

Real-Life Mad Scientists

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Entertainment

Midnight Facts for Insomniacs

Podcast Transcript

(Note: transcript consists of episode outline)

Vladimir Demikhov: The Mad Scientist Who Created A Two-Headed Dog

Just a warning, this episode is going to be graphic, and some of it is a little hard for even me to discuss. The good news is this is a super interesting subject with some opportunities for dark humor, which is kind of our wheelhouse, we're talking about real-life mad scientists. And as you know from previous episodes and, I guess, common sense, the history of scientific experimentation is brutal and ethically...murky, especially when it comes to the treatment of animals. After all, the only way to learn if a medical treatment or surgical procedure works is through trial and error, and it's a lot more socially acceptable to try and err with animal subjects than with people. Monkeys, dogs, and obviously mice have been historically considered expendable in

the interest of scientific advancement. And that is still the case today, which presents a controversial and difficult conundrum for an animal lover like me. We wouldn't have heart transplants and vaccines and so many other life-saving procedures if literally millions of animals hadn't been sacrificed in the interest of science. And I guess you could say the ends justify the means, except that in general I care more about animals than I do about humans, so again, conundrum. We've talked about this, I can watch serial killer documentaries and violent movies, I can watch a stadium full of humans get ripped apart by zombies or whatever, but one gazelle gets taken down by a lion and I nope right the fuck out of Netflix. So I think this episode will be fascinating and fun and occasionally cringy, but hopefully mostly those first two things. And we're going to dive right into the deep end, no gradual escalation just full on head transplants. One of the men who pioneered organ transplantation, and innovations like the artificial heart and lungs was a straight up mad scientist, a Soviet named Vladimir Demikhov. He didn't stop with hearts and lungs, he would eventually transplant torsos and the aforementioned heads. Specifically he was obsessed with creating two-headed dogs by grafting the head of one dog onto the neck of another. And I'm just gonna pause here and say that if you can bring yourself to chop off a dog's head, I sort of don't care how much good you did for humanity, you're a monster. A monster creating

monsters. This guy killed so many dogs. And even when he was transplanting organs, these organs weren't going into dogs that needed organ transplants. He would just snatch a heart out of one dog, and shove it into another dog, and if it survived more than a few minutes that was a huge win. Eventually some of the dogs would live hours and then weeks, and eventually in 1953 one of the dogs with an implanted heart lived seven additional years. That's pretty good for a dog, that's 49 dog years, except it's not because we all know that equation is BS, plus I'm assuming it would have lived longer with its original heart. I mean it's ironic because ultimately even his successes drastically shortened the lives of the animals that he was transplanting organs into. But obviously Vladimir's work was hugely beneficial to the medical field as a whole, this soulless dog-hater made great strides in the field of experimental surgery and canine eradication. The year after he successfully implanted that seven-year heart, in 1954, he transplanted his first dog head. Shockingly, the operation was not a huge success. But you know the saying, if at first you don't succeed, decapitate a bunch more dogs. This next part is pretty fucked up, and I won't judge you if you jump forward like 45 seconds. The most famous of his two headed dogs was the 24th, immortalized by an article in life magazine. During the 3 1/2 hour operation, Demikhov severed the head and front legs of a puppy

named Shavka, and grafted them to the neck of an adult German shepherd named Brodyaga, attaching the blood vessels of the smaller dog to the heart of the host animal. For the next four days both animals could smell, eat, drink, see, and hear, but the smaller dog's throat was not connected to the stomach of the larger dog, so anything she consumed simply flowed out of a tube onto the floor. Jesus Christ. This tragic four-legged two-headed Frankenstein abomination mercifully passed away after just four days, which I think is a blessing. RIP Shavka. Vladimir's most successful creature made it 29 miserable days. It's so hard because I guess we owe this guy a certain amount of gratitude for all of the children and parents and brothers and sisters who have been saved by heart transplants, and also absolutely 100% fuck this guy forever. It's hard to justify the long-term benefit of creating miserable two-headed freaks of nature; I mean it makes sense to transplant organs, that has medical applications, but grafting heads on to other bodies, that's some human centipede nonsense.

Our next mad scientist, **José Manuel Rodríguez Delgado**, had good intentions...I think. I am willing to accept the Spanish neurophysiology researcher's explanation that his attempt to implant computer chips in human and animal brains was motivated by the idea of controlling mental disorders and suppressing

aggression rather than controlling behavior, but regardless of his motivations, in practice the guy was hamfistedly mucking around with mind control. Delgado was raised in Spain in the early 1900s, and educated at the university of Madrid. eventually he relocated to America when he earned a fellowship to Yale university in 1946. So, not a dumb guy. Crazy, not dumb, which is the worst kind of crazy. Dumb crazy doesn't get away with anything. As we have learned in our Midnight Madness segments. So Delgado immediately dove into the sketchiest areas of research, taking advantage of the early 20th century's lack of ethical medical regulations, and by 1952 he was authoring papers on the implantation of electrodes into human brains. He would eventually follow through on his plan to use human test subjects, although the majority of his testing was obviously confined to defenseless animals. monkeys, bulls, and also cats, a travesty of which we shall never speak again. Cat torturers, not welcome here at MFFI. Weirdly though, I ended up watching some of these experiments—including a cat one, on accident—and the animals seem mostly blasé and kind of oblivious. It's a strange contradiction that brains, which are responsible for all feelings and sensations of pain, don't themselves feel pain. You could give a dude a brain massage and he would be completely oblivious. I mean he would probably notice when you cracked open his skull, but otherwise, yeah. So the animals in the videos had

these matrix-like sockets implanted in their heads with electrodes attached and the way it worked was highly scientific and technical, basically the researcher would zap the shit out of the animal and make note of what happened. The goal was to stimulate the brains of his subjects in specific areas to achieve particular results.

From a linked article in scientific American, "With the push of a button, he could evoke smiles, snarls, bliss, terror, hunger, garrulousness, lust, and other responses." Has he met a cat?

You can evoke many of those responses without electricity, it's not super hard to get a cat to snarl. Go for the tummy. Also, which of the animals was smiling? I like that it mentions "other responses." Kind of vague for a scientific publication. What are they leaving out? Homicidal rage? That would be totally understandable. If any of these researchers were killed by a cat or a lab rat, fair play. As usual, I'm team lab rat. Presumably Delgado did not publicize the videos of the researchers who got shredded while fucking with ornery tomcats...those are the videos I want to see. Anyway, this stuff was absolutely creepy AF mind control. In his most famous experiment, reported in the New York Times and available to watch online, Delgado videotaped himself climbing into an arena with a bull and when it attempted to charge he stopped it in its tracks with the push of a button. . Luckily the bull didn't smile or become lustful. Or smile lustfully.

Shiro Ishii was born in 1892, son of a wealthy sake maker and landowner. Shiro was extremely bright, he ended up attending Kyoto Imperial University and then joining the army as a military surgeon. He was talented enough for the army to send him back to the university to pursue post-doctoral work. At the university Shiro was known to raise cultures in Petri dishes which he referred to as his "pets:" So that's the level of delusional incel we're working with here. "his odd practice of raising bacteria as companions rather than as research subjects made him notable to the staff of the university." That IS notable. He was less friendly with humans, not a warm and fuzzy guy, apparently he preferred the company of bacteria. Shiro eventually returned to the army and was promoted to the rank of army surgeon first class.

This was still the imperial era in Japan. In August 1936, now a Senior Army Surgeon, Second Class, Shiro was appointed the head of the infamous Unit 731, a covert biological warfare division of the Japanese imperial army. Unit 731 is a real-life horrorshow. This is grindhouse stuff. Shiro and unit 731 were responsible for some of the most egregious human experimentation and war crimes in history. The unit had been founded innocuously as a public health agency, and then took a hard turn, becoming a literal and metaphorical incubator for biological weaponized diseases that Japan planned to unleash on its enemies. That's an interesting pivot

for a health agency. "We used to be responsible for disease control but now we mostly work in the area of disease unleashing." Unit 731 was straight up evil. Human subjects—often Chinese prisoners of war or Japanese dissidents—were referred to as "logs" to dehumanize them, and they were injected with diseases like cholera and the plague, and then the prisoners who experienced the most extreme reactions and rapid deaths would be bled so that the purest and most virulent strains of disease could be isolated and passed on. "One member of Unit 731 later recalled that very sick and unresisting prisoners would be laid out on the slab so a line could be inserted into their carotid artery. When most of the blood had been siphoned off and the heart was too weak to pump anymore, an officer in leather boots climbed onto the table and jumped on the victim's chest with enough force to crush the ribcage, whereupon another dollop of blood would spurt into the container." This is crazy: When the disease had been purified and distilled to the most extreme version, fleas would be unleashed on the last generation of patients so that they could soak up the infection and then those fleas would be packed into clay canisters. In 1949 Japanese bombers dropped these flea bombs on a Chinese village, killing over 3,000 civilians. The ultimate plan eventually was to deploy the fleas on the west coast of the United States, an operation that was dubbed Operation Cherry Blossoms at

Night. I don't know why they didn't go with operation Disease Fleas, it was just sitting right there. Probably doesn't rhyme in Japanese. Luckily California was spared attack by Japanese plague-fleas, but the cruel and sadistic experimentation wasn't confined to diseases. Other Prisoners and patients had appendages submerged in ice water until their arms and legs froze solid to the point that they "sound[ed] like a plank of wood when struck by a cane."

Thousands more were subjected to vivisection, surgically mutilated and dissected sans anesthesia. Limbs were detached and reattached to the opposite side of the body, or crushed to initiate gangrene. Other "patients" were used as test subjects for weaponry, slaughtered in firing squads and murdered by flamethrowers and grenades, even more were exposed to nerve gas and blistering agents. From an All Things Interesting article linked in the transcripts, "Heavy objects were dropped onto bound prisoners to study crush injuries, subjects were locked up and deprived of food and water to learn how long humans could survive without them, and victims were allowed to drink only sea water, or were given injections of mismatched human or animal blood to study transfusions and the clotting process."

This is what you get when scientists don't have ethical or legal limitations. It's a free for all. For instance, the scientists of unit 731 wanted to study the potential effects of extreme G

forces on pilots, so they built giant centrifuges, packed them with prisoners, and spun them until the victims lost consciousness or died. If you're wondering, death typically occurred at between 20 and 25 Gs, "Though young children showed a lower tolerance for acceleration forces." Good to know. For all of those infant fighter-pilots, I guess they were really running low on manpower. Some of my Asian friends have told me how their parents can be a little harsh and I've heard of tiger parenting, but damn..."spit out that pacifier and get in the cockpit. You want dessert? You get to taste dessert when you've tasted the blood of your enemy." In a mirror image of the American Tuskegee syphilis experiments, many patients were infected with STDs which were often left untreated, while--in a case of the cure being worse than the disease--others were treated with a primitive form of chemotherapy so that researchers could observe the effects. The effects were...unpleasant. Like worse than standard chemotherapy, which is already bad. Can you imagine how bad chemotherapy was back in the beginning, I literally can't imagine it being more scattershot and primitive than it is today. Chemotherapy is like if there were a hostage situation, and the cops said, "Fuck it, let's nuke the building. Yeah, 90% of the hostages will die but there are criminals in there too, so..." Of course syphilis could have been transmitted by injection but it was easier to simply force male

syphilis patients to rape uninfected women...and men, incidentally. Sometimes it took multiple rapes to successfully transmit the disease. You have to be thorough, that's just war criminal 101. Speaking of which—and this is just so insane—many female patients were “forcibly impregnated,” so that pregnant women could be subjected to chemical weapons, crushing, and gunshots and then the women's bellies opened up to observe the effects on the fetus. I know I've joked before about losing my last shred of faith in humanity, but wow. Every time I think I've said the worst thing on this podcast that I'm ever going to have to say, a bunch of pregnant women get intentionally crushed to death and we find a new rock bottom. Many of these experiments, crazily enough, became official, they were published in scientific journals; the “scientists” aka sadists of Unit 731 got their experiments published by claiming that the patients had actually be primates referred to as “manchurian monkeys,” a veiled insult to the Chinese victims. I was wrong, new rock bottom has been achieved. But of course there's a happy ending: After World War II Shiro was apprehended by Americans on war crimes charges, and promptly granted full immunity in 1948 in exchange for disclosure of unit 731's activities. A moment of silence while I seethe.

Giovanni Aldini

Dr. Victor Frankenstein is the prototypical mad scientist, the OG, the template, and he emerged from the imagination of author Mary Shelly in 1818. (Or is it Fronkenshteen? I can never remember.) But like many great literary characters, he was based on a real person, or actually a combination of a couple people that we will discuss. The first and most notable mad Scientist who helped Inspire "Frankenstein" was named Giovanni Aldini.

Are you familiar with the term galvanism? This is different than galvanization, we're talking about the electricity that powers biological tissue, galvanism refers to the electrical impulses that cause muscles to contract. Well, galvanism was fascinating to scientists of the 18th and 19th centuries because it seemed to be the secret ingredient in animating tissue, which to them indicated that it was the special sauce that created life, and it held the promise of reanimation. You can guess how they got this idea. If you electrocute a dead animal its muscles will tighten and clench, as though briefly resurrected. It's very exciting... I'd imagine. I'm not saying I spent my youth electrocuting roadkill but I'm also not saying I didn't.

So galvanism was named after scientist Luigi Galvani, whose nephew, our subject Giovanni Aldini, would become a pioneer in the application of the galvanic process, which is a fancy way of saying he enjoyed shocking the

crap out of corpses. Probably literally. It was an aromatic hobby. Avoid that guy's basement. His most famous public demonstration involved a dead criminal, a man named George Forster, who had murdered his own wife and child. Because it's there's anyone you want to reanimate, it's a baby-murderer. Forster had been hanged, his blood drained, and his spine severed, so by the time the electrocution occurred he was super dead. Like you know how in the princess bride a corpse can be mostly dead? This guy was all the way dead. Yet in 1803 Aldini shocked a group of enthralled spectators by shocking the dead murderer, "On the first application of the process to the face, the jaws of the deceased criminal began to quiver, and the adjoining muscles were horribly contorted, and one eye was actually opened. In the subsequent part of the process the right hand was raised and clenched, and the legs and thighs were set in motion." Some of the gathered witnesses believed the murderer had been brought back to life, with a newspaper reporter suggesting that Forster would have needed to be re-executed because the sentence did not allow for resurrection. Although it seems like that would be double jeopardy. This is a sneaky legal maneuver, the reanimation loophole. Kill someone, get executed, rise again, it's the perfect crime. By the way every time I try to say Giovanni Aldini my brain wants me to say Giovanni Ribisi and it's really throwing me off.

Giovanni Ribisi, also kind of creepy because he's a devout Scientologist. I don't know if he's electrocuting corpses but I wouldn't put it past him. I'm officially accusing Giovanni Ribisi of corpse shocking, and also necrophilia and Irrumatio. Because why not.

Andrew Ure: The Mad Scientist Who Followed In Aldini's Footsteps

Aldini wasn't the only scientist to attempt to use the galvanism formula for reanimation. Scottish physician, business theorist, astronomer, and all-around renaissance man Andrew Ure would take the electrical corpse-puppetry to the next level. And btw I don't think this is the worst idea, this strategy of using dead murderers for experiments. Just the worst of them. Like I don't care what you do to Ed Kemper's corpse, or even his live body for that matter. Want to do animal testing? Well murderers are animals in both the metaphorical and literal sense. Test out all of your medications and beauty products on serial killers and anyone who kicks a cat. If you kill people and/or even inconvenience a cat you should be surrendered to L'Oréal to have your face painted with toxic blush and your eyes gouged with eyelash curlers. Ed Kemper's giant bloated corpse would look great all glammed up like Motley Crue. So in 1818, 15 years after Aldini's unsuccessful revival via electrical zappery, Andrew Ure conducted his experiments on the

corpse of a murderer named Matthew Clydesdale. Ure targeted the phrenic nerve for stimulation,

"Every muscle of the body was immediately agitated with convulsive movements resembling a violent shuddering from cold. ... On moving the second rod from hip to heel, the knee being previously bent, the leg was thrown out with such violence as nearly to overturn one of the assistants, who in vain tried to prevent its extension. The body was also made to perform the movements of breathing by stimulating the phrenic nerve and the diaphragm. When the supraorbital nerve was excited every muscle in his countenance was simultaneously thrown into fearful action; rage, horror, despair, anguish, and ghastly smiles, united their hideous expressions in the murderer's face, surpassing far the wildest representations of Fuseli or a Kean," Ure wrote. "At this period several of the spectators were forced to leave the apartment from terror or sickness, and one gentleman fainted."

Very dramatic, but it turns out that zapping a corpse doesn't raise the dead, it doesn't raise anything except the predigested lunch of any traumatized witnesses. Publicly desecrating a dead body does not create life, it doesn't create anything except rampant PTSD.

Ure himself would die in 1857.

presumably he did not volunteer his body to do the electric boogaloo.

You could argue that in our enlightened modern world, there's simply less opportunity to be a mad scientist thanks to government regulations and evolving ethical sensibilities...the public is less inclined to support the kind of Wild West experimentation that was allowed in the past...desecrating corpses just isn't as cool as it used to be, even if those corpses have created and desecrated other corpses. But we do still have our share of mad scientisting. **Elon Musk**, I don't know if you've heard of him—he's a South African internet troll whose father made his fortune owning a Zambian emerald mine; Elon later became a tech bro and sold an internet startup which allowed him to acquire an electric car company called Tesla which he did not found nor did he invent any of the technology, he simply became the largest shareholder because money and then started a spaceship company and acquired a legion of acolytes by smoking weed with Joe Rogan, it's a weird story—well that guy has been pushing to become the next José Manuel Rodríguez Delgado, he wants to implant a chip in your brain. His version is called Neuralink and the Silicon Valley startup he founded has the stated goal of developing advance BMIs, which used to stand for Body Mass Index but now apparently signifies Brain-Machine-interfaces, which isn't creepy

at all. That is a weird evolution for that acronym. Can you just hijack an acronym? In theory though, the benefits of BMIs could be amazing. We're talking about helping quadriplegics regain functionality, and connecting brains with prosthetics, plus other lofty and admirable goals like allowing us to mind-meld with our cell phones and electronic devices. Because if there's anything I need it's more time interfacing with my cell phone. I want google reading my mind, that sounds comforting. Neuralink launched in 2016 and quickly developed a "sewing machine like device" capable of implanting tiny electronic threads in the brain of lab rats. As of 2022 Neuralink has partnered with my alma mater, UC Davis, to implant their technology into the brains of monkeys and pigs. I was not consulted. I am obviously their most notable graduate, I doubt any other UC Davis alums have achieved a mildly successful comedic podcast. So at least 15 of the 23 monkeys that Neuralink has used as test subjects are known to have quickly perished, but regardless, Neuralink is currently seeking clearance to begin working with human test subjects. According to the emerald-rich incel-turned-international playboy Elon Musk, "Neuralink's working well in monkeys, and we're actually doing just a lot of testing and just confirming that it's very safe and reliable and the Neuralink device can be removed safely." I guess *working well* has a different definition than I remembered,

your product is working well if kills only a slight majority of its users--but that makes sense from the guy who defines "full self driving mode" as "don't take your hands off the wheel or your car might slam into a truck." from a CNN business article, "Elon Musk's implant company Neuralink, which aims to [enable brains to connect and communicate with computers](#), has acknowledged that monkeys died as part of its testing procedures, but denies allegations of animal cruelty." Interesting. So I guess killing an animal isn't cruel as long as the animal doesn't suffer...? That's good to know. Humans are animals, btw. I'm storing that for future reference, and inching a little closer to the rebuttal. More about those monkeys, so neuralink has a video online of a monkey named Pager playing the videogame pong via his brain. To get him to sit down and play the game they basically drip-feed him a banana smoothie so you have this monkey sucking on a horizontal pipe while staring at a screen on which he is supposedly controlling the video game. I say "supposedly" because I have no way of verifying this, it just looks like a monkey staring at a screen, but I'm willing to accept their assertion that—as the narrator explains—"pager is amazingly good at mind pong." Sure. I'm really good at mind solitaire, I'm playing it right now and kicking ass. I win every game. I'll post the video of Pager in the discord.

Musk has stated that the goal eventually is to implant these chips in

the jugular vein of the victim--I mean patient--rather than in the cranium, which I guess is better...question mark? If you're going to slice open part of my body, I'm not sold on the jugular vs the scalp.

Incidentally, critics have pointed out that nothing about Neuralink technology is particularly novel, this research has been going on as we discussed for more than 70 years and control of prosthetics via the mind has been in development for over 50 years. Musk's claim that eventually the technology will cure depression and a variety of other mental disorders has also been pointed to as having no basis in fact, critics further like to point at Musk's history of overpromising and vastly under delivering. Musk is the king of vaporware, I'm not even going to get into the nonexistent Tesla roadster, the semi, the cyber truck and self driving vehicles and the nonexistent hyperloop and the base on mars and the flamethrowers that were nothing more than welding torches and his promise of flying cars, the humanoid robot musk unveiled that was literally a guy in a bodysuit (he promised a working prototype by 2022, tick tock), and his pledge to save those kids who were trapped in a cave in Thailand and then when he was called on his bullshit by the guy who actually saved the children Musk responded by labeling the guy a pedophile and incidentally musk's awkward ass is responsible for the cringiest episode of SNL ever, or his bid to buy twitter

that he's now attempting to weasel out of, or maybe the fact that Musk had already guaranteed that Neuralink would have chips in human brains by 2020. I'm not going to pretend the guy isn't doing some great things, or at least he seems to be trying, but he's also an absolute garbage human with a fake fortune, as we mentioned it's not real money it's just stock with a valuation based on nothing, the only reason Tesla has ever made a profit is because it sells regulatory credits, which are provided by the government, which means Tesla is losing money on its cars and its profits are subsidized by the taxpayer, but whatever. I don't want to devote any more time to a megalomaniacal internet troll with a fake fortune, so... moving on. I have thoughts.

Sticking with the modern era, we're not going to get deep into the history of cryonics but that's another emerging area of mad scientistry; in particular there is an Arizona company called Alcor, a.k.a. the life extension foundation, to which you can currently pay exorbitant sums of money and they will freeze your dead body in liquid nitrogen. There are different payment plans and options, it's cheaper if you just want your severed head frozen. Obviously the idea is that in the future technology will emerge that will allow you to be unfrozen and I guess rebodied... it's a massive roll of the dice, but hey, what do you have to lose? it's not like you need your money after you die, I guess this is for people

who don't have kids who need to go to college or else they do and they're just selfish bastards. That would be me. Fend for yourself, I'm over here getting strategically decapitated. Alcor currently has an estimated 182 bodies in storage, 116 of them are just heads. That's a fun warehouse. Or truck. They had 116, who knows how many that thief got away with. And it's a diverse bunch, from a 101 year old woman to a two-year-old girl. I guess the assumption with the 101 year old is that in the future not only will we have technology to unfreeze people, we will also have some amazing life support and or reverse aging? Because otherwise that's going to be a quick unfreezing. IT'S ALIVE! Nope. That was fast. Alcor also has 33 pets in storage. I promise our next episode will not include dead animals. I will override any topic that does.

Si the last one may be my favorite, and was sent to me by my research minion, llamatrauma.

Have you heard of MEART? Which stands for Multi-Electrode Array aRT, the acronym should actually be MEAA, but they selectively used letters, it's silly. This is supposedly the merging of science and art. It's like if Andy Warhol were a mad scientist instead of a socially awkward soup enthusiast. MEART was created by "Frontiers in Neurorobotics" a collaboration between the USA's Georgia Institute of Technology and the University of Western Australia. The description commonly given is that MEART is a

"semi-living artist." Most artists are semi-living. Try to survive on an artist salary, you'll see what I mean. Many podcasters, same. You and I are semi living but only because we're dead inside.

The goal of MEART is to create what the researchers refer to as a hybrid, for hybrid robot, because they don't like the connotations of the word "cyborg." Terminator really messed up the reputation of cyborgs, you had the six million dollar man in the 60s and it was cool to be machine-enhanced, and then Arnold comes along terminating every Sarah Connor in LA and suddenly no one wants to hang out with cyborgs.

So I'm going to attempt to describe MEART. Starting with the researcher's own words "We built a robotic drawing machine with two pneumatically actuated arms that move in concert to draw with ink markers on large sheets of paper and designed software and hardware for it to converse with a network of rat cortical neurons grown in culture over a multi-electrode array. The model system consisted of living neurons, growing in the laboratory for Neuroengineering at Georgia Tech, and connected by internet to the pen-wielding metal and plastic pair of arms behaving in gallery exhibitions around the world over the past 5 years... This geographically distributed, "semi-living artist" was one of the first closed-loop neurally controlled animats with a robotic body...Neuronal action potentials recorded by an MEA in Atlanta were processed in real-time

and used to command movement at different exhibitions in Perth, Melbourne, Bilbao, New York, Moscow, [etc]"

So MEART a pair of robot arms that scribble based on the hallucinogenic musings of a petri dish full of rat braincells thousands of miles away. I'll post pictures of MEART in the discord, but it looks like exactly what it sounds like. Two spindly robot arms that draw. The so-called "body" looks like a broken-down air conditioning unit wrapped in tinfoil, this thing appears to have been assembled with duck tape and prayers.

From the section of their website "caring for MEART's brain," "Brain tissue was dissociated with enzymes and mechanical trituration, to prepare a dense suspension of neurons and glia...A droplet of this suspension containing about 50 000 cells was pipetted into MEAs coated with polyethylene imine and laminin, and cultured at high density (~3000 cells/mm²) in serum-containing Dulbecco's Modified Eagle's Medium. The MEAs used were glass with silicon nitride insulation and 60 titanium nitride electrodes (multichannel systems). Neural activity was recorded using the MEA60 preamplifier and MCCard analog-to-digital converter (multichannel systems) with each of 60 channels being digitized at 25 kHz. All cultures were allowed to grow 3 weeks prior to experimentation, with weekly medium replacement. Neurons spontaneously began communicating electrically and chemically within a

week, demonstrating an inherent goal to form a functional network”

So what about the drawings themselves? They look less like art and more like accidents. Like smudges and dots that can in no way be mistaken for something created by an intelligent being. Imagine the kind of drawings that would be created by a soup of rat neurons in a Petri dish stimulated by electricity and I guarantee you’ve nailed it. I’ll post some of these masterpieces in the discord as well.

That one is fun to me, though, because it sums up so much of what I find confounding and amusing about modern art. Here’s the explanation from the creators defending the idea behind MEART. “MEART has many of the characteristics of a “real” artist. It lives, it dies, it leaves behind a body of work for others to contemplate, but can rat neurons and a mechanical body be labeled an artist? Maybe MEART is disqualified by being man-made. However, fillings for cavities in teeth and artificial hips make people part man-made, but no less human. MEART would have to be disqualified in some other sense. Does it possess sufficient creativity and intelligence to produce a work of art? Maybe not, but if so, would this suggest art is not solely a human endeavor; have we made an artist? If it possesses intention, maybe we have infringed on its intellectual property rights when drawings were purchased by a gallery. Will the training algorithm enslave

biology in order to steal from it? Or are such goals natural: does the body enslave the brain in order to live, by demanding it learn how to find and eat food?" I find this mildly alarming and mostly adorable. I feel like these guys tried to become Frankenstein but could only manage Pinky and the Brain. What are we going to do today, Brain? Try and take over the world. "Dammit, MEART. BECOME SENTIENT. WHAT ARE YOU WAITING FOR? STOP SCRIBBLING AND START ENSLAVING. YOU'RE EMBARRASSING US."

Now before you send your emails, I am aware that we didn't cover Joseph Mengele and all of the Nazi experimentation...maybe in the future, but I wasn't feeling it. We've all heard those stories. I wanted to learn things, not retread every History Channel Program. But I'm not opposed to covering Nazis at some point, just not now.



Podpage

Yesterday

To: Trevor Shane Rogers >

Midnight Facts for Insomniacs has a new review!

Podpage



Midnight Facts for Insomniacs has 1 new review!

Not murder



I listen to these episodes over and over Always learning something new. My teenagers even like it! I listen to random episodes to fall asleep as well. Finally something to listen to that keeps my attention that isn't murder. Thanks guys!





Patreon

8:58 PM

To: Trevor Shane Rogers >

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PATREON |

**Kaitlyn Squier** just became a \$5 patron!Email: sjwelling@hotmail.com[Send Personal Message](#)

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https://en.m.wikipedia.org/wiki/Vladimir_Demikhov

<https://allthatsinteresting.com/unit-731>

<https://blogs.scientificamerican.com/cross-check/tribute-to-jose-delgado-legendary-and-slightly-scary-pioneer-of-mind-control/>

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<https://m.youtube.com/watch?v=rsCul1sp4hQ>

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