development in several countries.¹³³ Resolutions by the International Union of Radio Science recognize criminal use of electromagnetic technology, particularly against infrastructure.¹³⁴

CNN reported regular microwave weapon use against Palestinians as sourced from a medical engineer, with support by a Defense Department contingency plan to use electromagnetic weapons against terrorists.¹³⁵ An ex-intelligence agent stated "The US Government has an electronic device which could implant thoughts in people" in another program interview.¹³⁵ Electromagnetic behavioral manipulation effects have had report on various Discovery cable programs, and suspicion of such technology use on then President Nixon was expressed on Larry King Live, which reiterated congressional testimony.¹³⁶ A statement by General John Jumpers about making enemies hear and believe things that don't exist would include inner voice technology.¹³⁷

^e Acquiring a target implies that the data is available to weapons systems for targeting.

The US Department of Defense has declassified a millimeter wavelength area denial weapon.¹³⁸ The prototype weapon is vehicle mounted, and considered a non-lethal weapon.^{41 139} The device produces a beam that causes a burning sensation, that is stopped by switching off the transmitter, or escape from the beam.¹⁴⁰

Besides confirming ultrasound internal voice capability,⁶¹ non-lethal weapons treatments note high powered microwave impulse disruption of brain waves with functional alteration¹⁴¹ including unconsciousness,^{38 142 143} which is confirmed in experimental animals.¹⁴⁴ Non-lethal weapons reviews also mention ‘mind control’ development and testing.^{145 146} Terms utilized in the latter references indicate subliminal messaging, particularly a Russian developed technique called psycho-correction,¹⁴⁷ the utilization of which was considered against David Koresh of the Waco, Texas Branch Davidian incident.^{148 149 150} An American system in the previous Army Thesaurus reference called Silent Sounds,^{19 151 f} also utilizes subliminal messaging, and was utilized in the 1991 Iraq War according to the company founder,¹⁵² and British news reports.¹⁵³ A system based on the same technology is for sale on the Internet.³⁵ Silent Sounds also has sophisticated brainwave entrainment by “emotional clustering” capability.^{152 154} Subliminal messaging is utilized in retail stores for theft prevention.^{155 156} Although the US Federal Communications Commission reports few complaints of subliminal messaging in broadcasts,¹⁵⁵ the technique was most recently utilized in a 2000 US presidential political advertisement,¹⁵⁷ and is reportedly rampant within Russian television.¹⁵⁸

MICROWAVE AND ULTRASOUND USE AGAINST HUMANS

The microwave irradiation of the American Embassy in Moscow received little publicity until the winter of 1976 instillation of protective screening, but irradiation was known since 1953.³⁷ Original frequencies were 2.56-4.1 GHz with additional intermittent 0.6-9.5 GHz signals being permanent by 1975 in a wide band frequency hopping^g consistent pattern and directional from nearby buildings with one signal pulsating.¹⁵⁹ Complaint to the Soviets had no avail, but the signals disappeared in January 1979 “reportedly as a result of a fire in one or more of the buildings”,¹⁵⁹ yet a signal recurred in 1988.¹⁶⁰ Observed frequencies are basically within the microwave hearing spectrum, and pulsation is required. Psychiatric cases occurred during the exposure period, though no epidemiologic relationship was revealed with fully a quarter of the medical records unavailable, and comparison with other Soviet Bloc posts.¹⁵⁹ Professional publications also details this with other flaws,¹⁶¹ along with charges of government cover-up, particularly respecting cancer cases.¹⁶² The CIA had Dr. Milton Zaret review Soviet medical microwave literature to determine the purpose of the irradiation. He concluded the Russians “believed the beam would modify the behavior of the personnel.”¹⁶³ In 1976 the post was declared unhealthful and pay raised 20%.¹⁶⁴

The most documented citizen microwave irradiation was of peace protesters at Greenham Common American Air Force Base in Berkshire England, who prompted

^f Also called S-quad, Silent Sounds, Inc. licensed Lowery Patent #5159703 “Silent subliminal presentation system”, also has advanced brain wave entrainment technology with several classified patents. (See <http://www.megabrain.com/eeg.htm> and <http://www.megabrain.com/patent.htm> accessed 8/4/04) Unessential is individual direction, but possible by ultrasound.

^g A means evading detection.

investigation of unusual symptoms.¹⁶⁵ Radiation measurements exhibited microwaves with symptom experience up to a hundred times the background level, and rose sharply on protests nearer the base.¹⁶⁰ Symptoms became pronounced on cruise missile transport, a protest focus. Recorded were wide ranging complaints: skin burns; ‘severe’ headaches; drowsiness; temporary paralysis; incoordinated speech; two late (5 mos.) spontaneous abortions; an apparent circulatory failure; and unlike usual menstrual synchronization, irregular or postmenopausal menstruation.¹⁶⁰ The symptom complex fits well with electromagnetic exposure syndrome.¹⁶⁰ It is also reported that some of the women ‘heard voices.’¹⁶⁶ The base closed finally in 1991.

Measurement of non-ionizing radiation fields in the vicinity of an Australian victim is described.¹⁶⁷ The intensity ranged from 7 mV in an adjacent room to 35 mV next to the head. Criminal microwave directed energy weapon use is reported in Germany¹⁶⁸ having similarity of circumstances, complaints, and symptoms in a number of cases, with microwave field measurement excluding the usual sources (cell phone towers, etc.) in at least one case.¹⁶⁹ Other anecdotal cases affirm microwave field measurement without strength publication.^{136 170 171} A security company advertises investigations of electromagnetic harassment including microwave voice transmission with field measurement.¹⁷²

Ultrasound behavioral influence technology use in Northern Ireland is cited.¹⁴³ The device could focus on one person and utilized ultrasound cancellation like those patented. It was employed in Vietnam by the Americans, and is known as the squawk box. Mentioned frequency (ultrasound carrier directed) is like Loos 1/25/00 patent, with psychological effects summarized as ‘spooky.’ More detail by a defense journalist is quoted: “When the two frequencies mix in the human ear they become intolerable. Some people exposed to the device are said to feel giddy or nauseous and in extreme cases they faint. Most people are intensely annoyed by the device and have a compelling wish to be somewhere else.”¹⁷³ British police inventories list the specific device, though a spokesman denied use.¹⁶⁰

Sophisticated behavioral influence capability is confirmed by ex-intelligence officers. Julianne McKinney, Director of The National Security Alumni Electronic Surveillance Project has conducted a study of victim cases. This is a largely classified employee victim study with internal voice transmission avowal.¹⁷⁴

DISCUSSION

Ultrasound voice transmission technology is deployed in military situations,^{53 54} publicly demonstrated in museum exhibits,⁵⁸ and for sale to the public.^{58 175} Microwave internal voice transmission citations rest on a solid foundation of microwave hearing literature. The number of references affirming microwave inner voice transmission indicates such a capacity, even though peer reviewed references are sparse, considering that the ability to transmit sound has extended to voice in other contexts such as telegraph, telephone, and radio transmission. Ultrasound inner voice transmission is proven even without peer reviewed references here available, which is an unreasonable expectancy for technologies with the only possible non-covert use as a hearing aid. It must be appreciated that engineering development is often proprietary and less published than open science, especially in areas with covert application. Internal voice non-lethal

weapon applications are discussed in many of the citations, and there are references to existing systems, which are supported by numerous references indicating feasibility, and anecdotes of victim field measurement with some publication of strength.^{160 167} Numerous designs involving human location, identification, and tracking methods, have long demonstrated the feasibility of constructing devices capable of producing internal voice continuously in isolated individuals. To deny such technological capability in the face of extensive complaint is willfully to ignore documented development of the relevant technologies and engineering competence for complete integration. Even the most prejudiced skeptic, who would honestly consider the relevant literature, would have to concede that at least the feasibility of producing inner voice is indicated. The fact is that no one has made any adequate investigation of such complaints.

The logic in the prediction by Brzezinski^h of the appearance of a more controlled and directed society dominated by a power elite willing to use the latest modern techniques for influencing behavior without hindrance by liberal democratic values is compelling.¹²⁹ Since those supposedly expert regard a victim's perceptions as psychotic, all complaints are disregarded, much less capability to bear witness. Potential targets are multiple, and may include anyone worth neutralization: domestic adversaries; security risks, which may only comprise classified disclosures; persons witnessing serious improprieties; those prone to committing advantageous felonies; and even those psychologically similar to target groups for development purposes. Internal voice technology is most applicable within the same language and culture. Security agencies have little legal accountability, particularly with utilization of unrecognized technology. Legality is readily circumvented by executive orders, (particularly declaration of a crisis or emergency situation), which can be sealed, and this prerogative is only accountable to co-equal branches of government as now is the case with terrorism suspects.

Complainants allege public sector involvement or sub-contracted private companies. Remote behavioral influence research has long been funded by the US,⁴³ with evidence of inner voice development^{20 23 39 50} and weapons,^{19 44 51 52 53 61} though denying on national security grounds project results⁴⁰ and foreign literature analyses.¹⁷⁶ Some 30 countries evidence active behavioral influence weapon research.¹⁷⁷

Leaders of victim protests have written presentable treatments,^{170 178 136} but while there is some psychoanalytical acknowledgement,¹⁷⁹ no concise treatment is more than Internet published. Current medical awareness ensures effective neutralization of the afflicted, though not all those affected are stigmatized. However when recounted to health professionals, phenomena of 'hearing voices' or perception of remote manipulation, results in various prejudicial diagnoses,^{180 181} totally without investigation.¹⁸² Such diagnoses must be regarded as presumptive. Microwave bioeffects have considerable congruence with reported symptoms of major psychosis other than 'voices.'¹⁸³ Mandatory is determination of relevant fields around complainants. Professional opinions formed without excluding such technologies are negligent.

All of society should be disturbed at the prospect of remote inner voice induction, since the unaware subject would perceive such voices as his own natural thought, without complaint provoking assault. Even 'mind reading' perception by some victims has some basis. Recent EEG analysis studies confirm and extend thought reading feasibility, which

^h National Security Advisor to President Carter.

was reported initially by a 1975 Defense Advanced Research Projects Agency study, and separate 'remote EEG' microwave methods are referenced.¹⁸⁴

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All patents are freely printable from the U. S. Patent Office website.
Designated Internet sources are not restricted as to database

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