J174618 Operations

Analysis of Biomass Recovered from Redoubt

Report of Investigation by Medical Examiner

Tenebrae C A, Scherezad, Denorvan J, Lord Raholan L

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Itsukame-Zainou Hyperspatial Inquiries Ltd

Inspection of Remains Recovered from JI74618

Date: 07.06.117
Time: 19:30 UT

Location:

Itsukame-Zainou Hyperspatial Inquiries Headquarters
Isseras IV - Zainou Biotech Production
3rd Wing - Ring 502 - IKAME Medical Research Facility

Present:

Dr. C. A. Tenebrae, IKAME Medical Staff, Acting Examiner.
Dr. Scherezad, Lai Dai Research Biomedical and Cybernetic, Assisting Examiner.
Mrs. J. Denorvan, IKAME Facility Manager, advisor to the observatory.
Lord L. Raholan, SFRIM Director, observing
Ms. M. Priano, IKAME CEO, observing.
Mr. S. Usutu, DED, observing.
Dr. A. Ninellen, Zainou Biotech, observing.

Abstract:

The purpose of this investigation was to examine and test a sample of brain tissue recovered from the vicinity of the Redoubt by Lord L. Raholan of SFRIM. An expedition to this area had identified the remains of technologist and Arek'Jalaan lead Dr. Hilen Tukoss, formerly of Zainou Biotech, though more recently associated with Eifyr and Co.

The study comprises of some standard post mortem examination techniques such as AIMED imaging and toxicology testing. These were expanded with cross sections, core samples, augmetic analysis, and forensic genetic mapping to clarify the condition of the recovered biomass.

The results of these tests confirm that the recovered sample is likely part of Dr. Tukoss' remains, and that it is believed the individual underwent at least an attempted transneural burn. The study also finds the clone was non-neurotypical by anatomy, and bore evidence of non-standard augmentation.

Keywords:

Investigative Neuroanatomy, Neuroaugmentation, Quasi-Human Intelligence, W-Space Biology, Arek'Jaalan, Deadspace Forensics, Transneural Imaging

Preparation and Methodology:

The attending examiners were decontaminated prior to accessing the test chamber in strict adherence with corporate protocol. The chamber was sealed in accordance with hazardous materials regulation.

Before recovery the sample had attracted a coating of silicate dust, as well as fine tritanium alloy particles. It was possible to clear the vast majority of this through non-invasive low spectrum sonic oscillation.

The sample was kept sealed in a low pressure container of inert gases for the purposes of visual and non destructive AIMED inspections. The ambient temperature inside of this vessel was maintained at 200 Kelvin.

Visual inspection:

The tissue sample has a mass of 137 grams. There is little moisture in the sample, the vast majority having evaporated on exposure to vacuum. This has caused the tissue to shrink from its original size and deform. There is discolouration of the tissue consistent with protracted exposure to cosmic radiation.

The shape of this sample, when compared to an "average" production gel matrix brain, would indicate that the matter originates from the left hand side of the cerebral cortex. The tissue includes portions of both the temporal and parietal lobes, making up 64% and 28% of the mass of the sample respectively. Tissue from the sensory cortex of the occipital lobe is also present (8% of mass).

The nature of the rending on the underside of the sample indicates that it was separated from the cadaver after death. The cold fracturing, clean breakage, and lack of tearing suggests a blunt force once the tissue had become brittle, perhaps from collision with debris in space.

Occurrence of gyri and sulci appear abnormal, the gyri much flatter than one would expect, and the sulci and much more shallow. In comparison with tissue of the average adult male clone recovered in similar conditions, the usual "folding" of the cerebral cortex is barely present at all. The reasons for this are unclear.

AIMED Imaging:

As previously stated the moisture present in the sample has all but evaporated due to exposure to vacuum, though the AIMED scans revealing some freezing at the centre.

Standard AIMED scans show unusually extensive tissue damage of a type consistent with neural burning. While destruction of the cortex is a normal result of the transneural burning process, the magnitude of the damage is far in excess of normal tolerances.

The small portion of the sensory cortex recovered shows an abnormal arrangement. The central sulcus is nearly entirely absent. The tissue beneath the surface appears segmented, as if the natural folding in this area has instead been expressed by layers of flat narrow cavities in the underlying tissue.

There are a number of indentations at what were possibly regular intervals before exposure to vacuum deformed the shape. It is inferred that these indentations were left by augmentation which remained with the cadaver after the separation of the sample. The type and purpose is not known, other than the system was to act in respect of the sensory cortex.

It has not been possible to complete any analysis at a cellular level due to the extent of the damage.

It is difficult to distinguish between damage resulting from toxicity processes and cold stress processes. The sample has clearly undergone significant exposure to toxicity as is evidenced by denaturation of cellular membranes (ref: plate II, IIIa, IIIb). This exposure is concordant with damage resulting from neural burn scanner toxins, and is distributed across the tissue in a manner suggesting a relatively normal Capsuleer burn.

The structure has endured freezing stresses consistent with exposure to vacuum outside of the presence of a hotbody radiator. This has resulted in widespread fracturing of tissue (ref: plate I, II, IIIc, VI) and destruction of cellular bodies (ref: plate IV, Va, Vb, Vc).

Core analysis:

Six samples core samples were extracted from varying regions, each sample retrieved with a volume of 0.5 mm^3. Two of these samples were necessarily hydrated as a part of toxicology testing.

Core samples show the presence of both cortisol and epinephrine, as well as their intermediate metabolites.

DNA analysis was attempted on two cores taken from the previously frozen region of the sample. This has returned an incomplete genome due to the extensive tissue damage, though it has been possible to reference recovered sequences against data for Dr Tukoss though the Zainou Biotech Disassociated Registry. This referencing returned a 76% likelihood of a match.

Toxicology:

Standard toxicology tests show the presence of a number of common analgesic substances. The concentrations would indicate a normal recommended dose.

The subject tested positive for immuno-suppressants of a type commonly prescribed for those with benign forms of discomfort from augmentation rejection related symptoms. The concentrations would indicate a normal recommended dose.

Extended testing for substances more widely to the capsuleer class confirm the prescence of neurotoxin of a type consistent with neural imaging systems.

Augmetic analysis:

Augmetic debris was present in the remains, and was removed under controlled conditions to mitigate risk of further degradation of the biomass. A number of apparently separate implant and hardwiring systems were present though none of them complete. Damage from cosmic radiation and extremes of temperature differential had obscured many identifying nano engravings and serial numbers.

The first sign of neurological augmentation presented in Sample 14. This sample possesses a silaceous macromolecule in the form of a microtubule 120 angstoms in length, factured in two sites. This microtubule runs laterally to a major neuron axial body, with five anchor points corresponding to nodes of Ranvier along the axial length. The tube is hollow, but contains a carbon residue within. It is inarticulate, suggesting that the structure was deposited in-situ.

Following signs of augmentation present in Samples 15, 18, 21, 27, 28, 29, and 35. These contain fragments of silaceous macromolecules. Sample 21 fragments include a proteinaceous sheath along one side of the fragment with marker proteins corresponding to natural fragments found along normal axon bodies.

Sample 28 holds unique evidence for neurological augmentation. Silaceous fragments here are articulated and associated with a neural body suspected to have origin in the hippocampus. This fragment is articulated at two joints and is not hollow (ref: plate XVII). Evidence for motive power is absent, but anchor points for motivators are present along the ventral edge of articulation, leading to the suggestion that the item is a fragment of a motivation unit for a larger device. Deposits along the broader edge of the artifact include elemental gold and iron in quantities larger than those expected within a normal brain.

Trace amounts of nanites of a type used to improve axon function in relation to capsule interface were present in the cortex tissue. This is not uncommon in longer term users of this technology, and resultant of diffusion of these nanites over time.

Generic medical grade nanites were also discovered. These showed signs of some months of natural degradation, and did not appear to have been active prior to the subject's death.

Conclusions:

The subject appears to have received treatment one would expect for benign augmentation rejection syndrome. No inflamation or scarring indicative of this was discovered in the sample; it is possible this affected a different area of the body.

The elevated levels of cortisol and epinephrine in the remains would appear to indicate that the subject experienced extreme stress in the moments before death.

This tissue has a great many characteristics in common with capsuleer neural tissues recovered from hard vacuum, and the pattern of tissue damage indicates the subject underwent at least an attempted neural burning at the time of death.

This neural burning appears to have been non-standard when judged by the extent of damage to the tissue.

Augmetic debris present in the remains bears partially legible nano-engravings that indicate at least three separate implanted systems were comprised of technologies known to be developed by the Sisters of Eve corporation.

DNA testing was certainly not standard in this case due to the near total cellular damage to the sample tissue. Of the sequences that were present, a very significant match rating was attained on their comparison to Zainou's records of Dr. Tukoss.

Signed

C.A. Tenebrae

Dr. C. A. Tenebrae, Examiner
IKAME Medical Staff

Signed

Scherezad

Dr. Scherezad, Consultant Neurologist
Lai Dai Research

Witnessed

M Priano

Ms. M. Priano,
IKAME CEO

Witnessed

Jekaterine

Mrs. J. Denorvan,
IKAME Facility Manager

Addendum:

Examiner's Notes

Dr. Scherezad, Note SZ6112 - audio, synthetic, voice-stabilized.

"Personal note. I find it very difficult to get my head around this persons' head. The tissue samples include typical six-layer columnar formation. Where normal neocortical structure indicates strong cross-referencing on layers 3 and 6, however, this sample has relatively strong cross-referencing throughout the network layers. I feel this may be indicative of why the macrostructure of the tissue is smooth, but will have to wait for a full genetic analysis to have any confidence in this idea. Whether or not it is related, I'm quite confident that this individuals' patterns of thought and general pattern recognition systems differ enormously from those of mainline humanity. I in fact see greater correlations to cephalopodal processing structures here, in places."

... ...

Dr Tenebrae, Note CT16448 - audio, translation filter applied.

"The non-standard biology of the sensory cortex would appear to be a result of seeded design of the gel matrix rather than surgery. Without a complete specimen I cannot possibly speculate to what end this has been done.

I do concur with Dr Scherezad's estimation - the effects of the modified tissues for the individual resuscitated in a clone of this type must have been immense. I can only feel that they marked considerable change in the individual post activation of this clone type.

The presence of scarring and indentations in this tissue indicates further augmentation of a type unknown. Evidence is present to suggest that the subject received treatment for at least some benign level of implant rejection. Experience tells me that this was very likely the result of untried techniques or technologies."