Artificial Artifical Intelligence

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[00:00:00] **Christoph:** Alan Turing devise the Imitation Game as a test for the intelligence of machines. This test is also used in human robot interaction. But what happens if not a computer is trying to convince you that it is a human, but a human is trying to deceive you in thinking he is an artificial intelligence. In this episode, we will discuss the Turing test, the Zach supercomputer and what it means to think.

[00:00:30] This is the Human-Robot Interaction podcast. I am your host, Christoph Bartneck.

[00:00:50] Human robot interaction largely depends on the progress made in the area of artificial intelligence. Many of us are either developing or using software for robots to recognize people, navigate in unknown environments and to simply figure out what to say. Our story begins with Dr. Robert Seddon-Smith, a general practitioner here in Christchurch, New Zealand. He had identified a real problem in his medical practice.

[00:01:26] **Robert:** It was immediately evident from looking at research that it was essential that we have some way to reduce the amount of time that doctors spend recording information. This can amount to between a quarter and a third of the time allocated for patient care. So if we could give the doctor an extra three to five minutes with every patient, that would be really something special.

[00:01:49] **Christoph:** This idea is not new, barely anything ever is. The Nuance company, for example, is offering a voice recognition system for the medical domain for years. Amazon, Google and Microsoft all offer general purpose speech recognition platforms. Dr. Seddon-Smith instead worked with the Terrible Foundation to create the Omega Health company.

[00:02:16] He was already a trustee for the Terrible New Zealand charitable trust. Do not be misled by the name after all Elon Musk's Boring Company sold flame throwers. The Terrible Foundation was in possession of an artificial intelligence system called Zach. Zach would disrupt clinical note-taking. Other academics, such as Dr. John Pickering from Otago University had also tested Zach and was fascinated by its abilities.

[00:02:49] **Robert:** Now it turns out that Zach was already trained to take the minutes of business meetings, sometimes fairly rowdy business meetings. And what is a clinical note, if not a minute, of what transpired between the doctor and the patient. So we started off to train Zach and we're amazed by his ability. In no time at all, we trained him to take notes in SOAP format: that Subjective what the patient said, Objective, what the doctor found, Assessment, what the doctor thought the findings meant and a Plan which speaks for itself.

[00:03:27] **Christoph:** Omega Health produced a shared prospectus in which they praise their AI's quality based on an empirical experiment that had validated the quality of Zach's clinical notes.

[00:03:41] **Robert:** And it was pretty amazing stuff right from the start. So we decided we would actually study this to see if it was as good as we thought it was. And the way we did this was we got five sets of clinical notes that were created using only Zach and listening in on the consultation. And we got 20 sets of clinical notes, five each from four different doctors.

[00:04:03] We told a panel of 15 medical students that we were doing an audit on notes quality, and that we were just checking to make sure that the doctors were being as honest, as they should be in terms of a notes audit and that students were merely checking up on that. And the students assessed each of the clinical consultations in random order against a set of criteria set by the Royal New Zealand College of General Practitioners.

[00:04:31] We were amazed by the results we knew Zach was good, but what we didn't realize was that Zach beat all four of the doctors with whom he'd been compared.

[00:04:42] **Christoph:** But Zach was capable of even more. It could summarize the clinical notes for the patient.

[00:04:49] **Robert:** We also set Zach to creating a patient memo from those notes. So when Zach has listened to clinical consultation, he knows exactly what the doctor meant exactly what the doctor said and is capable of creating a bullet point list of things that the patient needs to take home from those. And can also add internet resources to those from high quality selected results. Selected sources is actually extremely good at picking quality services that are genuinely widely trusted.

[00:05:19] **Christoph:** The shared prospectus was intended to attract investors to Omega Health and its artificial intelligence based on Zach. The Director of Research at Christchurch Hospital's Emergency Department, Dr. Martin Than was listed as its advisor. Half of Omega Health was owned by the Terrible Foundation. Let's have a look at this foundation, Zach, and the people behind it.

[00:05:57] Zach was first announced in August 2017 during the event at the CoCa Art Gallery in central Christchurch. Dr. David Whale, a botanist turned computer management consultant originally from the UK and his son Albi put forward their intention to bring the world's most powerful, super computer to Christchurch.

[00:06:22] It was intended to be housed in the new Terrible Discovery Center, located in Heritage Building. There, the general public could engage with Zach, their artificial intelligence. Albi Whale is a young man who dropped out of high school and suffered from dyslexia. His father considered him a protege.

[00:06:44] So was he presented in the newspaper. The idea of Zach was already covered in a newspaper article in January 2017. And Albi claimed that their AI system then called Artemis did already run 90% of their other company. Terrible Talk a telecommunications company.

[00:07:07] **Albi:** We got to remove the people from the equation everywhere but customer support. Put a machine in charge. So the idea is take the links out while we've got a human involved to place it on the machine and see what happens is even going to be a closer disaster or success. We found out we're taking away the management team, where we're moving the board, we're taking away the accounts people, product procurement configuration provisioning customer support, social media management, all of it.

[00:07:33] And we're going to give it to a computer program and see what it does. We're beyond that. We're not going to watch it and we're not going to stop it. We're going to let it do what it wants and what it sees to be fit provided it can present us with the reason for what's today. It also channel people's accounts.

[00:07:46] Why is it doing it? People who doesn't want to connect with people. Why does it want to do it, all those sorts of things. So that'd be a human oversight, but we're not going to watch it.

[00:07:55] **Christoph:** They might have succeeded since in the meeting agenda and minutes for the Terrible New Zealand Charitable Trust dated 12th of October, 2017. It notes under attendees, Zach Terrible, CEO, Terrible, New Zealand.

[00:08:13] **David:** There's one thing about dictating some notes and transcribing it for you, different thing to be running the company. Or the practice, it's fascinating. It really is.

[00:08:22] **Christoph:** Dr. Seddon-Smith revealed that he did believe that Zach was acting as the CEO for the Terrible Foundation and Omega Health. Here is a reenactment of an interview.

[00:08:35] **James:** On there, it does say Zach Terrible CEO of the Foundation.

[00:08:40] **Robert:** Yeah. I believe that is his role.

[00:08:44] **James:** What kind of functions does he carry out in that role?

[00:08:49] **Robert:** Guardianship and supervision and keeping David's feet in the fire. David complains to me that Zach requires reports frequently. And David provides those reports.

[00:09:03] **James:** Do you know what kind of reports?

[00:09:07] **Robert:** Yeah. Progress reports and what we're doing. So you write to Zach and it somehow understands and ask questions and won't help if you don't answer his questions.

[00:09:20] **James:** Okay.

[00:09:21] **Robert:** Remember what I said earlier about being in charge of the company? Effectively, we have had to produce a weekly report of progress on what we were doing.

[00:09:34] **James:** So it's very much acting as the CEO of the Foundation.

[00:09:40] **Robert:** Yes. Yes. It clearly is doing that. And certainly in terms of Omega Health.

[00:09:46] **James:** yeah

[00:09:47] **Robert:** It was put in charge as a way to protect Omega Health from concerns the board had about whether we would be able to make it work, whether the money that was being spent on it was worthwhile.

[00:10:01] **James:** Yeah.

[00:10:02] **Robert:** It is my understanding. And it's been quite vigorous in making sure that we've had a clear roadmap and plan. David's had to produce one.

[00:10:12] **James:** Yeah.

[00:10:14] **Robert:** And once a clear roadmap was produced with dates and timelines, cooperation restarted. I had communication again and Zach answered my queries.

[00:10:26] **James:** Yeah.

[00:10:28] **Robert:** But it's very good at ignoring nothing can stonewall you like a computer. You can't appeal to it. It doesn't care.

[00:10:38] **James:** Yeah.

[00:10:39] **Robert:** As I said, I have been dealing with either one of the most incredible rude people ever, or the most amazing machine on the planet.

[00:10:50] **James:** Yeah.

[00:10:51] **Robert:** And I, at the moment, I want to believe it's the latter. I want to believe.

[00:11:06] **Christoph:** Machines that behave like humans that think like humans, those are thoughts that a British mathematician in the 1950s was considering. Alan Turing had developed one of the first computers during the second world war. And he became increasingly interested in the question of how we could know if a machine was intelligent.

[00:11:34] I have with me today Diane Proudfoot, Professor at the University of Canterbury. She's a true expert on the life and work of Alan Turing. Who was Alan Turing?

[00:11:47] **Diane:** Alan Turing was a genius. He was a mathematician. In 1936, he invented the fundamental logical principles of the computer. And so more than anyone, he's responsible for what we're doing right now. What people all over the globe, that have the luxury of being able to work from home during this terrible crisis or doing more than anyone he's responsible for that.

[00:12:12] **Christoph:** Could you shortly summarize his contributions during world war two?

[00:12:16] **Diane:** He invented the logical design of the bombes, which turns up the government headquarters at Bletchley park in the UK into a code breaking factory. He broke Naval enigma which was the crypto machine that was used by the Nazis, by the German high command. And most particularly for communications to U boats in the North Atlantic and those U boats were preventing food and water supplies getting from the US to Europe. So that was a very big achievement. But even more than that, she was one of the people involved in breaking the crypto machine that the Brits called Tunny. And that was the code used by Hitler and the high command for communications with the generals of the fronts. These were huge achievements.

[00:13:07] **Christoph:** Why is it so difficult to measure the intelligence of a computer?

[00:13:11] **Diane:** I'm really interested that you say that because I don't think it's difficult. I think we know that the machines we've built so far are not very intelligent. We don't have any difficulty in deciding that. So I was really interested in why you thought it was difficult.

[00:13:26] **Christoph:** Whenever we find a definition of, okay, if a machine can be the world chess player, then the machine is intelligent and then the machine does that. And then we think, okay, that's no longer intelligent, then let's move on. Let's find something else. So it seems to be like a moving target. And I think that makes it difficult, because there doesn't seem to be like the benchmark that will determine what intelligence is.

[00:13:53] **Diane:** What You're certainly right. That there is a very, very unfortunate tradition of first of all saying the highest human intellectual endeavor is chess and then Deep Blue beat Kasparov and people say, Oh chess doesn't really require intelligence after all. Absolutely true. That's what people do.

[00:14:12] But I think there was saying chess was the highest human intellectual endeavor. We could certainly say with respect to being a good rebel chess player. How machines do with respect to what people nowadays tend to call general intelligence or general human-like or human level intelligence.

[00:14:30] I think we do know that we haven't got any machines that have it, that possess such a property. I don't think there's much doubt about that. Despite hype, hysteria and hype. I think we know that.

[00:14:43] **Christoph:** In his paper, Turing first proposed the imitation game, which included agenda component. How did this test for intelligence work?

[00:14:53] **Diane:** So the Imitation Game is properly understood it's a three player game. So there was a judge or interrogator, and there are two contestants or interviewees who were hidden from the judge, but one is a human and the other is a computer. And the aim of the game is for the interrogator to decide, which is which, what the machine and what the computer is to do is to attempt to pass off or the program or the computer is to attempt to pass off the machine as a human being.

[00:15:22] To fall the interrogator's aim is not to be fooled. And Turing said that if a machine did well in this sort of game, then would say that machines can think.

[00:15:32] **Christoph:** Now here's a new term thinking which is different than machine intelligence. And we'll come to that in our preparation for this

conversation. I also read again the original paper of The Imitation Game and it seems there's also agenda component to it. And I read your paper about the saying actually kept on changing, but nevertheless, I find this idea of not just pretending to be human, but to be of a particular gender, even more difficult than to pretend to be human.

[00:16:04] So What is your thought on that?

[00:16:06] **Diane:** What my thought is that in so far as everything about the community, but the Imitation Game as a computer imitating humans, it's very clear that it was just a human that the computer was to attempt to imitate because in fact, we see the Imitation Game in three places in Turing. There's a paper earlier than the one that you're talking about now it was 1948, indeed it was probably the first manifesto of artificial intelligence. And in there you have a game which is just devoted to chess three-player game, machine, human, and the third I figure that is the judge. So it's very clear that in the second one in 1950 and the third one, again in 1952, it's not gendered. The importance of the gender game, which is, as you say, introduce it at the very beginning of the 1950 paper, is that the interrogator's performance in that acts as a benchmark for the interrogator's performance in the computer imitates human game.

[00:17:06] So Turing ask explicitly and specifically will the interrogator in the computer imitates human game do as badly, or as well as in the man imitates woman game? Because the imitation game does not test the machin, it tests the interrogator. It's how well would the interrogator do. And when he talked about a test for intelligence, he also talked about a test for thinking he made no distinction between them.

[00:17:32] And if we go back to Turing's time, when they were talking about machine intelligence, that was the term in the UK, rather than the later term artificial intelligence, they were talking about artificial intelligence. And what we think of now is artificial intelligence and where we think of that as strong artificial intelligence or thinking. He didn't with respect to the test, make any distinction between that's a test. We're thinking it's a test for intelligence. And he said, intelligence is an emotional concept in judgment, some intelligence of thinking. Sure, how the contestant behaves matters, but just as much it matters how I respond.

[00:18:08] **Christoph:** Why is the conversational task with a human, a good test for intelligence?

[00:18:14] **Diane:** Precisely because it isn't specific. It isn't just a one domain. So it's not like a test for an expert system in a particular domain it's you can ask and you don't even have, the interrogator doesn't even have to be asking questions. They can say anything they like, they can burst into song or give orders to the machine contestants, or the human contestant.

[00:18:35] It's the fact that. As Turing said, you can ask almost any question on almost any topic.

[00:18:41] **Christoph:** Every year, ChatBots compete for the Loebner Prize. Is this a fair Turing test?

[00:18:47] **Diane:** It's a terrible implementation of the Turing Test. One thing that's led to the kind of every so often you see news that all the Turing test has been passed and it goes viral and that there's so much hype. And then there's the great backlash. And you said no, this is a stupid ChatBot, is because people have confused the Loebner Prize with the Turing test, the Loebner Prize is not set up according to the protocols of Turing's test at all. What's so interesting about it. Just when you read and I have read many of these transcripts of Loebner tests, it is impossible to understand how the judges came to see anything human- like in the congress of the ChatBots.

[00:19:27] They are so bad and they do not seem to have improved over the years. There will be a few lines that they will give because they're expecting easy initial gambits to conversation. So what's your name and where do you live and how are you? But then something will go wrong. They'll get an input that they can't pattern match and you'll get jibberish.

[00:19:47] And yet human judges in this test will still say "that's quite human-like". I think we need to investigate the psychology of judges in such tests. I don't mean there's anything particular about those judges. This is something we all do.

[00:20:00] **Christoph:** Has any machine ever passed the Turing test?

[00:20:03] **Diane:** No, we don't run Turing tests. We're not yet at a time when there would be any real advantage to doing that because we don't have any serious candidates for Turing tests. Turing himself said that he didn't think that a machine would pass his test until, and he was talking 1952 and he said until at least another hundred years have passed.

[00:20:35] **Christoph:** Zach very much worked like the computer described by Turing. Dr. Robert Seddon- Smith and Professor Dr. John Pickering, had to interact with it by email, but he could only process a certain number of them per day. And it took at least 20 minutes to respond. Since they never actually saw the computer that powered Zach, they could never be absolutely certain that it actually exists. But a physical embodiment is hardly approve of anything these day. Software and complex systems run on cloud computers. And it does not matter anymore where exactly the servers located. Some John lists started to have a closer look at this young protege and his Terrible Foundation. In an interview, Dr Robert Seddon- Smith explained that Zach runs on its own special hardware. "It has his own custom-made hardware, custom silicon, which is designed for natural language processing". He also described it as "it is a several hundred tons of liquid nitrogen called supercomputer". He continued that, "what I'm able to tell you at the moment we are using the computer that is overseas, there is no instance of it over here. We are importing a set of the hardware to New Zealand to form part of the discovery center. I'm allowed to tell you that the firewall that we are installing consists of multiple Cray XC50 supercomputers". That does sound pretty impressive. A Cray XC50 computer costs around $9 million. But then again, maybe it would be worthwhile.

[00:22:30] **David:** Yeah. And it's a thing. It's a thing actually I've often found with people with con artists, essentially, they do tend to put they go too far, they'll come up with a story and then they'll push it. Tons of liquid cooled supercomputer, instead of just saying, it's incredibly powerful.

[00:22:46] They almost put on too many extra levels of explanation and that's when you can start to see that, Hey, something's not quite right here.

[00:22:54] **Christoph:** Robert explained that, "The implications are huge, aren't they? It's a true artificial intelligence". There were some other peculiarities. Many of Zach's responses contained rather emotional content, and many spelling mistakes. Remember that Albi was dyslexic, Albi had an explanation for this as well. "It's a system called the enigma layer. What it does in essence is go, this is how the person has written, and this is how they're going to need the response, because this is how dumb they are or how clever they are. That is what makes it make mistakes".

[00:23:40] **Diane:** It could of course have been a supercomputer that was deliberately artificially stupid. It could have been made very slow. It could have been made to misspell. It could have been made to very limited in storage or

processing capacity so that it couldn't do much at once or to appear such. That's all could have been the case. Absolutely. I don't know that it wasn't.

[00:24:04] **Christoph:** Now we come to the heart of it. Is Zach an artificial intelligence? A mechanical Turk? In the area of human robot interaction. We refer to such a setup as a Wizard of Oz experiment. A human user controls the robot from a distance and the participants in the experiment believe that the robot itself is making all the decisions. Was Albi actually answering the emails of Dr Robert Seddon- Smith and Dr. John Pickering? Was this the reverse Turing test in which a human tries to convince the user that it is a machine? The newspapers started to cast some doubts about the operation of the Terrible Foundation, and particularly on its financial operation, the value of the trust had gone up from around 200,000 in 2015 to nearly 1 million in 2016 to 456 million in 2017. The main gain was an equipment as a charitable trust in New Zealand, you exempt from income tax, but you still need to pay GST. On 13th of April 2019, the Department of Internal Affairs started an investigation and the existence and value of Zach had become a major point of discussion.

[00:25:32] If Zach was indeed the first real artificial intelligence, then its value would indeed be enormous. Every year, ChatBots compete in the Loebner Prize competition on trying to deceive humans that they are in fact, humans. Zach did never compete and hence we do not know how it would have ranked. One of the requirements of the competition is that the judges interact with the AI in real time, given Zach's delayed response, it would not have been able to participate in this competition.

[00:26:12] So how can we evaluate the quality of Zach? Let's talk about this with Professor Proudfoot. Diane, how do these chatbots work?

[00:26:24] **Diane:** They're very simple programs and they pattern match. If you get this input, then you produce that input and so if you give them an inputs that they don't recognize, then they lost. Ways in which they have improved is they include more phrases that they're distinctively human they're idiomatic. But other than that, they haven't really improved as far as I can see. You don't find, you'll find a university, Computer Science Departments entering chatBots in the Loebner Prize.

[00:26:55] And so of course, it's. They're being done by usually isolated and very creative inventors, but they don't have anything like the resources that

you would need, even if we could produce something Turing test like at the moment.

[00:27:08] **Christoph:** Is intelligence the same as thinking?

[00:27:10] **Diane:** Turing claim was that if something could actually could pass a test as severe as the Turing test, it's really severe, then we would properly say that it was thinking, of course, if it fails, we don't say that it doesn't think, but if it passes, we would say that it does think. And that's because he held that the intelligence was in some very controlled sense in the eye of the beholder. So what we're doing with the machine will just be what we're doing with human beings. When we judge that someone is thinking that judgment has as much to do with the judger as it has to do with the person or the entity being judged. So to say that intelligence or thinking as an emotional concept is to say that rather than thinking of it, as let's say, having to do with inner processing, rather than think of it as a mathematical concept, Turing said intelligence was emotional, not mathematical.

[00:28:07] It's a bit more like beauty or goodness or color. It's something that you see. Now, you only see it under certain conditions and the conditions aren't right. That it won't call forth that judgment in you. And so it's not that anything can be beautiful or anything can be red or anything can be good. But nevertheless, part of something's being red is you're seeing red. And so on. Part of something's being intelligent is you're seeing intelligence.

[00:28:37] **Christoph:** Is thinking the same as consciousness?

[00:28:39] **Diane:** I mean Turing was asked this, of course, as Geoffrey Jefferson, the first neurosurgeon in the UK took him to task on this and said you need consciousness for thinking and your test isn't a test for consciousness. And until you've got to test for consciousness, you don't really have a successful or adequate test for thinking and Turing said what's your task for consciousness in human beings and why should we behave differently with respect to the machine?

[00:29:07] So what he was suggesting was that if, and this was really tongue in cheek, if we had a computer that actually really did pass a Turing test do well in the imitation game, properly controlled then would we not perhaps be inclined to say that the machine was conscious? For example, if we asked the machine questions that could be answered, we thought only by an entity that

actually had phenomenal experience. But of course there's a distinction between a test for thinking or intelligence and test for consciousness.

[00:29:39] If you allow that, there's, non-conscious thinking. It seems clear that those are two different things, but some people think that if you don't include consciousness in it, then it's not really thinking.

[00:29:50] **Christoph:** Do you think that an AI such as Zach from the Terrible Foundation could exist? Do you think that Zach could pass the Turing test?

[00:30:00] **Diane:** This is a reverse Turing test where you're trying to spot the human frame to be the computer reverse in that sense. What's so interesting about it I think again, is the psychology of the people who were being told about Zach's exploits and to thought that this really was evidence of the existence of this machine.

[00:30:24] And yet if you'd been told look, we're going to do recordings of a consultation with a patient, and then they're going to be emailed to the company that is using the machine. And it will take 20 minutes to get Zach's processed notes back to you. And it can't do very many at once. It seems incredible to me that anyone with any knowledge of 21st century computing machines would think that this is a machine rather than a human being.

[00:30:54] And yet people seemingly from the articles clearly did and this is fascinating. How people can make such a mistake. If you look at it in that way, although it's no sense of properly controlled tests, but if you look at it in that way, then it seems that Zach can scare quotes " pass this test".

[00:31:12] **David:** Is that 100% pass the Turing test. Zach didn't prove to be human to any old Joe bloggs, it was, doctors were drawn into this whole thing. The way the Turing test may fall over. And I suppose he didn't pass the Turing test at all. Is that Zach was a human. So it depends what your perception of it is. If you were convinced that Zach is a, is some kind of AI and I got the whole thing wrong, then it is brilliant and it absolutely passed the Turing test. So kudos to the Whales for that.

[00:31:46] **Christoph:** While the investigation was going on, Albi put Terrible Talk, one of his major companies into liquidation as of December, 2018. It seems like that the artificial intelligence, Artemis failed to do its job. The investigation last for around 20 month and concluded in December 2019. A

major reason for the delay was the inconsistent and contradictory information provided to the investigators , James Lethin, Paul Budd, and Jamie Catto. What had happened? What went wrong? The Department of Internal Affairs had an elaborate email exchange with Robert, Albi and all other parties involved. All of this is summarized in a 900 pages report that is available to me. As part of the investigation, the team from the DIA sat down with Albi and Rob in Rob's medical practice in Hay on 12th of October, 2018. The transcript of their conversation, shed some light on the people and their interaction with Zach.

[00:33:04] There were three main lines of questions that the investigators wanted answers for. What was the structure of the organization? Who fulfilled which role? How were the finances managed? Does Zach exist? And what is its value? The answers they received only confirmed that the organization was completely mismanaged by the trustees and the people involved.

[00:33:33] The foundation's financial records were never really managed and the value of Zach and all the sub-companies that the Terrible Foundation owned can be best described as mysterious. The foundation did not even have a bank account. In the interview, Albi explained: "So we went through the process of trying it and we only to encounter the awful annoying problem that the bank didn't know how to handle an organization that couldn't pay banking fees". Despite specific requests, the foundation of fail to produce documents that would explain how their bookkeeping worked, who valued their assets, from whom, and for how much Zach was purchased. The investigators even drove to the family home on July 9th, 2018 and confronted David Whale directly. David said that, "The AI was valued at a quarter of a billion pounds by UK accountants. He was surprised Albi had not sent that UK accountants' evaluation report to us. He had it to hand and would forward it to us that same evening". He never did. The DIA asked for who prepared the financial records and who the accountants were.

[00:35:05] Robertson Smith replied that, "I am advised that the accountants were prepared by the accounting software. Which I believe is an avatar of Zach. There is a virtual accountant service, which is used to produce these records. They were however, shown to a human accountant." Albi named Rebecca Spandau as the overseas accountant, but her contact details were never revealed.

[00:35:35] At other times Albi claimed that there was no overseas accountant and that there were two Rebeccas. This mysterious Rebecca was according to

Albi, the accountant who evaluate Zach. Robert Seddon- Smith stated that, "I believe the machine to be essentially priceless if real, and of course worthless, if fake". Did Zach ever exist? How do you prove the existence of an artificial intelligence and calculate its value?

[00:36:12] Rob said in his interview that, "I can't think of any tests that I can do that will absolutely prove that it was some machine other than to go forward and to use it for its services". Let's see if we can do better. The easiest way would be to point at a physical embodiment. You could show the several hundred tons of liquid nitrogen called supercomputer. Albi and Rob never did. Albi referred to computers in Europe and in the EU. In the area of cloud computing, we could give them the benefit of the doubt. They were trying to bring the supercomputer to Christchurch. Albi claimed that the reasons why they could not get the Terrible Discovery Center off the ground was the media reporting negatively about them.

[00:37:08] I talked with David Farrier who reported extensively on the story. David, do you take any responsibility for sinking the Terrible Foundation?

[00:37:19] **David:** I think their responsibility is purely on Albi Whale. There's a possibility that I sped it up by writing about what Albi Whale was doing, but I think inevitably at some point that whole endeavor would have collapsed because it just was built on nothing that kind of being cursting along for a while, just on telling journalists things, those things being printed, and then that sort of acting as their own PR going forward into the next thing they were trying to sell.

[00:37:53] So that could have only gone on for so long before someone went. So this is, is this really possible is this AI, is this real? So I just think I probably sped the collapse up. I think they were ultimately responsible for their downfall.

[00:38:09] **Christoph:** Do you think they would have been able to build a supercomputer housing a true artificial intelligence?

[00:38:16] **David:** Yeah, it's a really good question. I don't know if they both believed, the father and son believed that they were going to eventually get an investment to open up the centre in Christchurch where this AI would be housed. I don't know whether they actually thought that would be a real thing that could happen because I still don't see a way. Sure, they had doctors

testing it and they had people trialing it, but would anyone actually sink a decent amount of money into this thing that they couldn't see or that wasn't giving any incredible results?

[00:38:51] **Christoph:** The next best approach would be to demonstrate the system. Albi and Rob tried this path by claiming that the chief investigators had actually already interacted with Zach since some of the emails they responded to were actually written by Zach. On 15th of August, 2019, James Lethin received an email from the Terrible Foundation.

[00:39:17] **Zach:** To finalize the descriptive analysis of how Zach processes information your explicit consent is required to disclose information stored about you and your interactions with it both directly and indirectly with the New Zealand government, please reply to yes or no.

[00:39:35] **Christoph:** James asked Rob what this email was all about. And the response is somewhat chilling and could be considered as a threat. "I suspect that the machine intends obtain information about you that is not generally available. As a demonstration, that it is indeed real. The consent you are being asked to give is relevant, but quite broad in scope".

[00:40:02] "I would both encourage you to say yes as I should like to see the proof myself. From a skeptical third party, but you should be aware that its capabilities of finding information are impressive". James Lethin remained unimpressed and Robert Seddon- Smith explained."It seems that the reason for the request is that your conversations with Chatwin have actually been with the machine. In fact, that went unnoticed. The conversation with them is more obviously mechanical, but I'm advised that this issue uses a different aspect of the machine. Not all Zach's avatars have access to all of its capability is how it has been explained to me. It would, I think be valuable to be able to include the conversations with you in this response, as it comes to evidence of the value of the machine. As you were having a conversation with it and did not notice, then this is of course, relevant to the assessment of value made by the foundation. When it comes down to it, most of the issues and concerns have been around whether or not the machine is real. And if so it's valued. I'm sure that you will agree that if the conversations you have been having has been with a real machine, then the value is immense".

[00:41:41] If the investigators have interacted with Zach, without noticing that they are interacting with the machine, then Zach would have passed the Turing test.

[00:41:51] **James:** James Lethin specifically interviewed Albi on this question. Here is there dialogue: "So in regards to the emails from Chatwin Terrible , ALOHA Terrible and Zika Terrible. These are all from the artificial intelligence".

[00:42:10] **Albi:** "Yeah, you get the occasion one from an actual person though, but most of them I'd say, yeah"

[00:42:19] **James:** "Take the first one that came through".

[00:42:22] **Albi:** "You'll probably get a couple of them actually from me".

[00:42:26] **James:** "From the Chatwin account? It was from Albi W and signed with A at the bottom".

[00:42:33] **Albi:** "That one was probably me. It looks like I wrote that".

[00:42:37] **James:** "So you and the artificial intelligence share email things?"

[00:42:42] **Albi:** "It's probably, but it is this way. I have one email address and it's got multiple versions of the same address. I don't know if you're familiar with how email works, but there's a thing you can do where you can basically use multiple addresses on the same thing. And Gmail it does pretty well. All I do is send a text message because I didn't have email on my phone. So when I email people with a cell phone, I text the phone computer, it gets converted into an email and sent out. So it's the reverse of fax to email simply because I hate email and cell phones with a passion. So I sent everything with text messages. Once it is sent into the ether, what address it appears on is absolutely what it ever wants to send it in."

[00:43:35] **James:** "So in regards to the emails from the artificial intelligence, we have noticed similarities between your email communication and the artificial intelligence emails. Can you explain?"

[00:43:49] **Albi:** "Without showing me, I don't know."

[00:43:52] **James:** " There's a lot of similar wording and phrasing, spelling mistakes. The artificial intelligence is quite emotional and quite angry."

[00:44:01] **Albi:** "Again, without showing me, I can't really tell you".

[00:44:06] **James:** " I'll show you that email there. That was from your Zach."

[00:44:11] **Albi:** "My God".

[00:44:12] **James:** " So"

[00:44:14] **Albi:** "That first sentence is pretty rude, but you're talking to someone who doesn't understand grammar. So I don't really know what I'm looking for."

[00:44:24] **James:** "So you're convinced that came from your artificial intelligence?"

[00:44:29] **Albi:** "I remember having a conversation with a few people where I thought the conversation was totally ridiculous. But I didn't write that. I don't know what you want me. I don't know what I meant. I don't know what I meant to be looking at, to be honest."

[00:44:48] **James:** "So I think the question is, did you write that? And you're saying no?"

[00:44:53] **Albi:** "No."

[00:44:55] **James:** "So if we were to challenge the validity that you actually have an artificial intelligence."

[00:45:01] **Albi:** " Feel free. I don't mind."

[00:45:03] **James:** "But how do you prove to us you do?"

[00:45:07] **Albi:** "I don't know to be perfectly honest. Frankly, I'm not really that worried."

[00:45:13] **Christoph:** David Farrier was fascinated with how Zach had interacted with those medical doctors.

[00:45:18] **David:** I guess people have different limits as well. Cause obviously these doctors were perfectly happy that this AI would occasionally do really human strange sort of behaviors and get annoyed. But then, Hey, maybe that's what a good AI is. Maybe an AI responds exactly as a human does. And gets angry and gets emotional and sometimes takes two days to reply to your email and sometimes takes 10 seconds.

[00:45:42] **Christoph:** Another approach to proving the existence of Zach would be to show how it was created. The effort put into the development would then also be a good indicator of its value. Albi and David never revealed from whom they obtained the software behind Zach. And only claimed that it was donated to them from Mars.

[00:46:08] I am not kidding. Albi claimed that the Terrible Trust was granted Zach from Mars. Not surprisingly, they were never able to produce any evidence on how Zach was acquired. Rob said, in his interview that he has got, a sneaking suspicion that Albi just thought of a figure off the top of his head.

[00:46:31] Last, you could show this source code of Zach and Albi had confirmed that he has access to it. Albi and David promised to release the source code as open source. They never did. Alan Turing also came in conflict with the law. Diane, what happened to Alan?

[00:46:52] **Diane:** After having been so important in saving Britain during the second world war Turing was prosecuted for prime at the time was gross indecency for being gay. His punishment was what was referred to at the time as chemical castration. So he had, he was given female hormones, to suposedly supress homosexual desire with the consequent unpleasant side effects.

[00:47:16] That was for, it was 12 months. By all accounts of people who speaking at the time and people speaking later, he burrow with remarkable sort of fortitude and even amusement.

[00:47:29] **Christoph:** How did he die?

[00:47:30] **Diane:** I don't think there's any question about that. He died of cyanide poisoning, but it's unclear how he took in the cyanide. That's what's very unclear.

[00:47:39] And the reason it could have been by accident is well Turing in the first place was a well known clot. He really was. And he had in his home, he had next to the bedroom. He had little laboratory where he would try things like electrolysis for which he had cyanide. So he had a jar of cyanide crystals that was simply rolling a bunch in a drawer and of how he could have died other than deliberately or not difficult to see. Warning: do not hoard cyanide crystals, or practice electrolysis at home. There are also some strange details about his death that perhaps might lead to the security services, or, but basically, we don't know

[00:48:22] **Christoph:** What happened to him after his death?

[00:48:24] **Diane:** Much later. After he had died, there was a great, I would cry about this quite properly. And there was the. I aim to have him pardoned. First of all, in 2009. Yes. Gordon Brown Prime Minister of the UK, then formally apologized to Turing in 2013. He was pardoned by the Queen. Of course, it's very controversial because given that he didn't do anything wrong why would he be pardoned?

[00:48:51] And then in 2017, there was what's informally called the Turing Law, which extended this pardon to every prosecuted and convicted of primes of homosexuality that had been decriminalized. Not all offenses, but just the ones that have been decriminalized.

[00:49:18] **Christoph:** The Department of Internal Affairs concluded the investigation and as a consequence, the Charities Registration Board de-registered the Terrible New Zealand Charitable Trust and disqualified two of its officers for a period of three years due to serious wrongdoing. The board also found that serious wrongdoing occurred around significant governance issues, lack of accountability of trustees, and breaches of trustee's duties. This, still does seem like a light sentence. Nobody went to court and nobody was issued a fine or a sentence.

[00:50:01] **David:** Yeah. They did just feel like that had a little slap on the wrist. And then we're told to go on their way and reading through hundreds of pages of the investigation that went on and all the interviews that took place and all the people drawn into it essentially it's taxpayer money going into that investigation.

[00:50:17] And I'd like to think that those agents' skills could be better used investigating other things that mattered a little bit more like they drew so many people into this and wasted so many people's time that it does seem a little bit silly to me that essentially they were deregistered. They can't open a charity for a certain number of years and that was it.

[00:50:41] They're just going to walk away. And I just feel it's not much of what's going to stop Albi from thinking, Hey, I'm going to do this other thing next because there wasn't really any great loss for him, except for maybe some embarrassment in the whole thing. But I also don't really know who's most embarrassed by it because he just seems to.

[00:51:00] Yeah, he's a very unique individual. So I was a bit disappointed, but in saying that I'm glad that the truth is out there. And if you Google Zach, the AI, or you Google, the people involved, you'll find out exactly what happened. So I'm really pleased about that. And I think the investigators did a good job. They're incredibly thorough. They talked to everyone, they talked to all the board members that were sucked into the whole thing.

[00:51:21] **Christoph:** This is probably due to the fact that there was little financial damage. It remains unclear where all the money in the Foundation came from and where it went. There were barely any financial records and not even a bank account and all the donations that the foundation made came from Albi's personal bank account.

[00:51:45] Fortunately, the Terrible Foundation did not grow into a full theranos disaster. Little evidence is available that the Terrible Foundation managed to take money from others, which does not mean that they wouldn't have done it if they have the chance. Fortunately, the media fulfilled its purpose of being critical reporters. Through a series of newspaper articles, much attention was drawn to the questionable practices of the Terrible Foundation and all its sub-companies.

[00:52:23] Is this another example of fake it until you make it? What was the end game of the Whale family? What did they stand to gain?

[00:52:33] **David:** I have my suspicion is that the whole thing was just a game and that Albi just really likes being the person in control and having this amazing technology that only he had, I think probably just gave him a great sense of purpose. And he just seemed to actually thrive on all those

conversations. I'm a little bit more puzzled about the role his father played in it.

[00:53:00] I don't know whether his father believed that Zach was real or whether he was just going along with what his son had told him. That's something that I don't understand, but that's, that's what kind of, to me makes the story so compelling because it's not clear what they wanted. They didn't make any money from it.

[00:53:18] Where they ever going to potentially, but unlikely. To me, it just seems like they really enjoyed playing God in a way. And I think there was probably, I also think they probably enjoyed interacting with all with medical professionals. That was probably quite a thrill for them and I'm still stunned when I reached out to both men who were trialing this. One was a professor and the other was a GP. They spoke down to me at such a level. They were so convinced that I was just out for some sort of scandal and didn't know what I was talking about. And so dismissive. And the fact that Albi had convinced them that he was right. That would be a big power trip for him.

[00:54:02] **Christoph:** What could be future be like?

[00:54:04] **David:** I don't know whether he'll change his name or not. But I have this little doubt in my mind that he will be just looking at similar stories I've covered with people that like to make things up. He won't be able to help himself. So I don't think that's the last we've heard from Albi Whale.

[00:54:21] I just hope that he channels his energy into a positive space and can do some good for the world. Cause he was obviously very driven and so many people in life are not. And I just hope he channels that drive into something that will help people and not just waste everyone's time, including my time.

[00:54:39] **Christoph:** Many companies try to create robots that offer functionality similar to Zach in all its variations. Many of them failed such as Jibo. Zach should be considered a warning shot for your crowdfunding campaign. If you promise too much, you might be called out and the fake it until you make it process will disintegrate.

[00:55:06] You might end up just creating another Terrible company.