To: Aldred.Wright@darpa.mil
From: Steven.Nova@darpa.mil
Subject: Re: This has to be a joke, right?
====
I know you don't like it, but we have our orders. I'm sure I don't have to remind you just how high they came from. And frankly, you must have seen the airship this guy lives on; if he says he can help make the prototype better, then he can help make it better. More to the point, he is the only one with practical experience relating to the problems we're having. You yourself said before, we need him for that, at the very least. The Boston Dynamics AI didn't work before, why the hell do you think we got involved with your team in the first place? I've seen the way the chassis was operating before, in case you've forgotten. It almost shot me. It sounds like he's already written just the kind of software layer we need to make your system work in the chassis.

I'll come and show him round myself. But that's not a favour to you - I'm doing it to make sure he actually gets a fair chance to offer help.

You can be there, of course. Hell, you'll need to be, you know I don't understand the interface between the biological and non biological components. We may disagree on just what the prototype should be classified as, but you're the one who knows those systems the best.

P.S. Get that drink you owe me on ice in time for my plane touching down, I hate the desert.

P.P.S. You sly dog, you.

=====
To: Steven.Nova@darpa.mil
From: Aldred.Wright@darpa.mil
Subject: This has to be a joke, right?
=====
Have you read the email we just got from that kid? Like hell there's something wrong with our designs. I don't care what kind of fancy degrees he has, there is NOTHING that can generate the power needed for the TTDs in a small enough package. Never mind the results of our feasibility studies into shrinking the TTDs themselves. We're lucky we got them into a Stryker.
He's full of ideas about how he can help make the prototype better, and that's pissing me off. I don't think we knew what we were getting into when we asked for this guy's help, he practically wants to scrap the prototype and go back to the drawing board.. Just because he's augmented a sentient in the past doesn't mean he know how to fix our calibration issues, and now he's trying to give us solutions for a bunch of problems that don't exist. And he wants to come see the prototype. Actually, scratch that. He wants to 'meet him'. Him. What a load of bullshit. It's a machine.

Can we just scrap the whole idea of getting help? I'm sure we'll come up with a software layer to act as a go-between for the pilot and the firmware ourselves, just like he's suggesting. Boston Dynamics have some great ideas about AI... We've been referencing the software they were developing for the Tall-Man before we took over the project.

P.S. Let's keep the question of who I get backrubs from out of official emails, shall we?

=====
To: Aldred.Wright@darpa.mil
From: Steven.Nova@darpa.mil
Subject: Re: redacted report
====
I've passed it up the chain. The report should get to him exactly as edited by you. I must admit, you weren't as cruel as I thought you would be - I'd have cut most of that myself. Apart from your concerns about acknowledging magic... Hell, Aldred, did you even do your background reading on Amadeus before you wrote that? And we can't give him little bits of information. He'll get curious. We don't want someone digging, or second-guessing what we're making. Aside from that... you did only cut what was needed. I'm proud.

Or was that the Secretary of Defense's aide breathing down your neck the whole time?

=====
To: Steven.Nova@darpa.mil
From: Aldred.Wright@darpa.mil
Subject: redacted report
Attachments: ADNSS.pdf
====
I don't like passing this kind of information to a civilian. I don't care how clever or rich he is, or how much he's all buddy-buddy with the commander in chief, it's too much to release. The project isn't anywhere near ready to be announced to the world, and Amadeus Phoenix seems like a goddamn teenager who's got himself a taste for adventure. Sure, he's got some experience that we think might be useful in a specific problem, but we don't need to tell him everything. Just give him exactly what he needs to redo the interface software.
Plus, why the fuck are we telling an outsider that we're working with magic? Have you and our superiors forgotten that DARPA, the military, and the government as a whole does not publicly acknowledge the existence of magic? This isn't rocket science. It's a hell of a lot more delicate.

Either way, I've redacted active operational information from the report. Surely even you must agree to that?
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ADNSS.pdf
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The following document is classified for technomancy-cleared Pentagon staff ONLY. NSA monitoring is in effect, and any attempts to remove this from military-secured networks will be handled with appropriate force. Do NOT allow non-cleared personnel access to this document.

The Adaptive Deployed Neurological Support System project (henceforth ADNSS) was originally started as an internal DARPA project, an investigation into the possibility of retaining the experience and tactical expertise of soldiers mortally wounded or killed in action. While the project did not initially meet with much success, two recent breakthroughs have enabled progress to be made. Firstly, the small team working on ADNSS concepts was introduced to a technology known as the Tyson Tokamak Device (henceforth TTD), detailed in Appendix A, which is capable of generating artificial magic, able to be used in sustaining the organic components of a specifi ADNSS implementation. Secondly, the project was consolidated with efforts by internal DARPA teams, [REDACTED], and Boston Dynamics to build a bipedal heavy combat support robot, known as Tall-Man. While Tall-Man's chassis was for the most part ready, an adequate control system had not yet been developed.

For some time, the project has been referred internally as "Adonis", to aid pronunciation as well as for increased deniability. This name became somewhat more appropriate as the focus of the project changed to developing a new and in many ways superior kind of sentient - the neural support system designed to keep wounded soldiers alive being re-purposed to allow them to be integrated into a Tall-Man chassis, acting as a tactical advisor and pilot.

This integration has lead to a single viable prototype, classified as ADNSS-01, more commonly known as Adonis Alpha. This prototype is manned by [REDACTED], an ex-Marine, detailed in Appendix B. While this prototype is considered to be stable enough for testing in most ways, there are still some issues relating to the control of the pilot over the chassis' various advanced features, as well as its weapons payload. In short, the pilot appears to be limited to systems which have an analogue within a natural humanoid form.

In order to support ADNSS-01 for testing and in the field, a variety of vehicles have been adapted to contain the TTDs and generators required, as well as stores of ammunition and spares. These support vehicles are detailed in Appendix D, and are those being tested are currently staffed by a crew taken from [REDACTED].

Field trials should be commencing within the year, calibration issues notwithstanding. Currently, the ADNSS-01 unit is undergoing intensive tests in [REDACTED], focusing on pilot/chassis integration, as well as potential tactics and stress testing. A Marine Corps unit has been selected for advanced field testing in the future, and is currently being prepared, including familiarization with the chassis itself, and possible tactics to be employed. A selection of partially equipped 'dumb' chassis are available for use with remote control systems for destructive testing.

It is important to note that all non-cleared personnel will not be informed of the partially magical nature of the ADNSS units. Alternate explanations will be written, as with technologies such as [REDACTED].

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Appendix A - the Tyson Tokamak Device

The Tyson Tokamak Device was developed in [REDACTED] by [REDACTED], based on [REDACTED] work [REDACTED]. While conventional technomancy is limited to storing or channelling magic generated naturally (i.e. from sentients or the Earth itself), the TTD is the first technology able to generate magic from electricity. It does this by [REDACTED], a phenomenon first noticed by [REDACTED] in 1894, but not practically utilised until recently.

The smallest TTD developed fills the volume of roughly two cubic meters. These devices require a large amount of power - between their size, and power requirements, they cannot be placed into something the size of ADNSS-01, and therefore support vehicles are used. These can deliver the prototype to an area of operations, with the TTDs on board used to recharge reserves of magic within the ADNSS. In the support vehicles designed as part of the ADNSS project, the TTD tends to be placed partially under a raised floor.

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Appendix B - Prototype biological component

[REDACTED] was chosen to be the pilot and biological component for ADNSS-01, as the most promising candidate . After being injured by an IED in Dubai, he was left missing both legs and one arm, as well as sight and hearing on one side. However, the majority of his nervous system was left intact, making him a viable candidate – the spine and brain are all that is required for integration, however a degree of remaining usable nerve tissues is useful as well. After an intensive background search, he was ultimately selected based on experience, as well as his patriotic tenancies and military family history. After being told he would be given advanced prosthetics designed to allow him to continue acting in combat situations, he agreed to the program, and was transferred to [REDACTED].

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Appendix C - Chassis information

Original DARPA/Boston Dynamics report on the Tall-Man squad support unit.

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The Tall-Man unit was originally designed at Boston Dynamics for tactical flexibility at a squad level, offering suppressive fire support and the ability to take on vehicles and other hardened targets, as well as demolishing buildings. The chassis is far taller than the average sentient, not to mention wider - however, the legs can operate partially folded, allowing it to enter certain buildings. Armor offers protection against small arms fire, while the major systems are designed to resist a degree of artillery or explosive fire, though with the loss of external armaments. EMP hardening is integrated into the design, protecting critical systems. The chassis is designed to scare, standing tall enough to offer good visibility and to dominate urban situations, while being small enough for a transportation. It is not a subtle weapon – its intended deployment is to cause fear and chaos, as well as in situations where stealth is not in the question anyway.

The arms are, in their default 'stowed' mode, usable as with a humanoid, for manipulation - the system is also far stronger than a living soldier, with brute strength useful for demolition or breaching, as well as rescue or loading situations. With the arms in the stowed mode, the forearm-mounted weapons are well positioned for firing into buildings are a variety of heights. Additionally, extra joints within the arms, along with secure connections and movable shoulder joints, allow the arms to be deployed into dedicated weapons platform. In deployed mode, the full armament can be

brought to bear, however movement speed is slowed – and stable mode is recommended.

The exact weapons payload is non-final, but includes arm-mounted light machine guns and M2A1 heavy machine guns, grenade launchers with explosive, non-lethal and smoke rounds, a light mortar, and a combination of up to four javelin or TOW, or six AT4 missile launchers. The system was always designed to be modular - the upper arms, used to mount the missile launchers, can be re purposed for a variety of weaponry, including dedicated anti-air weapons, or even mounting an M61 Vulcan rotary canon or M242 chain gun (both of these options increase the overall height of the chassis by a not inconsequential amount when in stowed position). There are multiple mountings for attack helicopter weaponry, such as rocket pods, including always-available mountings under the forearms, while seondary mountings on the back of the upper arms can be used with the arms in deployed position. This would allow production models to carry and deliver a large amount of fire power if the situation required. As an additional note, there is a possibility of integration with [REDACTED].

The Tall-Man's 'head' is actually a third-generation Remote Weapons System, supporting cameras and other sensors, smoke launchers, and an M2A1, which can optionally be replaced with an adapted marksman's rifle or a 40mm grenade launcher. The RWS offers a 360 degree fieldof fire, independent of the main body, and can aim down to within a few meters of the chassis. While there are a large number of sensors are within the head, including the primary fish-eye lens, there are additional cameras and sensors distributed throughout the rest of the chassis, including radar, thermal, and laser range-finding, as well as advanced IFF technologies developed at [REDACTED]. GPS and other navigational technologies are employed as well, allowing a detailed picture of the battlefield to be built. There are multiple spotlights built into the main body, along with one mounted on the RWS – and a multi-spectrum laser sight, designed for instilling fear and showing the line of fire to allies. Speakers allow the chassis to be used for local communication.

The system's legs are designed for a combination of stability and mobility. They can fold to a degree, allowing the unit to move within a slightly more confined space, but obviously something this big will not be entering an average-sized building - at least without bulldozing through it. Additionally, the knees are designed to act as secondary feet, bracing the chassis on four points instead of two for heavy fire situations – in this mode, limited movement is possible, but would not normally be advised. The Tall-Man chassis could feasibly be deployed a semi-permanent but self-mobile defensive position, used to protect a location against aircraft or vehicles – for instance, securing beachheads, protecting convoy or parade routes, and defending military bases. Additional joints ensure a secure firing base and a stable movement platform in either mode. Gyroscopes within the main body help ensure the stability of the chassis while moving at the chassis' top speed.

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Since being adapted for the ADNSS prototype, several additions have been made. The chassis' original power generation and storage hardware has been replaced with storage for the magical energy produced by a TTD, allowing for a 24-hour operational window between recharges (assuming high-power operation at all times, and with a safety margin - emergency stores are reserved to sustain the organic components). Additionally, prototype sensors capable of detecting magic and magic users were installed in ADNSS-01, along with [REDACTED]-developed energy cannons drawing power directly from the magic stores. These would generally be reserved specifically for situations where engaging mages or the strongly gifted was necessary, however, they may also find usage in other applications, and have been successfully tested in anti-air, non-lethal pacification, and cover penetrating modes. In the prototype, these cannons are non removable, however this could be changed for the production designs.

Shielding systems are being developed for integration with the prototype - current models are able

to protect the chassis, and surrounding infantry, against small arms fire, however they have power requirements that are considered too high for sustained usage.

The chassis is also now capable of mounting an airdrop package, allowing it to use [REDACTED] in combination with detachable parachutes to enter a combat zone.

Considerations have been made for the pilot's comfort, since they cannot leave the chassis. The same techniques used to input audio and visual signals to the pilot can be used to offer a variety of entertainment and communication techniques to them, ensuring that they can be occupied when not on active duty.

Current issues with the chassis are mainly related to [REDACTED], as well as the control of the pilot over the additional systems. While basic and complex manoeuvring and use of the arms and 'head', the pilot has encounters problems engaging weaponry, and taking in information from the additional non-audiovisual sensors included in the chassis.

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Appendix D - Support Network

Since the ADNSS-01 cannot operate alone for extended periods, support vehicles have been developed to allow it to remain in action - they can replace parts, to a degree, as well as rearming and recharging the chassis.

Primarily, a Stryker classified as X1137 was designed by [REDACTED], incorporating powerful generators and the TTD required to recharge a ADNSS unit. Full charge time for the ADNSS-01 is around three hours. The X1137 can also be used to transport the chassis - however, due to its size, the unit lies on its back on top of the Stryker. The legs are able to be braced either side of the rear hatch, and charging can continue, with the ADNSS' weapons and shield able to protect the vehicle. The X1137 would itself be supported by an M1130 Mobile Command Unit, as well as three M1126s carrying additional spare parts and personnel.

In order to supplement the airdrop capability of the ADNSS chassis, a support package for C-130 family and [REDACTED] prototype transport aircraft was developed, allowing in-flight charging before an airdrop. This package could feasibly be used with any large enough aircraft, including the Singularity class airships used by the Royal Imperial Air Force, should the ADNSS system be released to our allies.

Finally, two helicopters are under preliminary development for support duties. Firstly, a UH-60 variant is capable of delivering a TTD into the field for emergency recharging. Secondary, a CH-4X family helicopter could theoretically airlift the chassis suspended underneath its hull – the chassis would be able to fight, however it would be in a vulnerable position.

At a squad level, an ADNSS would be accompanied by at least two engineers, capable of carrying out limited repairs and re-arming the unit in the field. Due to the biological component of the ADNSS unit, leaving it behind would be an action to be avoided at all costs, as with a purely living soldier.
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