

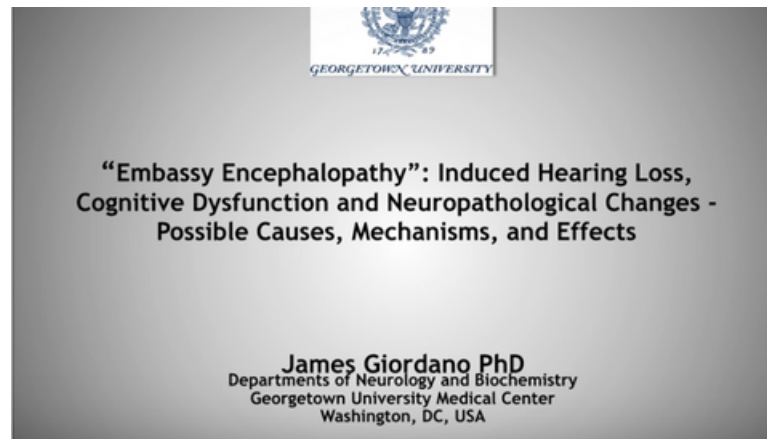
MODULE 2: WEAPONRY OF MASS DISRUPTION IN DETAIL

by Celeste Solum February 22, 2022

NASA Strategic Warfare Review & Weaponry of Mass Disruption Celestesolum Rumble Channel

Content taken from Government, Military, and Academia Experts Transcripts and Testimonies

Motivation, vision, and treasure can create amazing results associated with disruptive technology



My training. I'm a neuro-pathologist. I've been doing neuroscience for about 38 years. Very often my colleagues like to call me and jokingly address me as a disruptive neuroscientist because I work in the area primarily of the way neuroscience can be utilized.... for a variety of different purposes, not all medical, and certainly on the medical side, you can:

- You can help
- You can harm
- You can withdraw certain types of care and that can be harmful
- Or, the very same things that work on a biological and physiological system, through a variety of different anatomical sites, can be inductive of things that are at least burdensome, if not threatening and harmful.

As you heard earlier, in the middle of 2017, Dr Giordano got a call from Department of State, and the voice said "Dr. Giordano, we've got a question, and the question is what you think we're doing here, what do you think we've got here? We have this set of findings and apparently this is going to be some type of problematic issue my work.

It is fairly well known for the term neural weaponry as far back as 2006 and 2007. We developed a paradigm by which neuroscience could be weaponized and we assessed that on the world stage in 2008 the National Academies National Research Council came back and said you know brain science really is not ready for *Primetime*. That was a misnomer.

Our work in 2009-10 and the work of the Nuffield Council in 2013 demonstrated that not only was brain science viable, and a value to be weaponized, but in many cases it was already being weaponized based upon older technology that was now taking updates and being put increasingly into a variety of circumstances that would yield individuals to be in harm's way.

We're beginning to see little bit more of this and perhaps this is what we're seeing here.

I want to start out with the premise that I am not going point any fingers, I'm not going to make any accusations,

I am working with two things, the explicit findings and the implications those findings give rise to. Particularly, in light of the fact that by 2014 the National Academies and National Research Council reconvened and demonstrated that.

Not only were the brain sciences viable, but they were in fact, of high value and were in use globally as neural weapons.

Characteristically, we look at neural weapons and what we think of is:

- **Drugs**
- **Bugs**
- **Toxins**
- **Devices**

Not all of these things will work directly in the brain. Very often, they will work on the peripheral nervous system or on the neuro-sensory organs which then have a feedback effect that is going to disrupt the process of

- **Cognition**
- **Emotion**
- **Behavior**

What I want you to remember is that:

These are not weapons of mass destruction these are weapons of mass disruption.

Where the disruption can be on the level of the individual and then, creating a ripple effect, not only on that individual and their cohorts, but on larger scales:

- **Socio-economic scales**
- **Political**
- **Military skills**

Things That Go Bump in Your Brain

Otopathology/Ototoxicity

Otopathology = damage to the ear

Ototoxicity = toxic effect to the ear

- Can affect the cochlea (hair cells, basilar membrane) and/or auditory nerve (n.VIII)
- Signs/symptoms:
 - Hearing loss/tinnitus
 - Vertigo/disequilibrium (and nausea)
 - Visual features (nyctagmus, oscillopsia)
 - Headache
 - Can be gradual or sudden
 - Can be unilateral or bilateral
 - Can be temporary or durable

We must keep in mind it's very, very important to determine a pattern of use with the implication being that something's going on here and this was probably, very probably not an individual event now.

Could it have been? Yes, absolutely.

What is the likelihood, think about it?

If we're talking about things that go bump in your brain, there's a lot of different ways to get into your brain.

The primary findings, as you heard from Dr. Hoffler were primarily autological findings and vestibular findings. Things that happen in the ear.

There are two terms, I think that become important for you to understand, the first is the idea of the pathology, which is there's something wrong there, and the second is that this may be adduced by some toxic event.

The initial thought was perhaps these individuals were exposed to some environmental compound or an intentional compound, that then caused some type of pharmacological or chemical damage to the organs of the inner ear. Whether that organ was the hearing organ, the cochlea, or the organs of balance, and orientation- which are the semicircular canals, a saccule in the utricle.

There are a number of different drugs that could do this. We know that there are certain things that would cause damage to the ear:

- Structural damage to the ear
- A blow
- Pressure wave

There are certain drugs that can create a toxic effect in the ear. Of all structures within the ear and what these will then do is they will affect a variety of the nerves that emanate from the ear, and that goes into the spinal ganglion, and then up into the brain.

Brain Ear Connection

The idea of an ear-brain connection is not far into this type of pathology and toxicity of what are the various signs and symptoms:

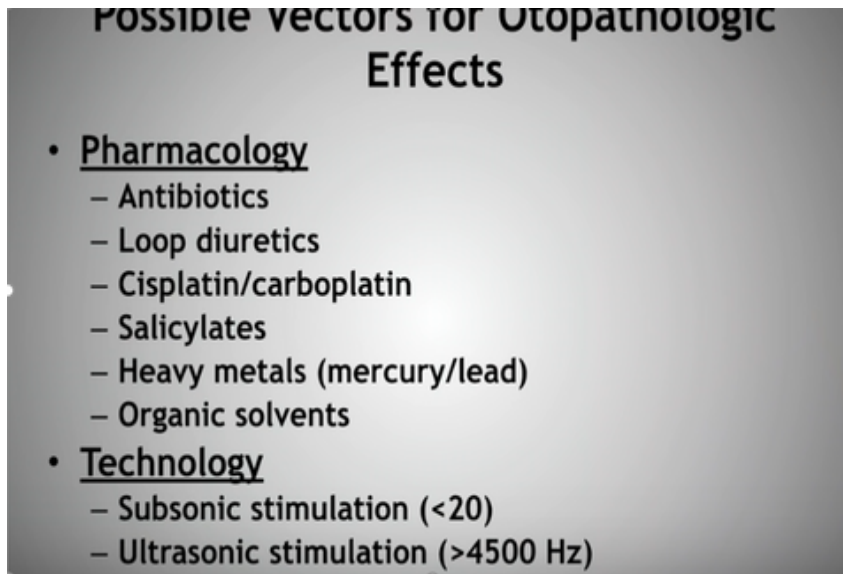
- **Hearing loss**
- **Tinnitus**
- **Vertigo**
- **Disruption, Equilibrium, Nausea, Visual features- such as nystagmus, which you heard earlier.**
- **A whole different type of headache, and/or**
- **Disruption of cranial functions.**

There was not only headache:

Also present was Facial pain

- **Unusual sensations**
- **Loss of attentiveness**
- **Loss of Cognitive functions**

What type of things can do this?



Well certainly, if we take a look at just defining these into two major categories: we have drugs and devices.

The likelihood of this being a drug-induced event is very, very low. The reason is that the drugs would have to be given repeatedly. They would have to be give you the spiked doses that would have another effect. We call this a constellation of effects and it would be notable. You wouldn't tend to see uniform effects based upon the way the drugs were given. In other words, drugs being given in different doses, at different times, might manifest distinct effects in different people, and have this particular pattern of presentation.

We can take the drugs and say of those that we would say were probably most notably, would be anti-

tumor and probably the organic solvents. Once again, these drugs are highly toxic.

There would be no way these individuals would present with this symptom alone, and not present with another cascade or constellation of symptoms, that would be indicative of exposure to these agents which then brings us down to the idea of devices.

Devices

What type of things could it be?

- It could be subsonic stimulation
- It could be ultrasonic or hypersonic stimulation
- It could be a combination of both
- It could be some type of microwave or electromagnetic pulse

The idea is that it could be all of these things. These are not mutually exclusive. Very often these devices, can in fact be manufactured, that will combine one or more of these different types of phenomena to induce a percussive effect.

This is not foreign. During the 1970s and 1980s a number of countries were examining the idea of electromagnetic pulse devices (EMF) sonic devices. Some of these have gone into mass-market production. Some of these are commercially available even today as Dr. Balaban will illustrate to you.

These can be directly off the shelf.

Moreover, we know that there have been a lot of dedicated efforts by nation-states including from non-state actors that have tried to get work in this area, primarily to create weapons of mass disruption.

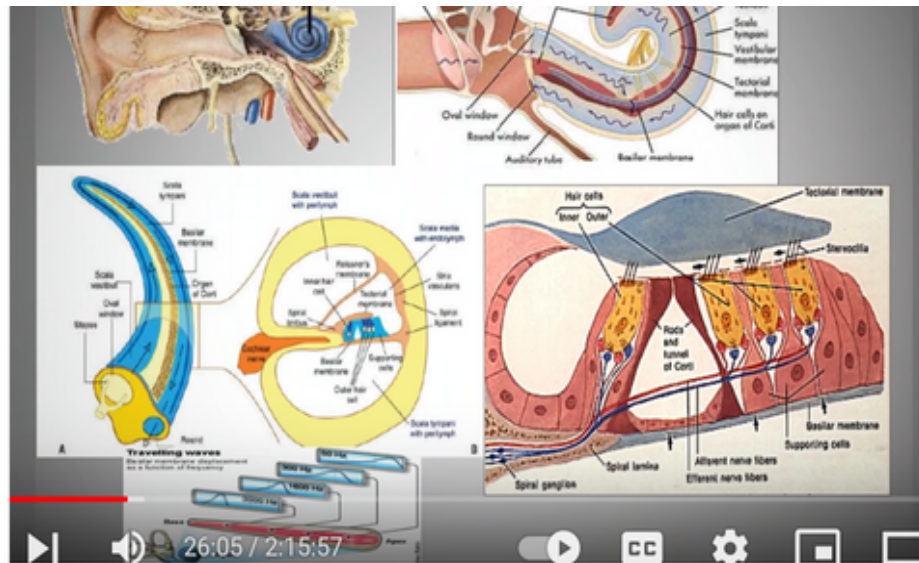
We see these being used, for example, barring success on crowd's or small aggregates of people, and against individuals, but the problem is very often, the older technology required fairly large-scale devices to implement.

However, with the sophistication of the tools that we have, we are now able to see this being shrunk down, like so many other things. I'm looking at an audience of a group of people of a variety of ages.

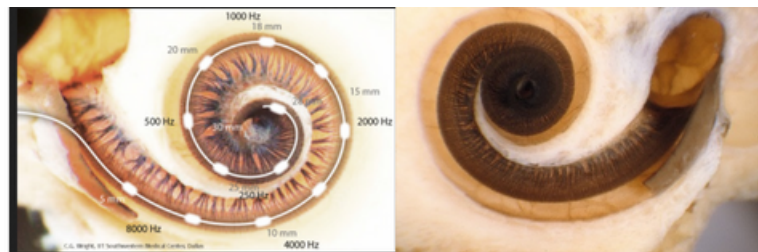
Remember those first cell phones that were about the size of a Volkswagen? We felt really good "Yeah, I'm on the cell phone!" You have to hold it like this. Now take a look at the size of a cell phones. What we see is compartmentalization the shrinkage of technology, that increases its viability and utility of application.

This is what and where we're talking about ladies and gentlemen,

welcome to your inner ear!



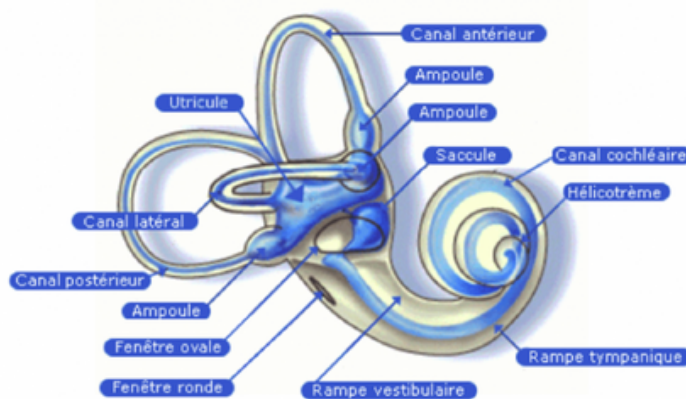
If we're looking at the ear, take a look at a slot on the upper left, what we see is the ear. Basically, it is external and this thing out here, and there is a membrane which is the tympanic membrane, the eardrum, to which is connected a series of bones, which are called the ossicles.



These things will move with a particular stiffness, which will then intrude on to the hearing organ, which is called a cochlea, so there are really two components of what the ear does.

- First, is that your ear hears
- The secondary purpose of the ear is the organ of balance and orientation these referred to as the vestibular apparatus

Vestibular Apparatus



Your spatial and orientation parts of the ear include the:

- Semicircular canals
- The three looping canals
- The saccule and ampule

These are highly vulnerable organs to a number of different things:

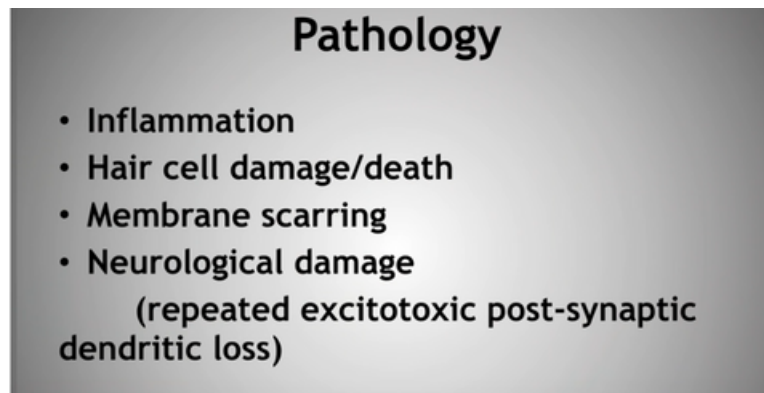
- They are vulnerable to heat
- They are vulnerable to pressure
- They are vulnerable to sound
- They are also exceedingly vulnerable to any other form of disruption

That then causes a head trauma. It's not unusual for individuals who have a jaw fracture or a mandibular fracture maxillary fracture, very often you'll see secondary symptom occurring as a consequence of inflammation.

I bring that to you simply, to tell you that these are exceedingly small structures, that are exceedingly vulnerable to a variety of different injuries and insults.

Moreover, take a look at the structure of the inner ear. The interior provides a mechanism by which a variety of different pulse stimuli can be amplified.

Now, if we're looking at where damage can occur, with regard to hearing loss, we're mostly looking at this larger organ, here called the cochlea. It's a semi-stiff organ with fluid in the middle. We know that various types of auditory stimuli can disrupt the cochlea and its function. Induced-damage to cochlea, would cause hearing loss.



With these types of pathologies:

- You would see inflammation, both locally and then more distally
- You see hair cell damage
- You would see hair cell death

These are the organs, for example, in the cochlea, that are sensitive to disruptions of the membrane that then transmit and transduce the necessary stimuli for hearing.

Neurological Damage

You would see membrane scarring on any of the membranes that were affected. You would begin to see neurological damage.

Realistically, we know that we begin to see neurological damage as a consequence of several things:

- The nerve itself - is damaged directly because of some insult to the nerve itself.
- We begin to see damage to the sensory organs of the inner ear. You would see changes due to what is called, *excitotoxin*, or the *gateway of the nerve*. In other words, you're over stimulating that area of the inner ear. You are hyper-stimulating the nerves, that then become hyper-stimulated.
- You then see a disruption of neurological calcium, and with the disruption of calcium, you then get something called excitotoxin II.

[upregulation of heat shock proteins and prevents programmed cell death which is a bad thing- antiapoptotic genes. The increased expression of heat shock proteins occurs in both acute neurodegenerative conditions, such as stroke and severe epileptic seizures, as well as chronic neurodegenerative disorders, such as Alzheimer's disease.]

- Once that nerve becomes excited, it shows toxic characteristics, to which we then begin to see changes occurring upstream. This is just basic neuropathology.

What type of things can do this?

Mechanisms of Effect	
<u>Antibiotics:</u>	NMDA/Glutamate excitotoxic -ROS-mitochondrial damage
<u>Loop diuretics:</u>	Ionic gradient disruption
<u>Cisplatin/carboplatin:</u>	ROS membrane damage
<u>Salicylates:</u>	Membrane de-stabilization
<u>Heavy metals (mercury/lead):</u>	Membrane degradation Neurotoxicity
<u>Organic solvents (toluene, styrene, xylene):</u>	ROS-membrane/mitochondrial damage Neurotoxicity

Well, again a host of drugs could do these types of things, but we have to rule these out because we're not seeing drug like effect. We also did not see a constellation of signs and symptoms from these individuals suggestive of some type of pharmacology toxicology. Also, the long-term effects really do not match what you would tend to see with either cisplatin or organic toxins.

We can rule drugs and solvents out.

Some of the early hypotheses were perhaps these individuals were exposed to one or more of these compounds, either directly or indirectly.

Is it possible?

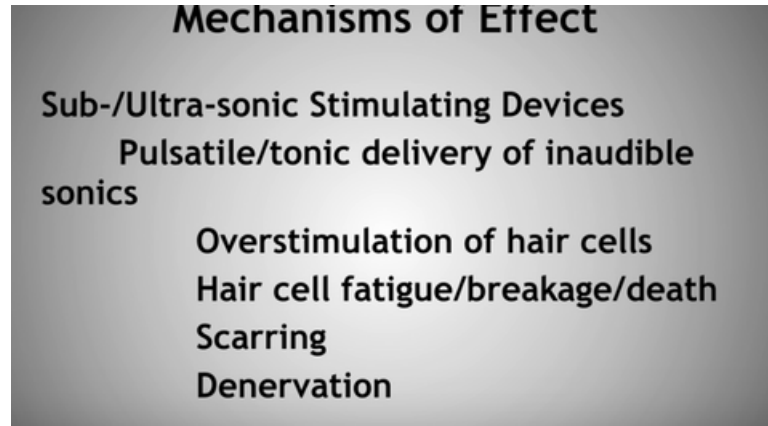
Yes. It is possible.

Might this have been a beta-test where there was some priming or synergistic effect where individuals

were exposed to low doses of these drugs?

Yes, but these drugs were non recoverable.

Moreover, that didn't seem to be any other physiological signs that would suggest that these individuals, were on a dose enough of these drugs to do the job. **So, we can rule these out.**



DEVICES

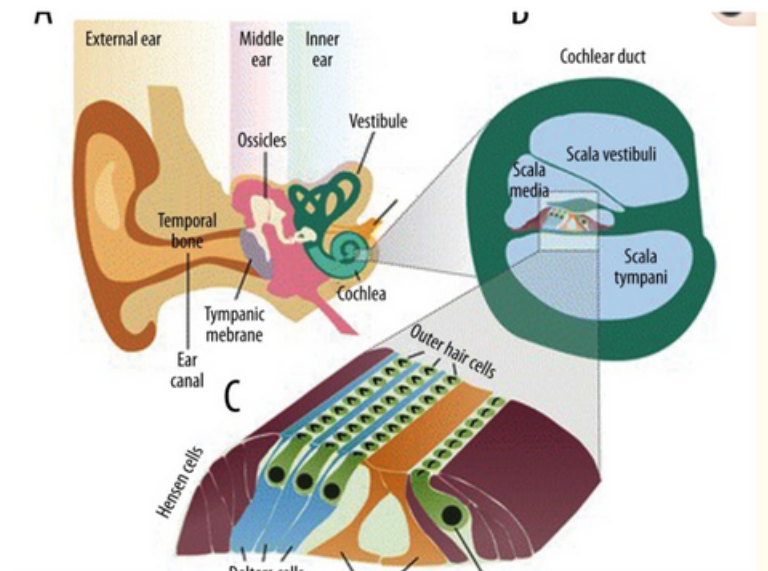
What about sonic devices and/or electromagnetic pulse and microwave devices?

Well, there are a number of different things that could be done here. Realistically, you would see either:

- Pulsating sonic delivery of either sound pulse,
- Particularly a hypersonic pulse, that would begin in the subsonic
- That would then translate through the sonic, and
- Then into the hypersonic range end.

Or, you can engage some type of:

- Electromagnetic pulse, or
- Microwave pulsing



That could then affect the symptoms in a very similar way. With these you would get:

- Over stimulation of hair cells, clearly
- With any type of sonic delivery, you would get hair cell fatigue, breakage, and death
- You would get scarring and denervation

Cavitation

You would also see that, if in fact, it was a hypersonic pulse and/or an electromagnetic pulse you would then begin to cause cavitation.

Anything that has a fluid medium in it, which would include any one of the vulnerable organs of the inner ear, the cochlea. Most notably, those that would concentrate this type of an energy pulse mode directly.

In other words, an acoustic or an electromagnetic lens are in the structures of the inner ear [this can be exploited.]

- High frequency hearing loss
 - (~4000 Hz “muna”)
- High to low progression
 - (3-6kHz spread, with <1kHz spread)

Auditory features you would see if we're just limited to the auditory system would be. However, this was not noted, as you saw in the earlier data.

We are ruling out the idea that this was just an auditory assault.

Assessment and Diagnosis

- Audiology (for hearing loss pattern)
- Pharmacologic/tox recovery (in tissue/fluids)
- Cochlear imaging (difficult)
- Biopsy
- Forensic anatomy

If you are going to engage the diagnosis for this. You need to be thinking that could there have been somebody who was focusing energy, that would then produce the signs and symptoms that we're seeing in these individuals, with the statistical significance as was demonstrated here?

What might be the viability to do such a thing?

- You heard that audiological testing suggested that indeed these individuals were exposed to something, but there's no long-term audiological or hearing changes.

- No pharmacological or toxicological recovery.
- Early on, did not demonstrate that there was, in fact, any toxic substances or pharmacological poisoning.
- Cochlear imaging is difficult to do. Biopsy and forensic anatomy can certainly be done after the fact.
- Your most reliable tests are those that are used in neurosensory deficit. Those tests that has useful earlier will determine the function of those nervous systems that are involved in vestibular apparatus, balance, orientation and position
- And in fact, that's exactly what we saw.
- However, there also seemed to be some mild cognitive changes that were initially somewhat high, and then tapered off.
- And then, some that were a little more progressive, and some that were more persistent.

Is it possible, as you heard earlier, that the primary effect was localized to the inner ear and what you are seeing are secondary effects of what we call *sequelae* with the individual's levels of cognition and emotion disrupted, by the fact that they were highly rated in unison?

Yes, absolutely.

In a previous life I flew airplanes. And I have got to tell you, One of the things that happens if you put individuals in a spin, or an unusual altitude is disorienting.

Pilots and aircrew are trained to be able to function cognitively and with emotional stability in unusual environments that disrupt their positional sense.

You recognize that one of the most curious phenomena is when an individual is exposed to either spinning or tumbling. Very often, what you'll find is cognitive deficits that will persist for several minutes to two hours after that exposure. The longer the exposure, the longer the cognitive deficits occur.

What type of cognitive deficits most notably with regard:

- Information transfer
- Information assimilation, and
- Information synthesis, and
- The ability to then process information in a proactive way.

And if you think about it, it almost makes sense as you heard earlier from **Dr. Hopper it obtains????** the issue.

Here it is simple.

If I have to concentrate very, very strongly on orienting my environment. Pay close attention to what is up and what is moving around, it becomes exceedingly difficult for me to do anything else.

One of the things we use very often is something called a brawny chair. We will put an individual in a spinning chair and then we'll ask them to do various tasks, both during the spin, and after the spin, and they become so disoriented as a consequence of a loss of their vestibular senses, and their positional upright and/or processional surround:

That their cognitive capabilities seem to be grossly impacted. Almost to the point, that you must

ask: is this a full cognitive defect?

Now, clearly when everything returns back to normal for these individuals, the cognitive defect then tapers off, it diffuses, or damps over time. But you do see a similar phenomenon with regard to cognitive blunting and cognitive defects in individuals who have profound Meniere's disease, which is an inflammation of the inner ear that then causes vestibular and semicircular disruption. Not only are these individuals positionally disrupted with vertiginous defect and dizziness, but they're also cognitively disrupted, because they lose the ability to process information, inclusive of things, like upright orientation and interactions with others.

This then induces as the neuroscientist, not Tonio Damacio says. "a feeling of, "What is happening." It is angiogenic, it produces anxiety.

If you've ever been dizzy. If you've ever had vertigo, you know that this is a very unsettling experience, and the phenomenon of that itself can be cognitively blocking.

Could this be focused on the inner ear as a primary pathology, that then caused a secondary reaction to manifest changes in individuals' ability to process and engage cognitive information transfer and capability.

Yes, certainly.


It could. But could it be more?

Could it be that, in fact, you are also seeing an indirect or direct effect on the brain itself?

Induced Cognitive Dysfunction and Neuropathology

Possible Vectors: Neuroweapon(s)

- Pharmacology
 - NMDA/Glutamate-R agonists
 - Heavy metals (mercury/lead)
 - Organic solvents
 - Low level organotoxins
- Technology
 - Sonic generators
 - EM pulse generators
 - Nanoparticulates

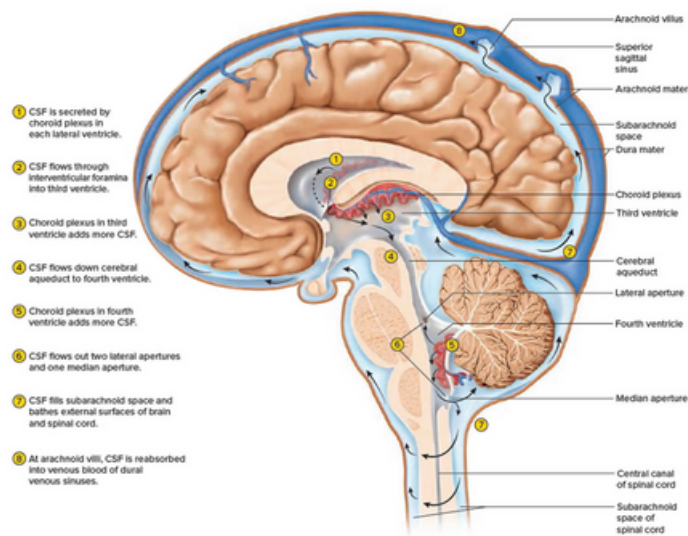


Targeting the brain by accessing the periphery

Is it possible that what we're seeing here is not only a form of traumatic neurological injury to the ear, but also a communicating neurological injury, that was then able to evoke indirect or direct effects on the brain?

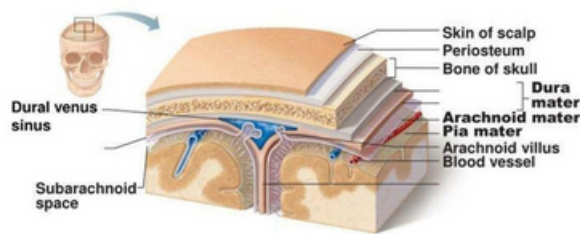
How might that happen?

There are a number of different things that can do this. We've talked about a variety of different



I think one thing it becomes exceedingly important to understand, is that the brain is bathed in fluid. This is called cerebrospinal fluid. The brain is protected by a set of membranes called the Meninges and the Meninges are, basically, threefold outermost, and the most durable is called the dura mater.

Figure 12.24 Meninges: dura mater, arachnoid mater, and pia mater.



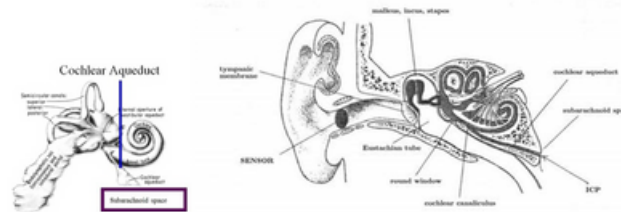
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- There is an in-between membrane that looks very much like the articulations of a spider web. In fact, it's called the subarachnoid membrane and it is filled with fluid..
- Then, this interfaces directly with the surface of the brain, which is called the Pia Mater, literally, the dear mother. This is the layer right on top of the brain. It is very-very thin.
- The area of the subarachnoid space is also a very richly vascular area, so what you now have are blood vessels that are interfacing with a fluid space, existing in this kind of padded zone, that looks like a spider web.

So that particular structure itself, might lend itself to some type of pressure damage through inter-cavitation damage.

If we're looking at the meninges, it's pretty hard to get those kinds of waves, at that level of effect through the skull.

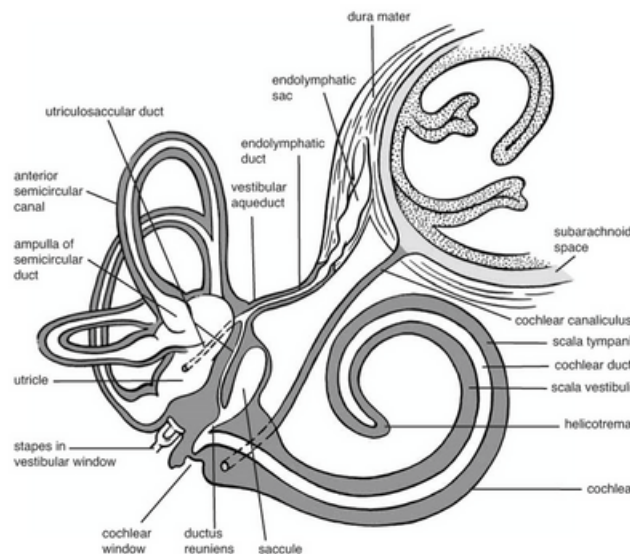
But what happens if you didn't have to go through the skull? What if you could go in the side door?



What if you could create a pressure wave that was amplified through peripheral structures?

That could then be communicated directly up into the brain?

Essentially, what you're doing is now is that you do not have to storm the castle. You go through the walls. You can literally sneak through the side doors, and then go up to the parapets.



Let's go back to the inner ear. This is the inner ear. This is the brain. One more time, this is the inner ear, this is the brain, they live right next door to each other. They communicate. They communicate primarily through this region here. This region here is called the ductus reuniens.

Where there is an actual communication that goes from the inner ear space that contains fluid called perilymph, into the brain, is called the cochlear aqueduct. It is an aqueduct, but what I want you to take a look at is the size differential between this fairly large vestibular space. This is called the foramen alaria or “Foyer”, the opening area, sometimes referred to as the brain space.

See the tube, this tube essentially works as a venturi, it communicates fluid between these two spaces.

One of the things we worry about, for example, an inner ear infection is the communication of that infection into the brain space, that then would produce a meningitis.

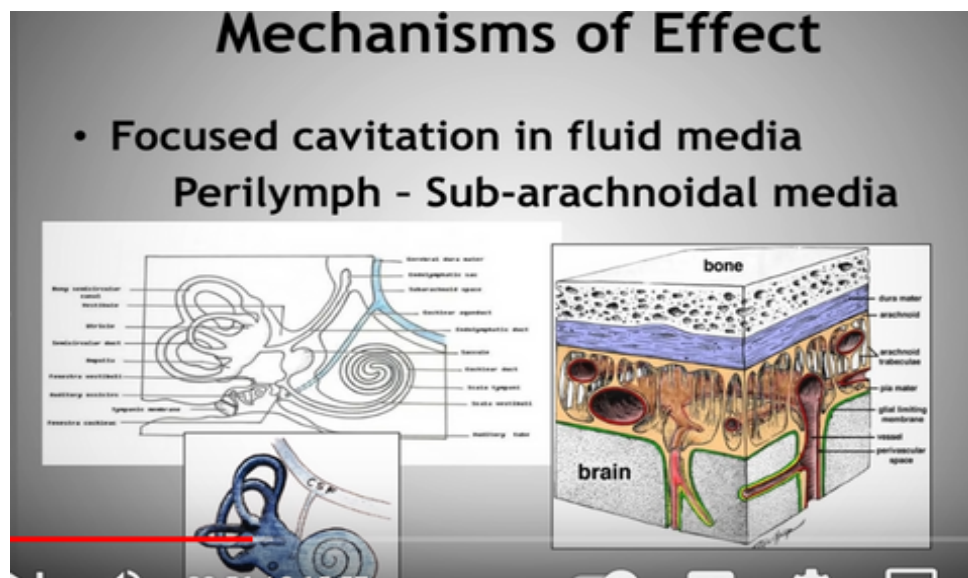
But what if we create a pressure wave here? We can disrupt the internal structures in two ways:

- Primarily, by amplifying it through the venturi effects of creating cavitation in this structure, here, called the ductus reuniens which then affects us.
- The disruption wave then creates an effect that would then communicate upward into the brain space by creating a cavitation wave that goes up through the cochlear aqueduct- directly into the cerebrospinal fluid.

Now recall, the cerebrospinal fluid bathes the brain. So, what you would tend to see is injuries that occur in and around the space. Beginning here, that could then cause a more disruptive effect. As you disrupt the flow of this fluid, any cavitation of this fluid is going to be disruptive, and it can create something which is known as Communicating Hydrocephalus.

Now, what's happening is:

You are getting a change in the level of the fluid because of bubble expansion and bubble collapse.



If this continues to communicate it doesn't disrupt the flow of that fluid, but it can produce neurological sequelae, both short and long-term.

The other thing that that it can do is produce a lot of change in the way the brain reabsorbs its blood flow, because this particular mechanism also affects the way blood is exchanged between the brain space in the vascular space. The vascular space is a portal by which peripheral disruption can then lead to central disruption.

Clearly, if we're looking at the Perilymphatic System, we can see that once again disruption of that Perilymphatic System. As we said earlier, it can communicate into the brain space. It can also communicate, up here, into the subarachnoid space because we know that the Perilymphatic will

communicate with the CSF via that particular aqueduct.

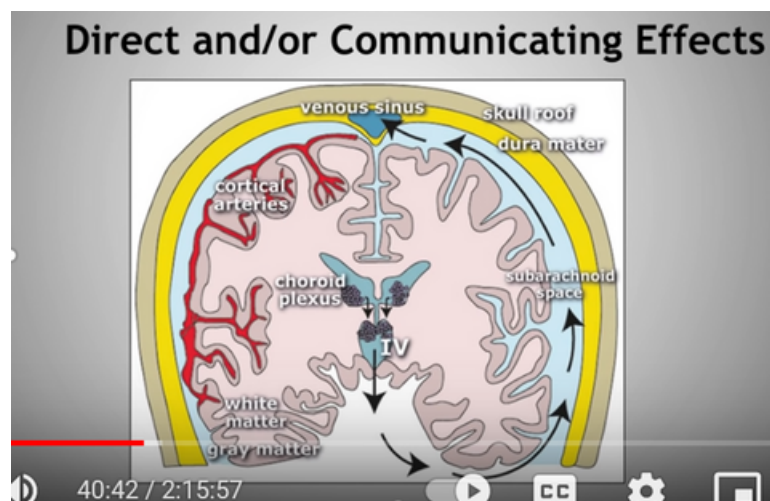
But, once again, we have blood vessels that are embedded within this subarachnoid space, that then interfaces directly with the substance of the brain.

If we disrupt that fluid around the brain, could we then create a disruptive pressure wave by cavitation into these blood vessels that would then be communicated into the brain space by both the Perilymphatic- CSF communication and the blood space?

Yes, we can.

Through the Cochlear Aqueduct and Blood Space.

These things are essentially talking together.



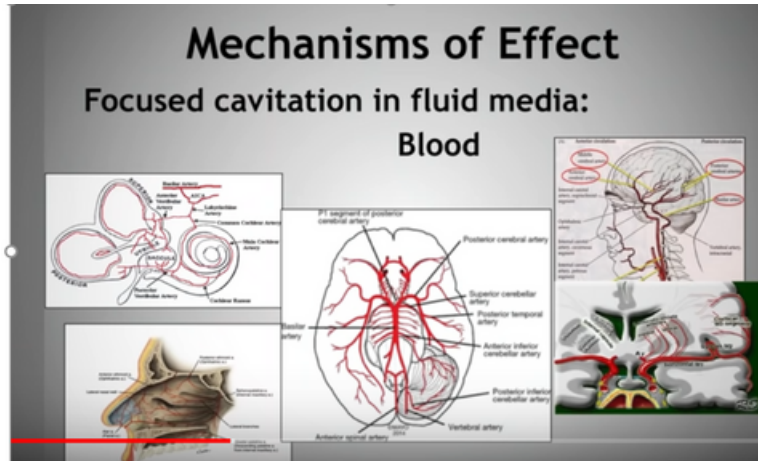
If we look at these communications, what we can see is that any type of communication into the subarachnoid space is capable of inducing a variable pressure wave, a cavitation wave, inclusive cavitation damage, and a variety of different brain locales. We know that one of the things, that this can then do: is that I can disrupt the integrity of the tissue because you're now increasing two things:

- Localized pressure which then actually creates a traumatic event , which can then lead to axonal shearing, and
- Vascular effects which can then disrupt the blood flow to the brain

Let's drop the blood flow to the brain, that can then lead to micro-hemorrhagic infractions, small level blood events. Blood flow disruption producing small areas of necrosis in the brain, and this would then be more long-term.

- Clearly, one way we could affect the brain is through the inner ear and through the fluid medium that occurs via the inner ear directly,
- to the subarachnoid space,

- selecting and impacting fluid medium that surrounds the brain,
- and thereby causing a disruption to the brain structure directly.



Impacting the Blood in the Brain

But we can also affect the blood. And there's a number of different ways that we can affect the blood, certainly.

We can engage the inner ear and most of the pathology. What we are seeing here with this Embassy-Encephalopathy would suggest that the inner ear provides for us an acoustic or some other form of energetic lens.

There is going to concentrate this type of information created by disruption- primarily in the vestibular area, in and around the foyer, that would then ampule and the saccule.

It affects the way the brain reabsorbs its blood flow. Because this mechanism also affects the way blood is exchanged the brain space and the vascular space.

This would then disrupt the function of the inner ear.

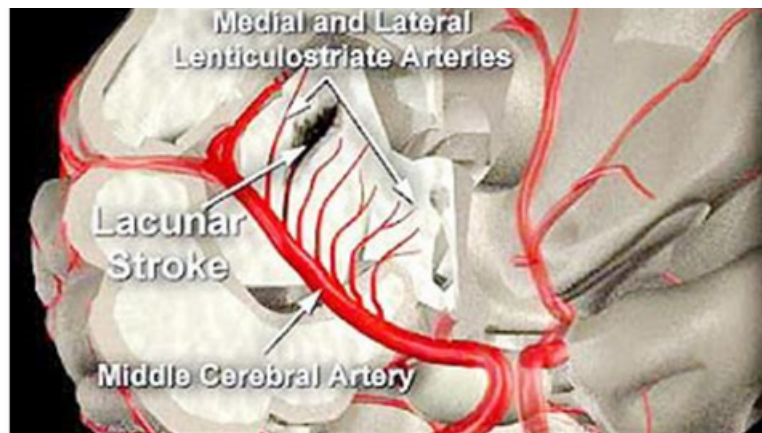
This could produce a cognitive constellation, but at the same time, could have a secondary disruptive effect, where it's now creating a cavitation wave that spreads throughout the Perilymphatic fluid communicates the venturi effects up into the cerebrospinal fluid space disrupting the flow of the cerebrospinal fluid in the subarachnoid space, and thereby can also disrupt the vasculature, but could you disrupt the vasculature directly.

Could you incur cavitation changes in some area of the vasculature that's going to affect both the inner ear and the brain?

Oh, yes, you can!

This is the area in and around the inner ear and what we can see is that there is a direct concentration of blood vessels.

Once again. Take a look at the upper left-hand portion of the slide this shows the arterial supply to the inner ear the utricle and the saccule.



This is supplied by the anterior vestibular artery which forms a direct connection to the basilar artery, which then communicates the cerebral arteries, most notably the middle cerebral artery, the middle cerebral artery branches up into the brain. This has what's called here's this lacunar effect (STROKE), in other words, through these deep penetrating arteries that go into the brain space. These are exceedingly small vessels and the concentration of pressure within these vessels is exceedingly important to maintain a variety of neurological responses and cerebral vascular responses. These things will change local pressure, and they'll alter the blood flow to maintain stable pressures across the brain space. The brain is highly vulnerable to these types of things, but if you disrupt the flow of arterial blood, you're going to get two things:

- A compensatory or Curie response, (opposite of a natural response)
- Going to see changes in perfusion that will occur in the vascular site

If this occurs, it has a consequence of bubbles, which are essentially producing here is micro-emboli. These micro emboli can lodge here in these lacunar vessels to create lacunar infarctions known as micro-strokes.

Yes, indeed they can!

Can you get disruption of the brain space directly by disrupting the subarachnoid membrane by disrupting the fluid that exists- known as Tympanic Membrane Perforation after a combat blast exposure, by disrupting the fluid of the labyrinth, the perilymph and endolymph fluids are separated by a membrane called the membranous labyrinth?

As I stated earlier, the perilymph fluid is high in sodium and low in potassium, with basically a negative charge.

Yes, you can disrupt both the blood and cerebrospinal fluids.

Can you do both at the same time?

You betcha!

What would the effect be?

Well, clearly if you're disrupting the inner ear directly in the foyer by affecting the auricle and saccule, by virtue of a pressure wave, then, creating some type of cavitation within those structures, that are fluid-fill structures, you are going to disrupt otolithic effects, and you're going to get a change in the balance and balance function.

Could that lead to problems with regard to cognitive processing, absolutely!

Based upon the structure of the inner ear, could you also then begin to cause neurological changes in neurological damage?

Yes, that's a possibility!

As well, you could certainly begin to cause degenerative changes at the innervation that could communicate along the cranial nerves, to then have a neurodegenerative. Certainly it could be done, by virtue of certain types of imaging and certain types of nerve conduction velocity testing.

But what if you didn't have to affect the nerve itself? And you can get directly into the brain?

The same pressure wave that would affect uticle and the saccule could indeed create a pressure wave with inside that flow, that would affect two components, that would:

- **Directly access the brain**
- **Indirectly access the brain.**

The first direct effect- being the communication through the perilymphic cavitation disruption that then enters through the cochlear aqueduct to profuse the subarachnoid space, and cause a disruption in cerebrospinal fluid.

The second, which would be a disruption of the vasculature. Here, in the arterial blood supply, that would then communicate back to the basilar artery and communicate up with cavitation in the blood flow to the brain.

So, what you see here is converging disruptive pathological effects.

Assessment/Diagnosis

- Neurocognitive assessment
- Neuroimaging
- Forensic anatomy
- Biopsy/Necropsy
- Modeling (*in vitro*, *in vivo*, *compusimulacra*)

How would you look to assess these types of things?

You've already heard this; I'm not going to repeat the information Dr. Hoppers group did. A wonderful job on cognitive testing or imaging. Clearly, if you wanted to look a little more deeply, you have to take a look at some of the forensic anatomy, biopsy, and necropsy but you could also model some of this work *vivo*, *in vitro*, and with computer simulations which becomes probably the most accurate way to take some phantom or in some other type of situation that would then model what these effects would be on the mammalian ear and on the mammalian brain.

Of course, for that our next speaker Dr. Beryl Balaban will discuss some of the work that he's done to empirically demonstrate what these findings not only are, but what they could be based upon. Not only a type of image we see here or the type of image that we would then see if you increased the frequency or change some of the electromagnetic pulse.

Best Estimate Possibility/Probability

- *Drugs alone?*
Unlikely
- *Ultrasonics?*
Very Possible/Probable
- *EM Pulsing*
– Very Possible/Probable
- *Combinatory approach?*
 - Drug/toxin
 - Sonic and/or EM pulse generatorQuite possible with (+) explanatory value

So, based upon that, what is the take-home messages I have for you? Like anything else, let's go through a process of elimination. We have to go about this somewhat deductively, because we have a set of individuals who've suffered these particular constellation of signs and symptoms. We recognize that from that these are the things that we are seeing.

What types of changes could we be seeing?

Changes in the:

- **Peripheral and central organs**
- **Neurological-Sensory organs**

In fact, the brain that might be indicative of this and what could do it.

Is it possible that drugs alone could have done that?

Well, early on in our discussion we ruled that out.

Is it possible that ultrasonic weapon could do this?

Yes, this is very likely and highly probable.

Is it possible that electromagnetic microwave, pulsing in some way could do this?

That is very possible and highly probable.

It is also possible there may be some combinatory approach, a beta-test if you will, to see if we give a drug first at low dose or ultrasonics at a low dose, coupled with some type of electromagnetic pulse microwave dosing. Could these be worked?

Quite possible, with very positive value.

In other words, if someone put a gun in my ear, and said which one do you think is going to produce this constellation of effects that we saw in those individuals who are most affected, not only in Cuba, but more recently in China?

I would tend to think that what you're probably finding is this last one.

Not drugs or some other form of pharmaco- toxicological agent.

I think what remains dubious, is that there are certainly devices that are widely available. We also know there have been dedicated activities in the neural weapons space, by a variety of nation states. They would be capable of doing just this type of thing.

The inner ear provides a locust forum for this to then be conducted in such a way, to manifest these effects.

But it's not the inner ear alone, it could occur in the sinuses, both the ethmoid and the sphenoid sinuses. There is also the hard palate of the mouth.

Any one of the vulnerable amplifying spaces if the head, could do it ,and certainly what becomes important is how such a weapon could then be focused and utilized in those ways to be able to create this effect.

Might it be, once again, that this was something it was serendipitous?

Might it be this was some type of vermin protecting agent or device that was simply in those rooms which these individuals were in?

Then, suspect perhaps, is that likely not very the reason that many others would have these signs and symptoms?

This would then be attributable.

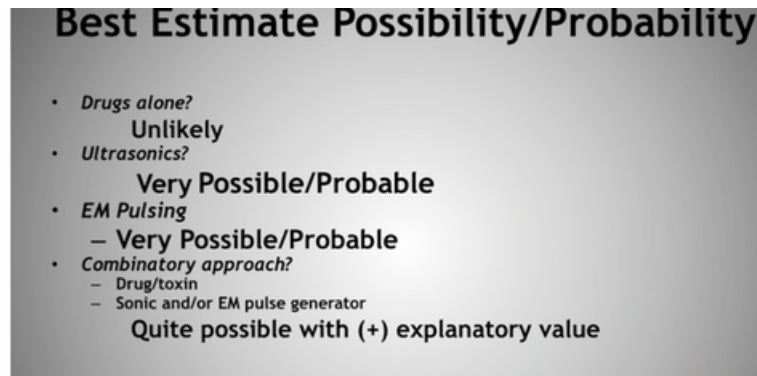
- **Here is the device.**

- This is what was being used for.
- And, here would be an attribution or custodial record for them.

Absent that, once again, by virtue of implication:

- This is intentional
- This is directed
- This seems to be a beta-test of some type of a viable weapon that utilizes one or more of modalities for its effect

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That is all I have for you. Clearly, what I'd like to leave you with is:

- **Speculation based upon the facts of the case.**
- **Speculation based upon what we know about the weaponology and or at least the deviceology.**
- **Speculation about what we know about what the pathology is, and could be, and how this would work.**

So, what I'm asking you to do is quite simply,

Take the facts of the case based upon the findings that were presented to you by Dr. Hoffler.

What you take the level of possibility and probability, in terms of what the viable structures are that could communicate such effects in real life terms, and then pair that.

If you will listen to our next set of speakers they will not only talk about what the empirical findings are that could reproduce this in a model scenario, but how this could also be leveraged geopolitically, with regard to the viability of an increasing capability confidence in consideration in neural weaponology.

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Celeste Solum is a broadcaster, author, former government, organic farmer and is trained in nursing and environmental medicine. Celeste chronicles the space and earth conditions that trigger the rise and fall of modern & ancient civilizations, calendars, and volatile economies. Cycles are converging, all pointing to a cataclysmic period between 2020 to 2050 in what many scientists believe is an Extinction Level Event.

Tracking goods and people will be a part of managing the population during this convergence.

- **Backstories on tracking**
- **Technologies**
- **Infrastructure**
- **Diseases, Testing, Vaccinations, and Sensors (including nCov and the new Phytophthora ~the plant-destroyer**
- **Experiences**