Microwave Harassment: Synopsis

The following is in six parts:

I. Historical overview of the problem.

II. Evidence that the problem is not neurological or imaginary

III. Details of the device(s) inferred by me, including possible threats to US military operations, as well as to civil liberties

IV. Details of the symptoms experienced during irradiation

V. Some PubMed abstract online references

VI. Speculation as to the motive

I. Historical Overview:

Note: The events emphasized here are assumed *possibly* related to the motive for the harassment. They certainly were very important to me and mark significant life events:

1995-02 Moved from Sunnyvale to Santa Clara ([name on request] Apartments).

1996-07 Read *CD-Physics*; solved algorithmic problem in home software project, using simple physics.

1996-10 Began serious physics reading in spare time; home software spec. delayed.

1997-02 Layed off by COMPASS, Inc. in corporate reorganization.

1997-03 Shelved software for physics; wrote critiques of Martian meteorites & letters questioning harm from 60 Hz power lines. Global warming paper circulated.

1997-08 Attended SLAC Summer Institute.

1997-08 Began neutrino mass paper.

1997-09 Harassment first noticed (from Apt #35, East).

1997-10 Notified police & Apartment Mgt. Police refused to file a complaint.

Harassment began preventing sleep over about 2 hours/night.

1997-11 Noticed harassment from Apt #31 (West) and #33 (upstairs). Spoke with Apt #31; warned them it would be a crime. First letter to FCC; "we deal only with apparatus interference". After a day or two, harassment became more severe from Apts #31 and #33.

1997-12 Began building aluminum plate sleeping box; sleep gradually increased during Dec 1997 & Jan 1998.

Discovered TV interference & began taping the microwaves. Sent second letter plus Tapes 1 & 2 to FCC. FCC refused to pursue. FBI never returned FCC refusal letter I showed them.

1998-01 SC Police finally recorded a complaint from me (#9800630).

1998-02 Taped sound of device in modulation mode (Tape 4). FDA phone consultations. Police visited my apt. & photographed shielding, etc. I retained private detective. Began seeking lawyer.

1998-03 Help declined so far by over a dozen law firms; some advice, but no attorney. Tape 5 documents interaction from Apt #31. Medical exams. No thyroid abnormality. Psychiatrist says cannot diagnose any problem; requires factual basis of the allegations. Talked to RF engineering consultant. Postponed all legal action.

1998-04 On SC police suggestion, verified modulated mode sound as almost certainly not same as female sex-stimulator.

Computed theoretical penetration of aluminum: My previous impression of penetration of thick plates must have been an error. Obtained Farnell Spectrum Analyzer and began attempts at monitoring and quantifying the harassment.

1998-05 Neither Farnell, old-model HP, nor Tektronix 492 (~5 MHz - 20 GHz) obviously responded to the irradiation, even while symptoms were severe and TV was hissing! (exception: possible TV harmonic at ~ 1.5 GHz was affected; but, maybe photos show only a visible correlate of the audio/video TV interference). Possibly my lack of idea of what to look for?

Started running *SJ Mercury-News* ad w. $10,000 reward for help.

1998-07 Although Al foil has inhibited it, I verified continuing harassment from Apt. #35 today.

1998-09 Could not detect harassing beam with automobile radar detector. Felt irradiation at SC police station; reported it to BAPW. Next police station visit, no irradiation felt. Police obviously are not cooperating. Letter from SC Police Chief asked me to deal with him.

Table stolen on Friday of Labor Day weekend.

1998-12 Met with SC Chief of Police; sent letters inquiring about apparatus.

1999-04 Apt Manager disabled by stroke; not known whether she was irradiated: Dilation of cerebral arteries by microwaves certainly could increase severity of a stroke, as well as put strain on heart.

Several nights of painful irradiation on feet caused gross swelling; photographed. Disassembled aluminum-plate sleeping box and covered bunk bed with aluminum screening as Faraday cage. Much

more effective, because elevated from floor.

1999-10 Found that the ***AlphaLabs*** MicroAlert could detect the irradiation under some conditions. Attempting documentation for physical evidence. *PubMed* search found rat study establishing arterial dilation as symptom of wideband pulsed MW radiation.

1999-10-13: Began Tapes 6 (practice) and Tape 7 (data) recording MicroAlert click-rates on my TV headphone wires to attempt to relate rate with sensation quality. No very strong correlation of click-rates on wire with sensations.

2000-03 Tape analysis continuing. Asked SC Chief if he would request a *Time Domain* UWB radar set for test. Verified continued harassment from #35.

2000-07 Tape analysis, except TV channel & body posture, completed and delivered to SC Chief. Data show clear correlation of MicroAlert tick rate with subjective intensity of discomfort and with subjective locus of beam near head.

II. Evidence that the problem is not neurological or imaginary.

Generally, the radiation causes vague "hackle-raising" feelings, pins-and-needles, blood pressure anomalies, or acute pain, apparently mostly depending on intensity. After about January 1998, it began causing occasional tinnitis. It is ongoing, 24 hours a day, whenever I am home.

Because the symptoms are felt bilaterally, often progressing spatially in ways inconsistent with the known pattern of human peripheral innervation, neurology (which generally appears and progresses unilaterally, as I understand it) almost certainly should be ruled out. Immediate cessation of symptoms on interposing a limb or piece of metal, but not a book, also does not fit any common neurological pattern.

Evident Human Control of the Harassment.

First, when I hold up a piece of metal, for example a bathroom scale, between the body area being irradiated and the neighboring wall of Apt #35 (or, #31), the symptoms cease immediately. The intersection point of the inferred beam with the neighboring wall may be found by extending a line from the bodily region of the symptoms, through a blocking object, and to the wall. Sometimes, the hand holding the blocking metal object begins to prickle ("pins and needles"). After having been blocked this way, the symptoms of irradiation usually begin again in a few seconds, but on a different body part or from a different direction. When the symptoms reappear after blocking, I generally find that the exit point of the beam has been

shifted to somewhere else, usually horizontally, on the wall. So, I block the beam again; it is moved again; and this sequence may continue indefinitely.

The line projected through the locus of symptoms and the blocking metal, intersects the wall at an exit point that changes after each successive blocking action; several such lines, traced in succession, do not intersect at any particular point behind the wall (for example, locating a malfunctioning oven or other device). There is no question it is under human control and thus must be purposeful, malicious harassment. [Note added 1998-05-04: This protocol has convinced me of voluntary, interactive malice both from Apts #31 and #35; I have yet to systematically force step-by-step interaction of the upstairs Apt #33; however, I know the beam originates from there on many occasions, because it can be felt on a line at various heights from the floor--and, because testing with overhead shielding relieved the symptoms.]

Second, I blocked the beam from Apt #35 on one occasion in October 1997 and placed a steel shelf against the wall where I guessed the beam would be moved. I heard a (rare) human voice, female, exclaim "Oh!" in an insulted tone. I think she got a little reflection of the radiation, unexpectedly.

The Apt #35 harassers seem to have been learning during the past several months of harassment: In October, I could hold up a bathroom scale in the beam, put it directly against the wall, and force what seemed to be a circuit breaker to trip as well as a water-cooling solenoid to open (I could hear the water and valve operate, repetition eliminating coincidence). I have not been able to do this since, perhaps, midNovember 1997. I believe the devices have become more powerful and sophisticated during the harassment from September of 1997 to about December 1997.

For example, when I block the beam now [January 1998], from #35 or #31, the symptoms vanish, but the device power then is raised until the symptoms again reappear. Often, blocking both other apartments causes upstairs (Apt #33) to begin; however, upstairs often starts spontaneously, any way.

For a while, it seemed to take thick aluminum plate to block effectively. Even then, the device operator seemed able to change the beam diameter, making it very narrow, and apparently pulsing it, so as to penetrate upwards of 2". Afterwards, I decided that it was the average concavity of the thicker plates, not the thickness, which was causing a narrower output (tangible) beam. Often, through the wall, I could hear movements or a switch being flipped during periods while I was defending myself actively and the beam was being moved or varied. The effect of all of this, as I repeat, has been to harass me by depriving me of rest.

Physical Evidence of a Beam

After failing to pick up the beam with a microwave oven-checker meter (sensitivity ~ .1 W/cm^2) or a (toy) pinwheel radiometer, I found I could "sniff" it with a pocket TV set. I have a set of tape recordings of the sound of the beam either actively seeking, or being found by me, using the TV. The noise is a hiss on VHF or

UHF; the width (beam diameter) detected in VHF is predictably several times that of the several cm in UHF. The hiss becomes a "spatter" sound when a piece of metal is interposed. My monologue on these tapes describe the symptoms and inferred beam direction, and other data.

Often, a very faint beam interference noise around TV station UHF 14 becomes much more obvious on channels around UHF 50.

These tapes support my conclusion of purposeful, malicious manipulation, rather than some device malfunction, by documenting active measures against me while I shield myself by blocking the beam as described above.

Later, incidentally, I found my little pocket TV (*Radio Shack* PocketVision 22) could pick up the ~1 Hz scan routine of a Farnell Spectrum Analyzer (it sounds like a periodic "thump" on the TV audio, with the TV held next to the instrument). It also could pick up the Tektronix 492 scan.

With the TV taped inside an exponential-horn antenna, with TV antenna minimized, the TV seems to emit a narrow band near 1.5 GHz (TV antenna rectification?) while tuned to UHF, as seen on a spectrum analyzer. When the interfering "hiss" occurs from the microwave beam, this pulse may be seen to change shape or shift. I do not know whether this behavior was because of the microwaves, or was a secondary effect of TV production of its "hiss" sound--or was a TV self-tuning artifact. In any case, it offered clearly visible evidence of the beam, and it has been photographed.

Finally, although large areas of aluminum foil have made systematic beam mapping temporarily difficult, beginning in October 1999, my new *AlphaLabs* "MicroAlert" pocket microwave detector has shown able to detect the harassing radiation. This device responds when set to nominal sensitivity of 1 microW/cm^2. For example, when I sit at my computer, I have a horizontal floor plate and overhead aluminum coated posterboard, with aluminum-coated posterboards waist high on all sides. However, if I put my foot near a corner, I can feel the "hackle-raising" or sometimes "shower-of-sparks" sensation; the MicroAlert ticks in exactly the same area and nowhere else.

In general, it appears my body is more sensitive than the MicroAlert by at least a factor of 10; likewise, the pocket TV seems much more sensitive than the MicroAlert, too.

Evidence of the Microwave Device Operation

The device generating the microwaves evidently has two or more modes of operation--or, possibly, actually is two or more different pieces of equipment. These modes are described elsewhere; but, for now, one seems to produce weaker, continuous irradiation (based on a microwave oven or termite exterminator?); the other seems to be higher-powered, possibly randomly pulsed, and seems to depend on a base modulation frequency of about 2 Hz (based on a radar set or experimental medical apparatus?).

I have a tape of the hum of operation of the modulated device (or mode): It is a 1 or 2 Hz modulated 60 Hz hum, as though of a power transformer supplying a varying load such as an eccentric cam. I recorded this directly through the wall; it is not audible normally in my apartment, but on this occasion, it could be heard even away from the wall. I believe the modulation represents a low duty-cycle transmission, such as might be caused by a capacitor being charged, and then being discharged through a transformer or other circuitry.

The modulated-mode sound is easily distinguished from that of a garbage disposal unit or a refrigerator compressor. It is not even close to the sound of a vibrating stove exhaust fan. Blocking the beam in this mode often triggers an obviously audible increase in loudness and frequency of the base hum, up to perhaps 5 Hz or more.

I looked into a suggestion of a Santa Clara policeman, that the sound might be of a female masturbatory apparatus available in the pornography shops in the Santa Clara area: The sounds do not match.

Also, holding up a sheet of aluminum often causes an immediate increase in frequency of the periodicity, up to about 5 Hz. This reinforces the idea that an adaptive control for constant intensity is in use: Reflected standing waves would return power to the device, causing it to increase frequency to restore the set-point power dissipation.

To monitor the modulated operation of the microwave device without having to listen through the wall, I tuned my CD player radio to a nonstation and upped the gain until it picked up the 60 Hz hum of the apartment complex's electrical lines. I then turned on two touch-controlled table lamps. They created delicately coupled overtone hums. When the beam was directed at me in the modulated mode, the symptoms would appear; and, also, I could hear distinctly the change in the radio hum apparently caused by power-drop line coupling between the two apartments (it is possible, of course, that the power lines in my apt. walls, or the lamps, were picking up the radiation by antenna action). This setup gives me warning of operation in "modulated mode", often before the symptoms become evident.

I have used audio spectral analysis of these latter tapes to determine that the audible modulation may be emphasized by low-pass filtering of an audio track with cutoff around 700 Hz. Further analysis may be forthcoming later; I don't know what to prove with such an analysis, unless the device itself were seized on execution of a search warrant.

Also, I have found recently [March 1998] that there are MIR (Micropower Impulse Radar) sets that might be operated from small batteries and would produce some of the observed symptoms. The device interacting with my stereo on the power lines might be similar, but it would seem to be much more powerful and possibly more versatile (programmable?). As of about April 1999, a lawsuit was won by an independent inventor, at *Time Domain*, Inc., claiming that "MIR" technology had been stolen by Lawrence Livermore National Labs and marketed illegally. *Time*

Domain and others now are seeking FCC approval for what they are calling UltraWide Band (UWB) technology.

Since then, my pocket MicroAlert has shown a response correlated with sensations coupled through a set of TV headphones, too. I don't have a big TV, but I can listen to my pocket TV audio on a set of headphones. I now am analyzing data to determine whether the correlation between MicroAlert ticks and sensations was statistically meaningful. As of early July, the data are partly analyzed and show obvious statistically significant effects, but they are not fully studied yet.

No Witness Yet

I am working on a corroborating witness: The task of pretending to be me successfully is a difficult one. The harassers have audio surveillance equipment, I am certain; and, they know my habitual movements by now. Twice, I have called police to the apartment; the harassment ceased when another person entered. It also ceased quickly, once, when I telephoned the apartment manager quietly, told her I was being irradiated from near a neighbor's window, and asked her to look over and see if she could see any suspicious activity through the neighbor's picture-window glass sliding door. After the first 15 seconds of conversation, the harassment ceased; it began again about five minutes after I had hung up. Usually, the harassment persists, once it has begun, until I have been forced to move shielding or take some other action.

Incidentally, the Santa Clara Police have said they would not put much stock in testimony from a friend or relative. A deposition by a professional such as a lawyer, or a detective, would be useful testimony. But the one detective I have dealt with, referred by the police, was very unprofessional, accepting my retainer and then refusing to do anything . . ..

Also, because the SC police station evidently is using a radar device similar to the "modulated mode" device at their reception desk, the meaning of these nonjudicial "rules of evidence" is unclear. The case now is being handled by supervisory police personnel.

III. Details of the device (inferred by me), including possible threats to US military operations, as well as to civil liberties.

Because the apparent beam entry point is very mobile, the device(s) probably is small and portable, maybe no larger than a portable stereo radio. It operates on AC line 120VAC and apparently draws considerable power (1 kW or more?) in some modes of operation, judging from the touch-lamp hum interaction (above).

There probably is no battery-operation, although MIR or UWB technology would allow low-power operation from dry cells: There have been two major electrical power outages to the [name on request] apartment complex during the late afternoon and early evening hours; I believe one was in early January 1998 and another was in early March 1998. Both times, the outage lasted until around 22:00, and the harassment symptoms vanished until some minutes after the electrical power was restored. Opening fuse-box breakers in my apartment has no obvious effect.

The microwave beam has a range of 10 meters, based on my explorations in my apartment, and can penetrate through openings in metal shielding for painful effect, possibly making it usable as a deadly weapon or as a means of detonating munitions (or maybe auto airbags?) through armor plate. At one point, I thought the beam was powerful enough to penetrate thick aluminum plate; this was a false impression. There definitely is an apparent penetration, probably because of an RF skin effect, directing power along the edges of the plate, around the corners, and away on the other side. However, increased thickness of metal plate does seem to attenuate the beam, whatever the mechanism of apparent penetration.

The beam diameter apparently may be adjusted by the operator between less than 1 cm (producing sharp, needle-like pain) to about 20 cm (as determined by TV UHF interference).

There seem to be two or more devices or modes of operation: One, continuous; another, modulated in a sophisticated way on a 1 Hz or 2 Hz base frequency, with apparently random spikes in a variety of temporal distributions. I guess the second might be a radar set, possibly modified with a microprocessor control. The overall technology seems to be MIR-like. The second mode usually became evident while I was in my aluminum sleeping box; it seemed to be used to propagate the beam horizontally, refracting it through the wooden flooring, or perhaps by bouncing it off the ground under the flooring, so as to get past my aluminum plate walls. The flooring of my sleeping box was lined only incompletely with aluminum foil and aluminum window-screening. The floor seems to be a source of the second mode radiation all over the apartment, again, probably because of a reflected and scattered beam from the ground below.

I believe the armor on a tank or naval frigate has numerous port-holes, baffles, and other openings, and that many modern war machines are armored at least in part with carbon or Kevlar, which would be almost transparent to the beam in

question, and therefore would be poor in blocking it. Water or, better, salt water, would absorb the beam fairly well (several centimeters of water would be required, even for the weakest MIR).

Active countermeasures by beam cancellation, unlike similar schemes for sound (noise) cancellation, would be technically difficult because of the transverse nature of electromagnetic waves, and, for MIR, because of the random timing and low average power of the pulses.

Radio-frequency design is not my specialty, but I could build a continuous-mode device myself out of an old microwave oven, Radio Shack parts, plumber's solder, and a little machined sheet metal, as could many an enterprising teenager hobbyist. Therefore, it would seem to be an ideal instrument for antimilitary operations, much as the simple but effective Molotov cocktail: Relatively small and cheap, with no possible successful government monopoly on its possession or operation.

There is a potential for the device in question to be sold indiscriminately on the black market, to be used maliciously, from the privacy of ones home or vehicle, for anything from venting road rage to inducing insanity or other disability for misappropriation of a neighbor's home, belongings, or means of income. Microwave radiation might not leave any identifiable (forensic) trace; I have been unsuccessful in warning the Santa Clara Coroner about this possibility, so far.

Because recent research (below) has shown at least a pulsed-mode effect in reducing blood pressure (by paralyzing small arteries, evidently), it appears that irradiation could cause a occlusive stroke, heart failure under some predisposing conditions, or fainting; so, operation at least of MIR (ultrawide-band) devices should be considered at least possibly dangerous to living persons or animals.

A legitimate use for such a device might be to treat impotence (by capillary paralysis) or maybe arthritis (by heat) in the home. I assume there would be a female sexual response to appropriate microwave irradiation, but none of the literature I have seen has described it.

Although wide publication probably would increase the potential for misuse of microwave transmitters against military or government personnel, current political circumstances suggest to me that possible misuse against the US military would be a small risk to take versus the possible widespread victimization which would be expected because of general ignorance of microwave harassment devices. I therefore think that incidents of misuse should be prosecuted in open court, with examples made of the persons responsible, as with computer hackers, rapists, child molesters, or wall defacers (taggers).

IV. Details of the symptoms experienced during irradiation.

I view the symptoms as explainable mostly by dilation (loss of smooth muscle tonus) of peripheral blood vessels, including suppression of arterial pulse. The arterial muscles become paralyzed. Induction of hypotension in mammals by pulsed

microwaves has been proven below. The Russian literature cited below confirms a beam interaction with organ boundaries, which would include endothelium. There may be direct neural interactions, because I was blinded once by a pulse (lost vision in the lower visual half-field of the left eye); recovery of sight took upwards of 5 min and was accompanied by the well-known "fortification illusions of migraine" (I don't have migraine). Also, since late February or early March 1998, I have experienced occasional tinnitis (hissing or high-pitched keening), suggesting an inner-ear response, as well as the middle ear response as just below. A well-documented effect of high-power microwaves in humans is auditory perception of clicks or other sounds presumed to be a direct effect on the cochlea. I believe the live-in boyfriend in Apartment #35 departed in early 1998, so perhaps there was a simultaneous change of apparatus in Apartment #31.

A paper has been published in *Physiology and Behavior* which has shown induction of hypotension in rats by wide-band pulsed microwaves of rather low average power. This would fit the occasional "pins and needles" and numbness I have felt in a hand or arm used to block a high-power beam. It would be inconsistent with headache, blockage of nasal sinuses, or erection, I think.

However, perhaps the frequency or repetition rate might govern whether constriction or dilation occurred. Also, a mucosal irritation might occur independent of direct vascular paralysis, causing sinus blockage combined with vasodilation. Indeed, a local CNS loss of blood pressure (or neural interaction) easily might produce an autonomically or endocrine mediated vasodilation. Far more seriously, loss of pressure in small cerebral arteries would precipitate a stroke in a person with atherosclerosis, so this would be another way to use the device(s) as a deadly weapon leaving no obvious forensic trace.

At high intensity, the continuous mode (device?) causes a feeling of eardrum "pop" (a middle-ear muscular response), and the teeth and skull bones seem to vibrate. In dim light, ones peripheral vision seems to be swimming superimposed on waves of Afghan-rug patterns. Directed at the throat, it causes a severe tickle and involuntary cough. In the eyes, they feel as though full of loose eyelashes and must be closed and turned away. On the throat and bronchi, temporary closure of the air passages may be induced, causing a sudden feeling of suffocation (a nightmare to awaken to). Directed at the abdomen, the diaphragm stiffens and it seems hard to take a full breath.

At lower intensity, it causes headache and a dry, tired feeling in the eyes. The eyes become hard to move quickly, which interferes greatly with reading. The blood pressure in an irradiated limb falls, making it "go to sleep" under any compression at all. I often feel overall uncomfortably warm during irradiation. Nasal passages swell closed and lips swell (but these symptoms, like all the above, cease within about one second after the beam is blocked). One would expect general drowsiness to result, too, from cerebral vasodilation, increasing the danger of fainting or dropping off to sleep while driving. Another deadly application.

Prolonged irradiation on a limb causes a persistent superficial feeling of mild "sunburn"; but there is no redness visible. Lack of visible harm has been a problem in getting police attention.

The second, random-modulation mode makes the heart pound and the gut seem to churn, when the beam is directed at the trunk of the body. It can be extremely painful, like a bruise with no mark, when conducted to the bare feet or body, or presumably through the skeleton, along a carpet on a wooden floor (refraction by dielectric material).

Both modes seem capable of causing tissue-resonant effects around the prostate, inducing erection in the absence of any stimulus or pleasure, as in nerve-gas poisoning. Considerable pain may develop.

All or any of the symptoms above may occur. The harassment grows worst between the wee hours and early morning (I think some of the persons involved work a night shift and return home after midnight). Often, it is varied in point of stimulation and intensity, evidently to ensure interference with rest or sleep.

The sensations have been very much weaker since I have begun sleeping in my Faraday cage; the residual effects seem to be because of incomplete sealing of the interface between the solid aluminum plate floor and the screening. I have left this as-is, to allow for persistence of a measurable harassment to continue gathering of evidence to use in court.

The harassment (which properly would be a form of invasion of privacy plus battery, including sexual battery) is that I am repeatedly irradiated from any direction so that I either have to endure pain (and possible tissue damage) or I have to keep moving around. Before blocking out Apt #35 totally (except the floor), when I blocked the beam from one neighboring apartment, another took it up, so there is a communication system involved, too. The microwave device electronics seem to involve an adaptive intensity control; when I move to a new location within my apartment, the pain or discomfort (see below) gradually is increased over some seconds.

I assume the device's power-output feedback helps the device operator to locate me in the apartment; nevertheless, I am certain that words spoken in my apartment are overheard and used for subsequent persecution. Details supporting this are recorded elsewhere.

For almost two months, in October and November of 1997, I was able to sleep only an hour or two a night. I can blame at least one minor auto accident on sleeplessness, as well as lack of ability to learn in a course I was auditting at SLAC.

After completing my aluminum-plate sleeping box (approximately in February of 1998), the continual harassment became milder during daylight hours; I rarely heard the modulated mode any more until I retired to my sleeping box. Then, with improved reflective aluminum flooring, the frequency sometimes was much higher than previously, varying between perhaps 10 and 40 Hz. After replacing the box with a bunk bed (in April of 1999) and Faraday cage, symptoms seemed generally

weaker, because the flooring is elevated and solid plate. When the irradiation is even slightly painful in the cage, the lamp hum always is a distinct sputter; then, if I leave the cage, I can feel VERY intense pinpricks and hot spark sensations. This last means that the moderate feeling inside the cage is being accomplished by very intense fields outside. This suggests they may have difficulty telling when I am feeling anything in the cage and are just bumbling around at random.

If I get up earlier than usual, I literally can feel "sparks" with my hand apparently arranged vertically along the walls of the Faraday cage, intensest near the floor and top of the cage. The source thus may be the floor (from Apts #31 and #35), or possibly the ceiling (Apt #33), which is entirely unshielded.

When I leave my apartment on business or for other reasons, sensory after-effects of any of the symptoms above sometimes persist, gradually decreasing in intensity and frequency of (re)occurrence, for several hours. Sometimes, the ordinary vibrations of my car in motion seem to mimic the modulated-mode irradiation, probably because of coincidentally similar frequency of mechanical response in body parts. An "almost-headache" may seem to threaten to occur up to some twelve hours after an actual headache was caused by irradiation. These effects of the imagination have not been examined yet over a long term; I don't travel, for fear the harassment might turn into burglary or other more destructive activities against my home or my work. At least one theft (of a table) has occurred and has been reported to police.

V. Some online references.

In the PubMed (MEDLINE) online medical archives, I noticed there has been a flurry of activity in biomedical experimentation with microwaves in the period since about 1995. Attempts have been made to use microwaves for cancer treatment (replacing X-rays), to cure a variety of minor ills involving tissue warming, and for overcoming male impotence by irradiation of the prostate area.

I suspect the design of the harassing device might be based on (Russian?) medical research, if not simply a stolen, modified military radar design. The MIR technology developed recently at Lawrence Livermore seems to fit a lot of the observations I have made. After court challenges to MIR patents, related products based on "ultrawide-band" radar (UWB) have been submitted to FCC, and studies have begun to appear in research journals. I expect many of the unknowns to have been resolved in the next year or so, with proper FCC limits soon afterwards.

The literature would suggest the possibility of cataracts or sterility from long-term exposure; and, of course there would be severe organ damage or death from an intense dose. Anyone with a weak heart or asthma would have been hospitalized or killed by the dose I receive daily.

Here are a few abstracts, available by search for "microwave" or "radar" at PubMed (`http://www.ncbi.nlm.nih.gov/PubMed/`)

A. ***Biofizika*** 1996 Jul;41(4):913-915

[Cross-correlation analysis of the interconnection in neuronal pulses in living sections of the neocortex under the effect of microwave irradiation].

[Article in Russian]

Zakharova NM, Karpuk NN, Zhadin MN

. . . The irradiation decreased the values of interneuronal correlation and consequently the effectiveness of cortical synapses.

PMID: 8962892, UI: 97061122

jmw Comment: This is consistent with my apparently degraded intellectual ability, as well as with my phenomenological observation of "fortification illusions of migraine" during intense irradiation of the head.

B. ***Aviat Space Environ Med*** 1995 Aug;66(8):792-794

Ultrashort microwave signals: a didactic discussion.

Adair RK

As a consequence of the variation with frequency of the attenuation and phase velocity of electromagnetic waves in tissue, the shape (variation of the electric field with time) of short electromagnetic pulses incident on tissue changes with depth of penetration. . . .

PMID: 7487816, UI: 96070462

jmw Comment: Ultrashort means ultrawide band. The shape change reflects a change in momentum. Assuming some absorption by the tissue, such changes in momentum of the radiation imply mechanical effects (reaction forces) on the tissues, concentrated on tissue interfaces, *viz.*, organ boundaries. The mechanical energy coupled to the tissue (by the microwave electromagnetic E field component) need not immediately be dissipated as heat; for example, the phenomenological effect on the inner ear seems to be tinnitis; some have reported audible "click" sounds. Usually, in my case, the effect is pain as of a bone-bruise or of penetration (of the lungs or bronchi, especially) by a sharp, thin needle; sometimes, the pain does feel like a burn, suggesting heating or electrolysis of tissue.

C. ***Lik Sprava*** 1995 Jul;7-8:94-97

[The possibilities and outlook for using computer-assisted diagnosis and microwave resonance therapy in sexological practice].

[Article in Russian]

Gorpinchenko II, Imshinetskaia LP, Gurzhenko IuN

. . . of these, 75 underwent microwave resonance therapy (MRT), with 21 subjects having it as a monomethod of their treatment. MRT was found to be useful in treatment of patients with ineroreceptive and psychogenic forms of sexual dysfunctions. . . .

PMID: 8846388, UI: 96224765

jmw Comment: The effect when "tuned" at prostate resonance is erection; so, like AIDS, we have a societal disease to be spread by sexual activity . . .. The only cure so far attempted seems to be concealment, denial, and ignorance.

D. *Physiology and Behavior* 1999, Jan; **65**(4/5):753-61

Ultrawide-band electromagnetic pulses induced hypotension in rats.

Lu ST, Mathur SP, Akyel Y, Lee JC.

. . . Significant decrease in arterial blood pressures (hypotension) was found. . . . The [ultrawide-band] radiation-induced hypotension was a robust, consistent, and persistent effect. PMID: 10073476, UI: 99171484.

jmw Comment: This confirms many of my subjective observations above; it also confirms general findings of a personal communication on a reputed *Lancet* article which seems not to have been published yet. The reference for this abstract was obtained 1999-11-02 and verified. The peak voltages and rise time were not too different from calculated parameters for the "rubble-rescue radar" advertised application of LLNL's MIR technology.

Another reference, which seems to document illicit research by certain Federal employees, formerly of Nazi Germany, is the one by Guyatt. It has been posted at: `http://www.parascope.com/articles/0797/em.htm`. "Development" of such devices by the government, followed by misuse to achieve individual criminal aims, always has been one of my prime suspicions. The fact that random pulses in a closed metal area would be equivalent to a poison gas of photons would of course make the use of microwave weaponry generally in violation of the Geneva Protocol of 1925 and other ratified international treaty obligations.

VI. The Motive

I am not certain. They might be a new breed of "computer hackers" who hack people; they might be organized criminals of a more common sort. They must be kept active by some strong motivation: Perhaps, someone has been paying them or passing a false rumor about me ("child molestor"; "rapist"; etc.). Patriotism elicited falsely by someone providing microwave equipment and pretending to represent the Federal Government, or a police force, probably would work. A recent case was reported in the newspapers, of someone who masqueraded as a railroad policeman and obtained many arrest warrants under false pretenses. But this last wouldn't

itself explain why. Also, if they are misguided but law-abiding people, why wouldn't they refuse to administer torture?

I know of four other persons I have met through Email or other means who have reported similar harassment, by concealed microwave device operated from inside a neighboring apartment. Two of the them knew of a motive (one, revenge for dismissal from employment; another, revenge by an Air Force employee for complaint about illegal use of radar for deer hunting).

I have heard of another population of over fifty victims who are convinced they are being harassed by illegal police or government operation of microwave transmitters, often for no good reason (a secret government "experiment"?). I have to reserve judgement in my case:

My best guess is that it was an industrial espionage operation, possibly involving my Korean neighbors upstairs, against my home software company. This kind of silent, unobtrusive operation then was turned into an overt hate session because of frustration when I turned to physics--or maybe because of reasons incompletely obvious to me.

I should point out that since the Economic Espionage Act of 1996, such espionage in the private domain has been a serious felony, carrying penalties ranging up to 15 years of imprisonment.

Incidentally, I worked with classified materials while in the Navy in the 1960's; I also once worked for a while in the Civil Service. I have actively assisted civilian law enforcement. I never have been involved with any government spying activity. Noone with access to classified materials could be trusted after using them this way in public, so I doubt there is any legitimate U. S. Government involvement in this harassment.