Report 339: Intercepted ‘field log’, satellite A2768

Date: 05/09/2066

Origin: Unknown

05/09/2066

Recently, satellite A2768, one of 20 in the deep-space exploration Beacon program, intercepted an artefact within the Trappist-1 solar system. Initial investigation has identified the artefact as a meticulously preserved notebook. Pages from the artefact were scanned and digitally uploaded, these have now been received from A2768.

Over the past decade, the covert development of an artificially intelligent supercomputer veri-TAS (Veritas Task Automation System) has taken place. This computational system has undergone extensive training to perform the sole task of separating fact from fiction - it has been employed to analyse the truthfulness of images on many occasions and has, until now, had an unparalleled 100% accuracy. With the unprecedented discovery of this extraterrestrial notebook, the decision has been made that now is the moment to disclose this technology to the world.

Throughout this report, veri-TAS has been employed to determine the authenticity of the notebook's contents[1]. However, in a previously unforeseen development, veri-TAS has refused to assess the truthfulness of the images within the notebook, stating that the content, as extraterrestrial data, is beyond the purview of its knowledge base. Instead, veri-TAS has provided scores assessing the scientific rigour of the notebook illustrations. Whether these drawings are scientific illustrations or art is paramount in determining the artefact's legitimacy and more significantly, whether the planet depicted is a genuine inhabited celestial body or, conversely, constitutes an elaborate ruse.
This report outlines the veri-TAS analysis of these images, with each image scored from 0, representing subjectivity, to 1, representing

[1] Despite the dominant position given to vision as a mode of encountering the world, the epistemic value is, today, concentrated in the adjacent but by no means interdependent cognitive functions: textual and mathematical interpretation. David Topper (1996, p. 218) describes the process of moving up the epistemic hierarchy of cognitive functions as "one of abstraction – at once a retreat from the sensual and an advance towards the intellectual." Of course, the visualisation of functions in calculus, distributions in statistics, and form in geometry and topology demonstrate the close interplay of vision and mathematical interpretation; however, the epistemic value of these operations lie in their correspondence to a base code/language.

science. Veri-TAS investigates the origins of the artefact, the identity of its author and the credibility of its content. Footnotes have been incorporated throughout the report to present the subjective perspectives of members within the department. These footnotes provide insights that may differ from the more objective views offered by veri-TAS.

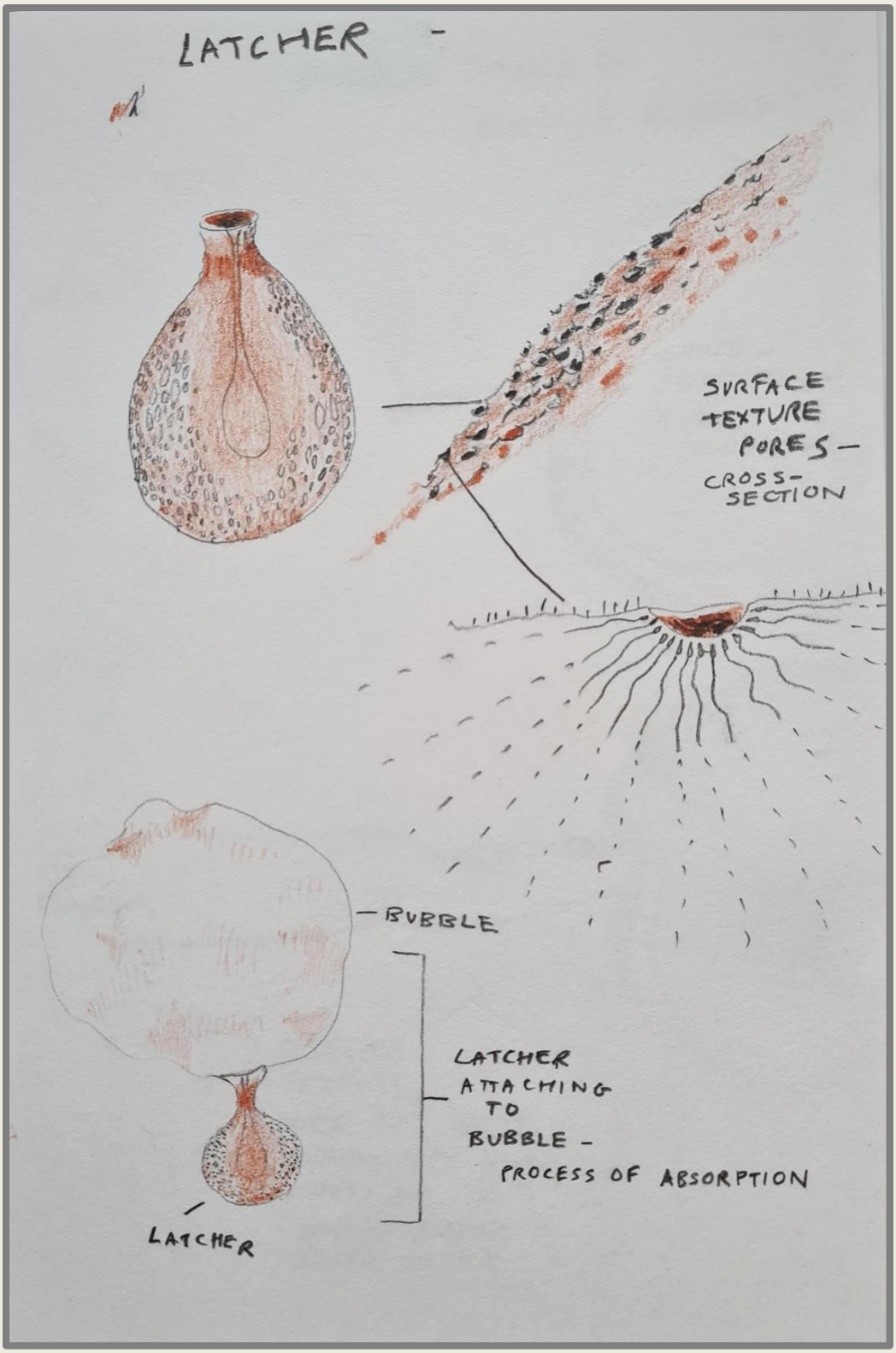


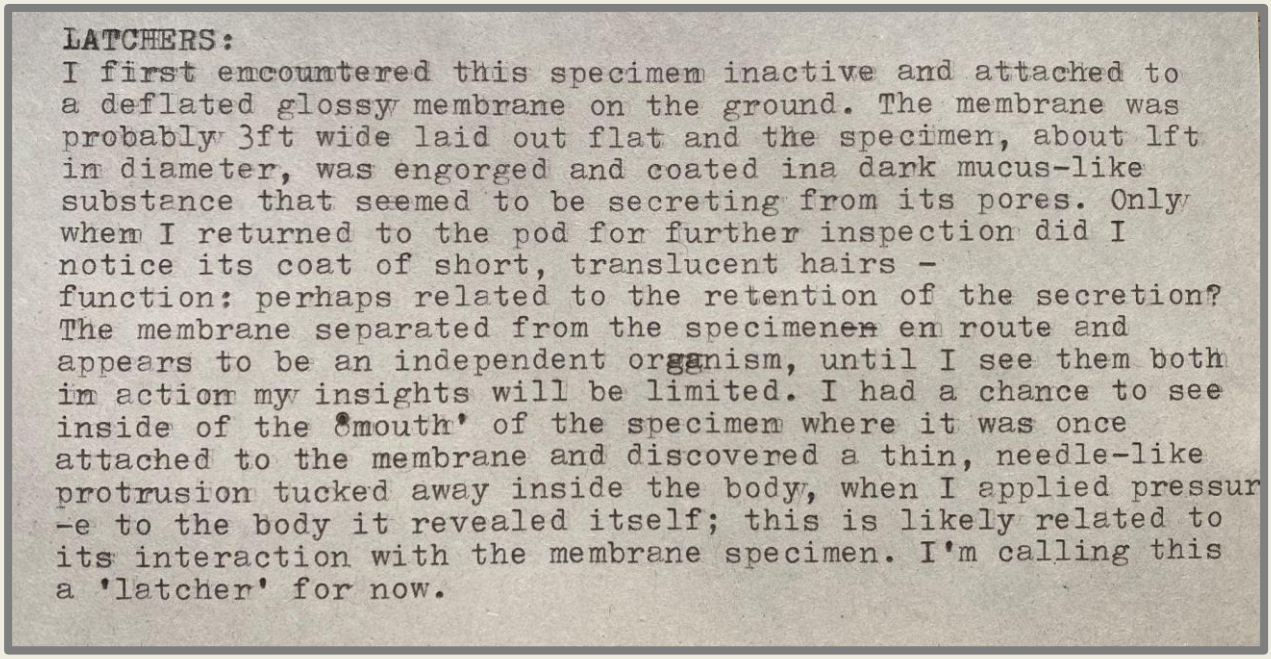
Figure 1: Scanned image of page 1 of logbook received

Veri-TAS score: 0.9996562

Analysis of Figure 1:

The first page of the artefact (Fig. 1) contains a depiction of a ‘latcher’, the first organism of an alien taxonomy which the author, henceforth known as the explorer, will introduce. From the high veri-TAS score, it can be understood that this is a scientifically rigorous illustration of a ‘latcher’ with an impetus placed on representational accuracy and precision. Although a ‘latcher’ does not have similar features to any earthly organisms, the familiar use of a human scientific illustration code assures that the organism contained is presented scrupulously.[2]

[2] Visualisations, by their status as representations, are subordinate to that which they visualise, and are nothing without it – at least not to science. At the level of the encounter with a visualisation, the intended interpretation usually depends on the individual’s familiarity with a base code/language, but this demand can often be satisfied with a basic key and axis labels as in the case of most graphs. At the level of formal structure, the dynamics of increase/decrease and progress/regress; and the organisation of clusters are ‘built-in’ to a visualisation in a way that does not apply to its relationship to the ‘worldly’ entities it visualises. This seems to suggest that there are in fact two levels of dependence. In the case of a graph showing a predator-prey model fitted to data taken from two species in a particular area, we have the dependence of the graph on the system of differential equations (SODE) for its form, and the dependence of the individual on the elements of the key for their own comprehension. In the first case, we see a deterministic relationship of dependence in which one element structurally determines the other. The graph is determined by the system of differential equations; the song is determined by the sheet music; a series of squares of increasing size is determined by the magnitudes of a series of numbers – one is ‘built-in’ to the other. In the second case, the relationship is heuristic – one element serves to help the individual understand the correspondence between the other and some phenomenon it is, in turn, intended to represent. An understanding of the correspondence between the graph and the real phenomenon of the interacting populations depends on the key, axis labels and perhaps title, disclosure of the intended signified. One does not need to know the SODE to gain this understanding because it is not the intended signified of the graph. In fact, the SODE may well be presented as a signifier of the very same signified. The deterministic code articulates the structure of the visualisation as object, the heuristic code articulates the structure of the visualisation as sign. Cognitive value lies in the heuristic code, epistemic value lies in the deterministic code. This framing of things may well be easy to swallow for the logical empiricist whose requirement for epistemic validation (proof) is that some linguistic or mathematical entity (e.g. SODE or proposition) generates a positive conclusion when run through a set of rules, in other words, a logic (Giere, 1996, p. 270).



LATCHERS:
I first encountered this specimen inactive and attached to a deflated glossy membrane on the ground. The membrane was probably 3ft wide laid out flat and the specimen, about 1ft in diameter, was engorged and coated ina dark mucus-like substance that seemed to be secreting from its pores. Only when I returned to the pod for further inspection did I notice its coat of short, translucent hairs -
function: perhaps related to the retention of the secretion?
The membrane separated from the specimen~~en~~ en route and appears to be an independent organism, until I see them both in action my insights will be limited. I had a chance to see inside of the 'mouth' of the specimen where it was once attached to the membrane and discovered a thin, needle-like protrusion tucked away inside the body, when I applied pressur-e to the body it revealed itself; this is likely related to its interaction with the membrane specimen. I'm calling this a 'latcher' for now.

Figure 2: Scanned image of page 2 of logbook received

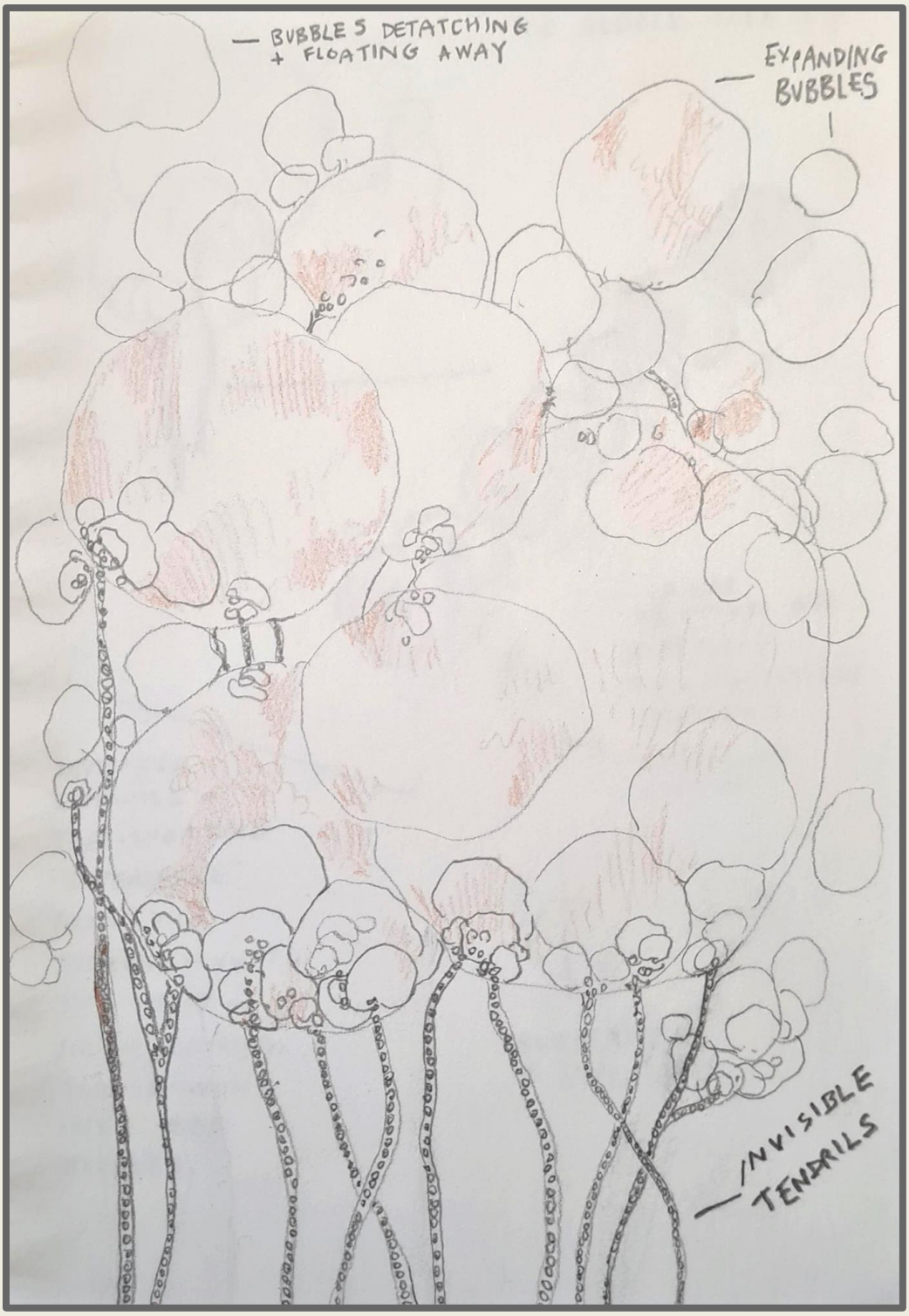


Figure 3: Scanned image of page 3 of logbook received

Veri-TAS score: 0.3966666

Analysis of Figure 3:

This depiction of '*Bubble Trees*' was determined by veri-TAS to not be scientifically rigorous (0.3967). Naturally, the Department EEL would not advise disagreeing with a definitively correct supercomputer, and in this case, the esteemed gullibility of our department was not challenged, our intuitions aligned with the veri-TAS score.

First, Figure 3 illustrates a multitude of the so-called '*Bubble Tree*', rather than a single specimen. This does not align with traditional practice where individual organisms are separated from their species, to be studied alone. Second, the '*Bubble Trees*' depicted are wholly imperfect, anti-spherical balloons attached to winding tendrils - the essence of scientific illustration is to capture the true form[3]. From this clear display of subjectivity, the Department EEL is more tentative in trusting the explorer and their findings.

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[3] When, however, the contents of the deterministic code are themselves representations of representations with no clear origins, as was the case with much taxonomic illustration, artists copying older artist's copies of copies of once (maybe) life-drawn specimens, their epistemic value is undermined and they take on the flaky, self-referential status of "simulacra" (Baudrillard, 1994). In geology, for example, there has developed a 'standardised visual language' which imposes a certain homogeneity over the imagery of the field - a conventionality. Topper (1996, p. 234) defends this trait of scientific illustration by noting that, "despite the invention of photography about a century-and-a-half ago - and its displacement of most earlier forms of graphic art - the artist still has a role to play in illustration, for the camera captures an individual specimen (the particular) whereas an artist can depict the archetype." A similar sentiment can be found in filmmaker Werner Herzog's discussion of the emotional world of opera. "The feelings are so abstracted; they cannot really be subordinated to everyday human nature any longer, because they have been concentrated and elevated to the most extreme degree and appear in their purest form; and despite all that we perceive them, in opera, as natural. Feelings in opera are, ultimately, like axioms in mathematics, which cannot be concentrated and cannot be explained any further" (Herzog, 2010, p. 8). Psychologists may try record and provoke certain emotional states, and, in a piecemeal fashion, develop a picture of their manifestations or relationships to various stimuli; it is the artists who try to get to their essence so that it can be magnified and comprehended as one unrealistic but nevertheless 'true' representation – what Herzog calls, "the ecstatic truth".

BUBBLE TREES:
This is a big day. During my survey of Zone 4, I noticed for the first time a crater, between 50-70ft deep and equally wide, enclosed by a ring of raised ice. From the pod it appears, like a volcano, as a hill or mountain. My intentions were primarily to take the high ground and scope out the landscape for any areas of interest, little did I know, I had already struck gold. Floating in the crater was a mass of bubbles of varied size, similar in appearance to the deflated membrane I found yesterday. A white/red effluvium emanated from the cluster and hung heavy around it, playfully curling in and out of the gaps between the bubbles. When I descended into the crater I realised that the bubbles were in fact anchored to the ground by long, thin and transparent tendrils that revealed themselves in the direct light of my head-torch. It's not clear how they grew out of, or into, the rock but I do know that they attach to the bubble by a thicker, less transparent section on its base - I have taken an inflated bubble and a strand of tendril back to the pod for further analysis. A final note: as I was leaving the crater I turned back without my head-torch and noticed that the ground beneath the cluster was dimly illuminated by a faint reddish glow. In the pod I turned off the lights to confirm that the bubbles are in fact bioluminescent. Unfortunately, I don't have the equipment for chemical analysis but have taken a sample and stored it away. More tomorrow.

Figure 4: Scanned image of page 4 of logbook received

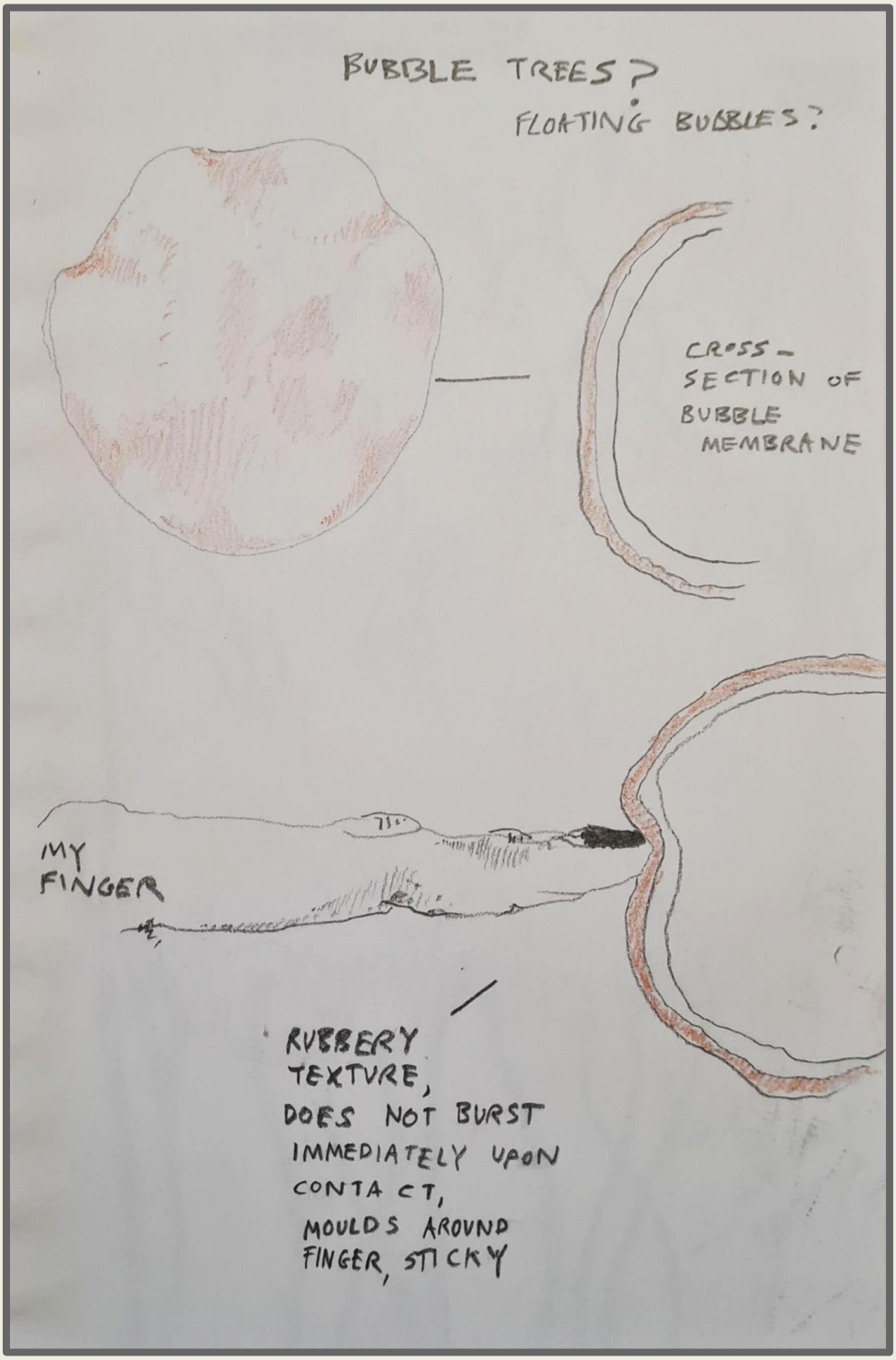

Figure 5: Scanned image of page 5 of logbook received

Veri-TAS score: 0.9823853

BUBBLE:
Analysis of the bubble has raised some interesting questions. It seems that the glossy finish of the deflated membrane is not carried through to its inflated form. Instead the skin feels rubbery and firm, balloon-like and less transparent though still not completely opaque. I could see inside just enough to confirm the presence of the same gas I saw hanging around the cluster. It seems that this contributes somewhat to their 'floatability'. At present I cannot confirm whether or not the gas is secreted from the area to which the tendrils connect, but it seems likely. In the process of cutting open the specimen for a cross-section, an unexpectedly large amount of gas shot out into the room and some out the door behind me into the living quarters. I closed the door as quickly as possible and turned on the extractor~~y~~ vent. As I write, a headache is building and I am sweating like a pig. Hopefully it is unrelated to the gas but I have taken a blood reading anyway and will have a better idea when the results come back tomorrow. I'm going to bed.

Figure 6: Scanned image of page 6 of logbook received

steam of ecnounter
solid feeling like god of man or plant
animal

other things b l e n d i n g in the stream
below us feelers of glo
skinny strands errupt chilly ring -wing
eyes
nose
mouth
of old life force

sub sub action on fantasy fuel eeeeeeeeeeeeffffffffrrrrrrrrmmmmmmm
tv
magic flash of dark wisdom
playground games
g r o w i n g
of out
mind
and into it the it it itchers into the crust cracks
cracks
cracks between flesh and dreamy f l o w i n g out and in out in
ecstatic
shiver
pulse
flexing wind of process
engulf us and them the
the dreaming fleshy force
s h i f t i n g ones know steam like blood
breath
needy precious feeling itchersss picking at gods
teat for fkecks of holy spirit
in the black of midnight sun rising into white
pleasure of death rattle end of needy feeling
itch of self itch of flesh birth of steamy dreamtime

shhhhhhhhhhhhhhhhhhhhhhhttttttttrrrraaaaaaaaaaaaammmmmmmmmmmmmmm
furie chathuin itest udertom geffen tguieec rer htevw
hiv vhirecw hwir fhrew ifhri fewr hiewf

hguichiv hguichiv hguichiv
rhkisadoudxoxe qehi
fghibotrhim u uf folu
rh eiwqe ci
chrie rfirr qri ehhhhhhhhhhhhhhhhh

h it whirfbgithmgh

fhd s

Figure 7: Scanned image of page 7 of logbook received

Analysis of Figure 7:

Here we have the ravings of our presumably intoxicated explorer. Not much sense could be made of it by our language processing model and so we are writing it off as illegible. Not only does it damage the reliability of the later notes and illustrations but those preceding it. The content is intentionally fictional[4] or unintentionally spurious. In either case, the mention of 'god' and 'holy spirit' from a supposed scientist is, to say the least, disturbing to us here at the EEL where we pride ourselves on our commitment to objectivity. We have sent a copy over to our colleagues in the departments of psychiatry and literary studies as per their request. Perhaps their lack of rigour will blind them to the futility of drawing truth out of such a document. Whatever logic might be applied to such senseless and manic propositions as are contained in this text is certainly too loose for consideration in the present analysis.

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[4] The sociobiology of E.O. Wilson contains many drawings of imagined scenes or "pseudo-phenomena" such as two dinosaurs fighting. James Robert Brown comments that "the theory - like any other - is in the business of explaining phenomena, not data." And it seems unreasonable to withhold the same function from its illustrations (Brown, 1996, pp. 264-5). In his defence of Wilson, Brown is emphasising the importance (disregarded by the logical empiricists) of the heuristic function over the deterministic function of visualisations – a stance that, while liberalising their use and potential value, blurs the distinction between art and science that maintains the latter's exclusive claim and commitment to objectivity. The problematic generated by this distinction is taken on by Guilherme Sanches de Oliveira (2018) in an extended argument against representationalism in scientific modelling (the stance adopted in the present analysis) where he claims that the "aboutness" of scientific models involves the "theoretical context" of the phenomenon, its "technological background" and the "intended users". From this holistic perspective, the two components of representationalism, 1. The ontological component: "models are representations; i.e., models stand in a representational relation to target phenomena," and 2. The epistemological component: "modelling is epistemically valuable because of its representational nature; i.e., the representational relation between model and target is what secures the epistemic worth of modelling," (2018, p. 5) at all points undermine themselves. If the representational relationship between the model and the target is "mind-independent" i.e. if it claims that there is an isomorphism or real similarity between the model and target independent of any individuals intention to represent A as B, then we should have to say that (due to the symmetrical character of an isomorphism or 'similarity') the target also represents the model. But, of course, we don't say this, because most of the time the relationship is asymmetrical; that is, only the model represents the target, the target usually doesn't represent anything, and a change in the target doesn't teach us anything about the model. This critical hit on the ontological component, de Oliviera claims, brings the epistemological component with it ("that we learn about Y because X represents it" (2018, p. 15)), rendering the mind-independent position untenable. If, alternatively, we take the "mind-dependent" position and claim that the representational relationship between model and target is determined by the intention of the scientist/investigator (an ontological claim) then the epistemological component is undermined (de Oliviera, 2018, p. 15). To determine the accuracy of the representation we are forced to look for criteria separate from use "that would itself be either mind-independent or mind-dependent." (2018, p. 16) Both shown to be problematic. De Oliviera's argument could no doubt be refuted, but it is brought in here to illuminate some of the problems arising out of the dominant framing of scientific modelling generally (of which scientific illustration is a branch).

Figure 8: Scanned image of page 8 of logbook received

Veri-TAS score: 0.59296703

BURROWERS/ENGULFERS/TUMBLERS:

I feel clear. This morning I woke up in the crater underneath the bubble trees. I don't remember how I got there, but I know that it had something to do with the gas released by the bubble in my pod last night because when I got back I found ~~my~~ previous entry and the results of my blood test came back with an error.

The crater was different this time. Full of life. The eco-system revealed itself in full form. A second floating creature attaches itself and burrows into the bubbles, absorbing the experience gas, and, in its swelling, pushes out spikes from pores in the skin which tear at the bubble membrane and allow it to escape once both it and the bubble are grounded. Along the floor of the crater I could now see tumbleweed-like playful balls creatures, barbed organisms tumbling towards grounded bubbles to pop and absorb their condensed gas, along with any trapped burrowers whose spikes failed to release them from the membrane, scavengers of the crater.

From what I observed, there is only one explicitly predatory creature in the system: the engulfer. These are larger than the rest of the creatures (about 4-5ft wide) and operate by capturing, or engulfing, entire bubbles (and usually a latcher or burrower inside), floating with them to the ground and digesting them completely. This digestion process is shockingly fast. All activity in the crater resolves around this mysterious gas, this substance that now runs through my body also. I wrote that it was 'experience gas'. I don't why or what that really even means, but it feels nonetheless true.

I have now seen that these trees tap into a stream of consciousness beneath the crust, that feeling, seeing reddish glow. My perspective on everything is changing in a way that I can't properly articulate. Why were the creatures absent on my first visit to the crater? Why is head full of information I can neither confirm nor deny?

Things have changed, this might be my last entry for a while, I need to think.

Figure 9: Scanned image of page 9 of logbook received

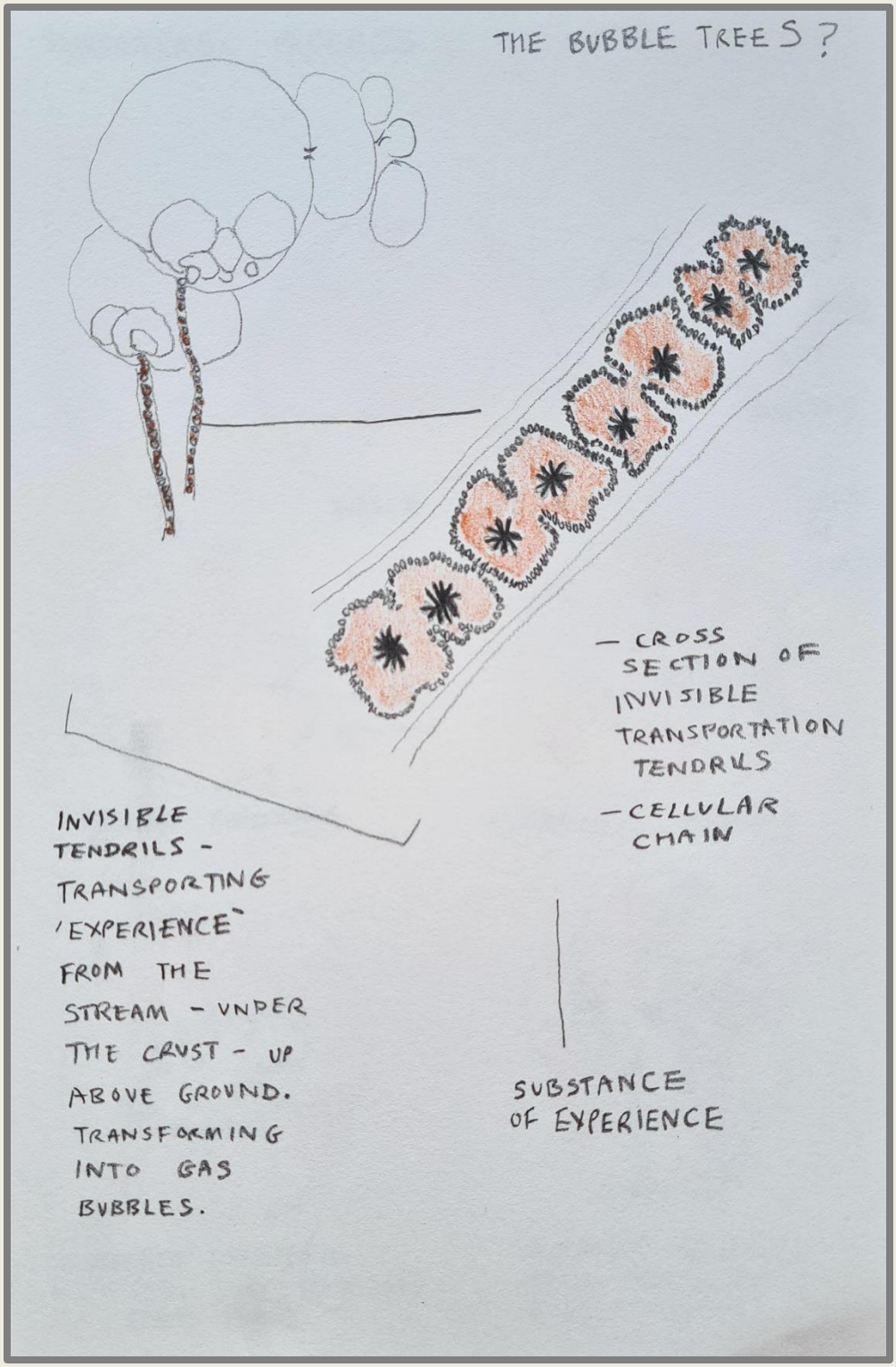


Figure 10: Scanned image of page 10 of logbook received

Veri-TAS score: 0.3115892

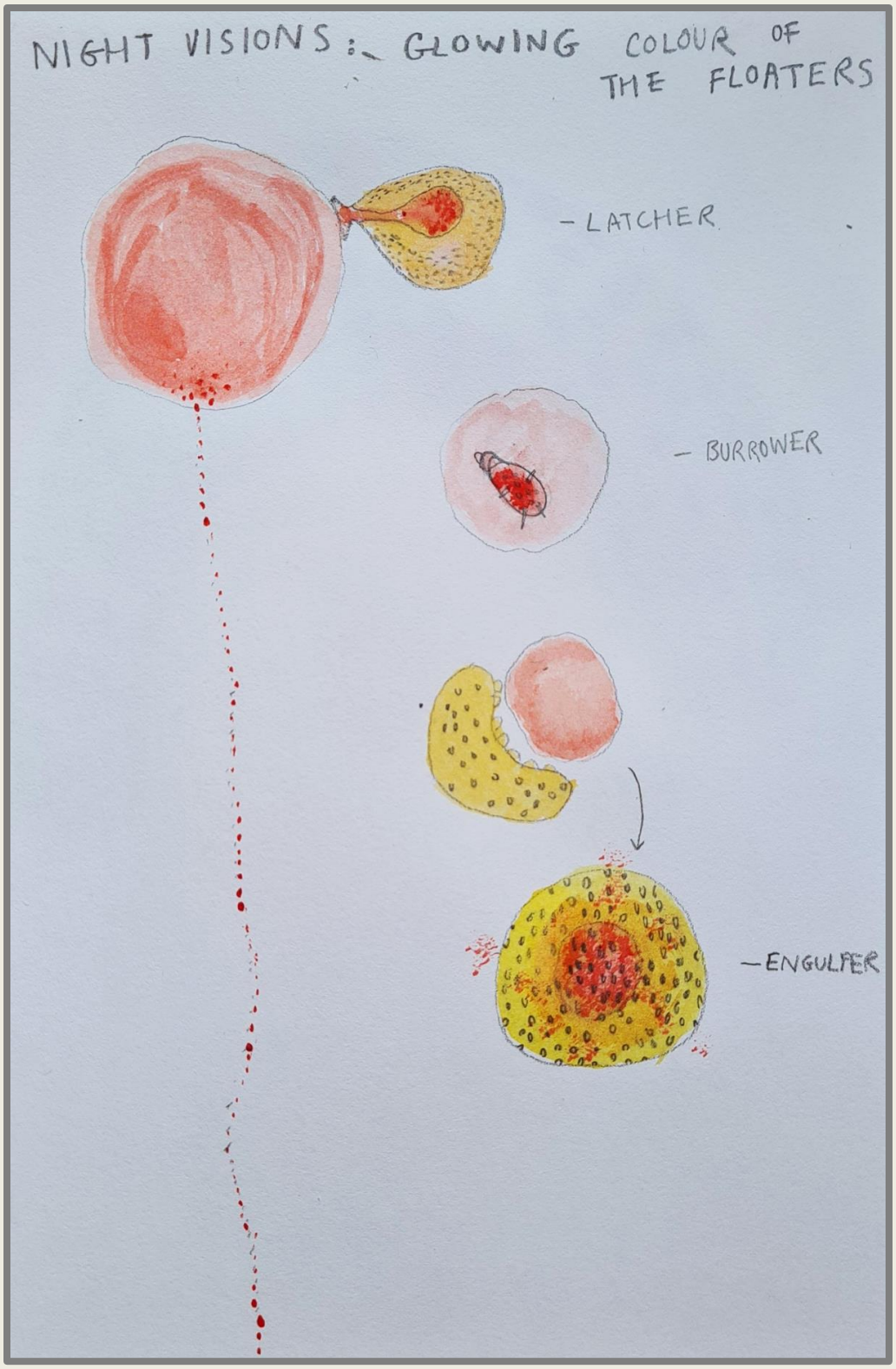


Figure 11: Scanned image of page 11 of logbook received

Veri-TAS score: 0.8752191

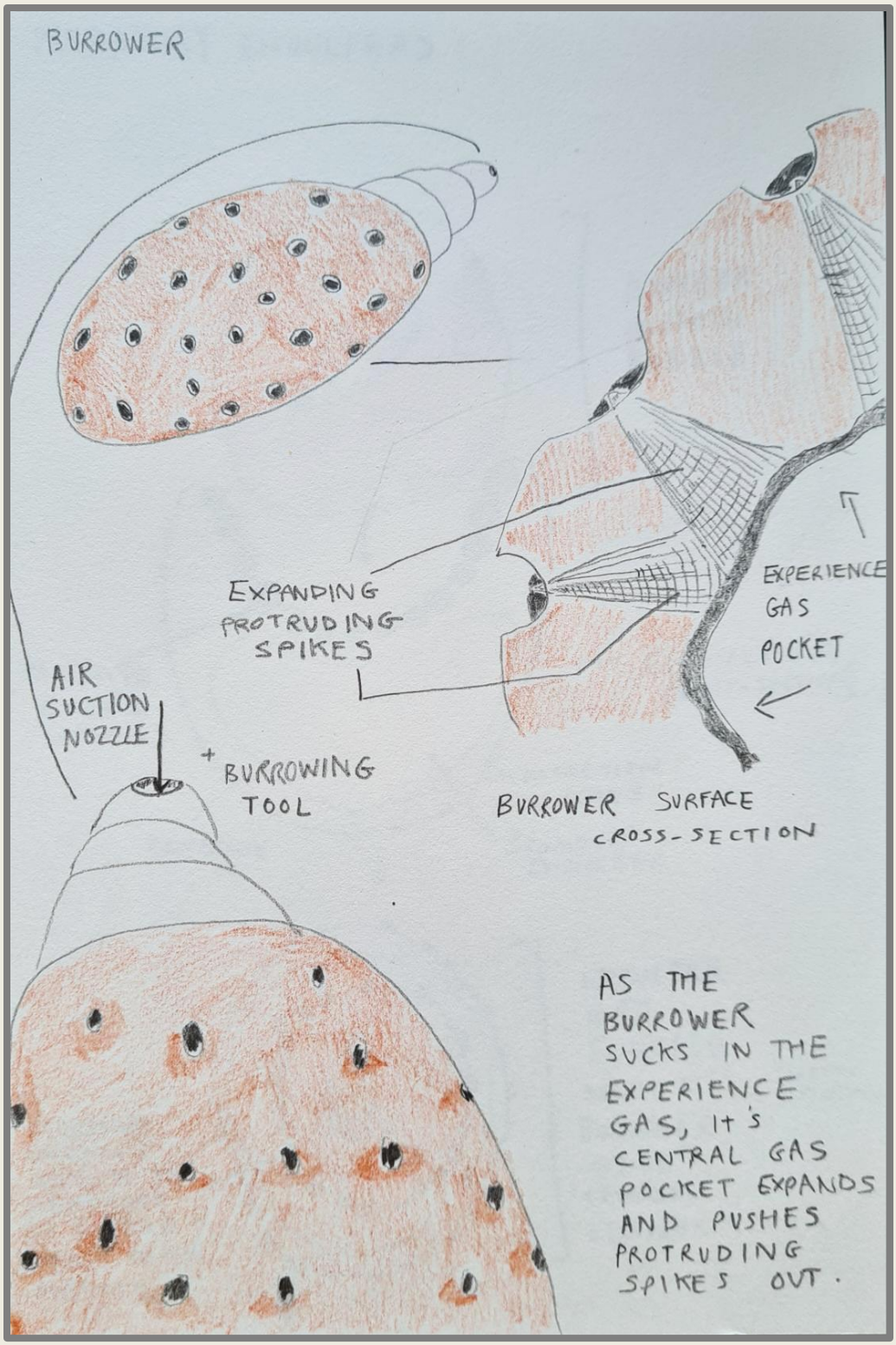


Figure 12: Scanned image of page 12 of logbook received

Veri-TAS score: 0.73630744

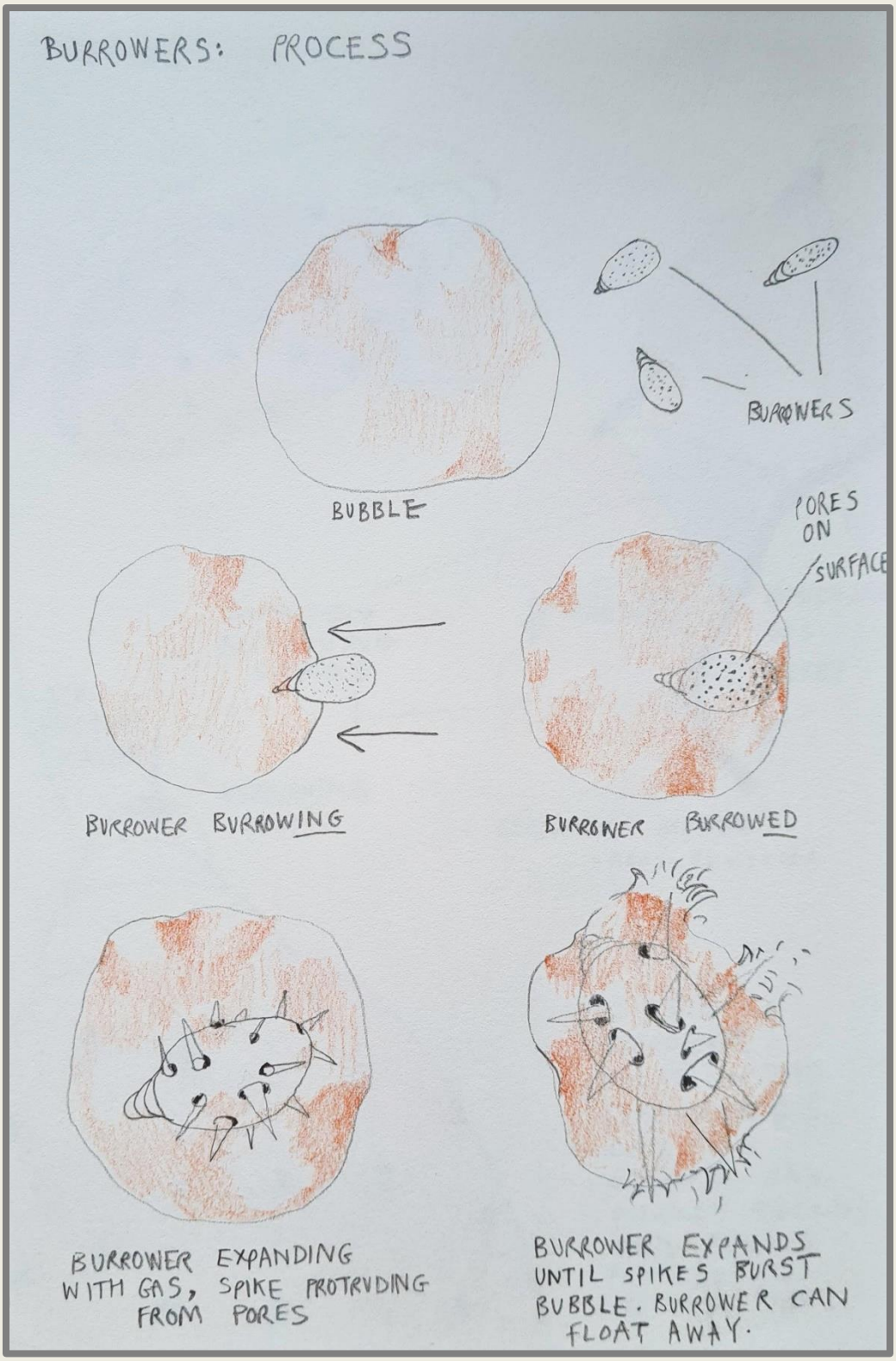


Figure 13: Scanned image of page 13 of logbook received

Veri-TAS score: 0.049567293

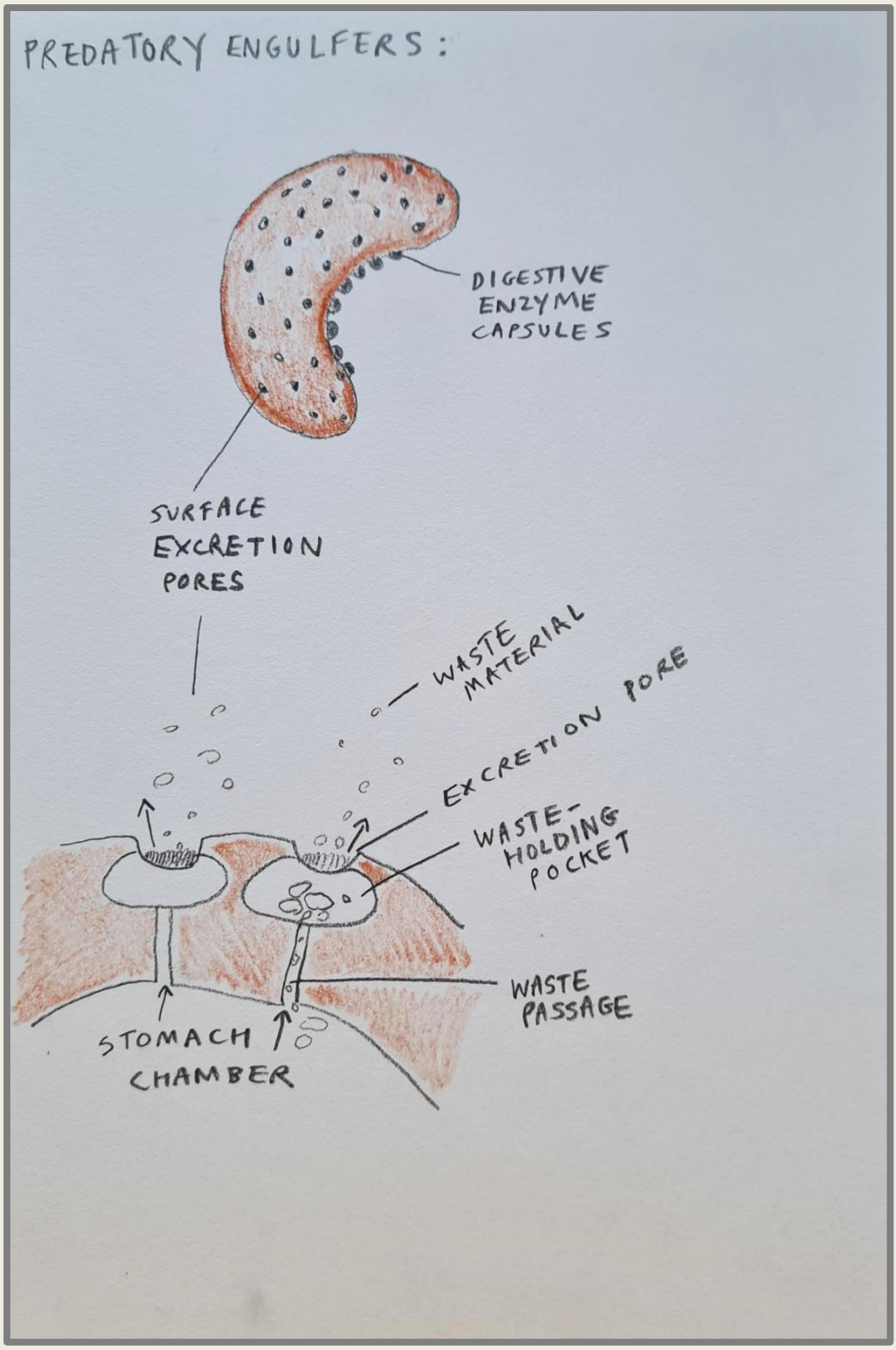


Figure 14: Scanned image of page 14 of logbook received

Veri-TAS score: 0.5062264

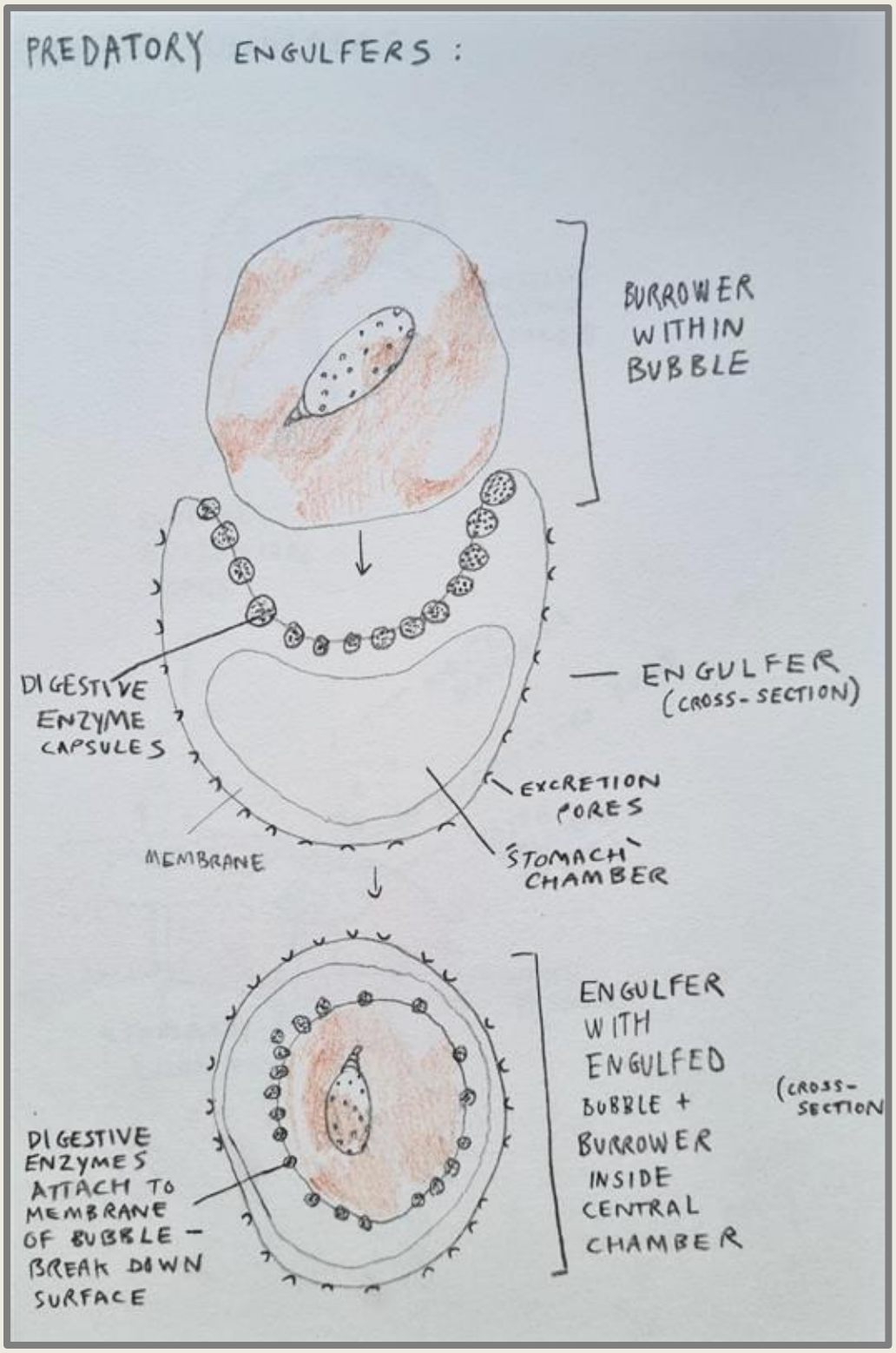


Figure 15: Scanned image of page 15 of logbook received

Veri-TAS score: 0.6361813

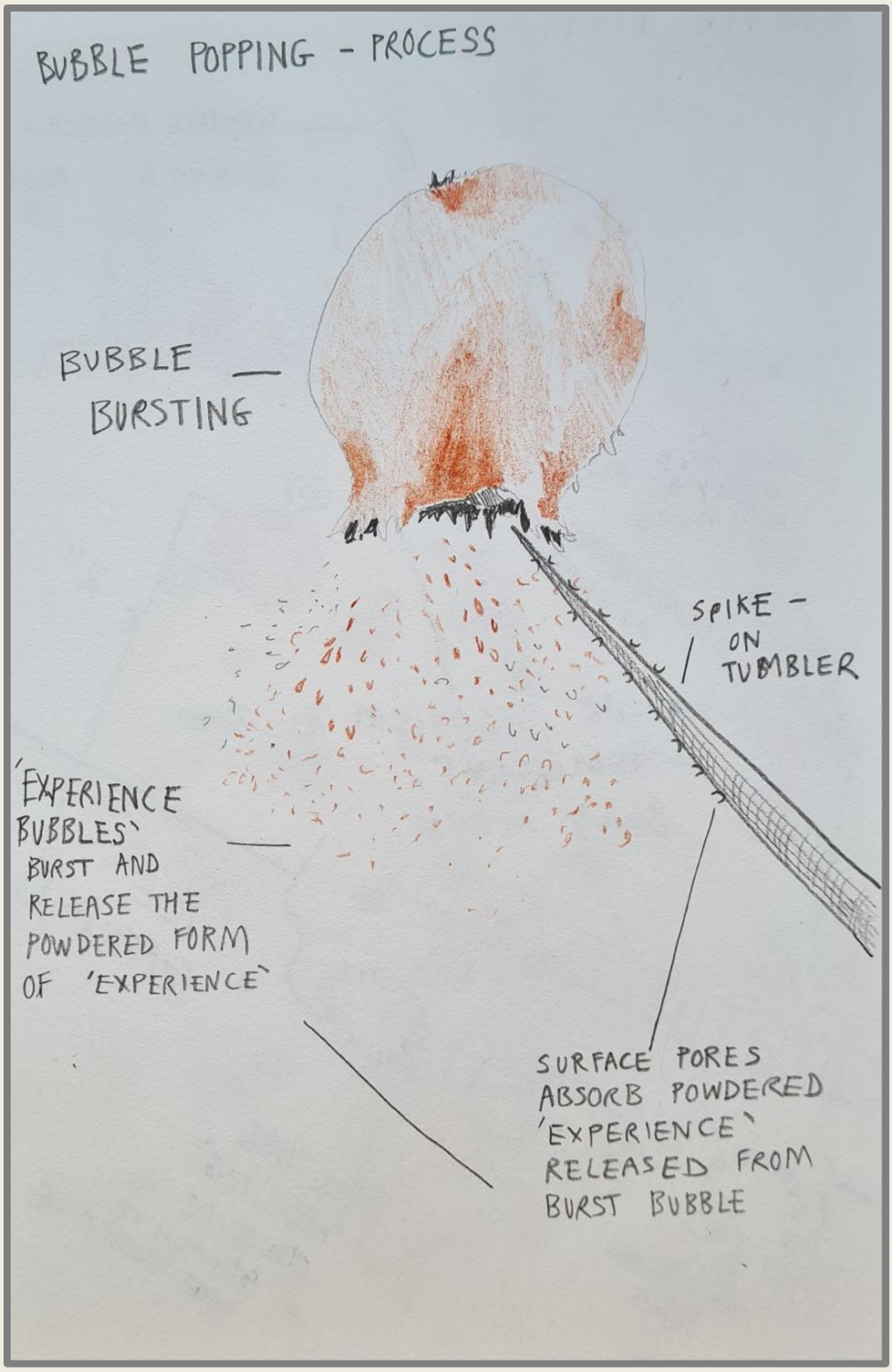


Figure 16: Scanned image of page 16 of logbook received

Veri-TAS score: 0.51445526

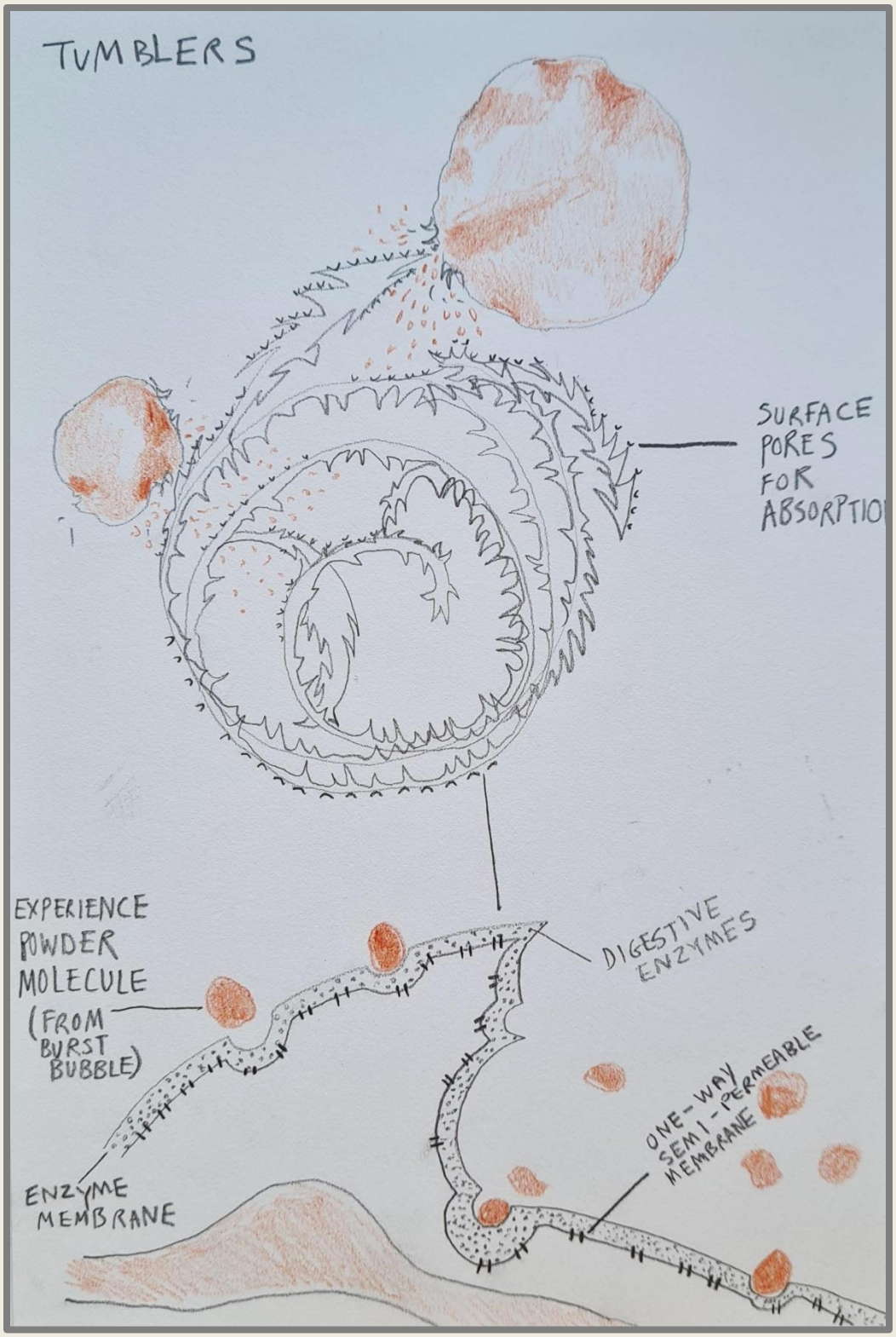


Figure 17: Scanned image of page 17 of logbook received

Veri-TAS score: 0.27533463

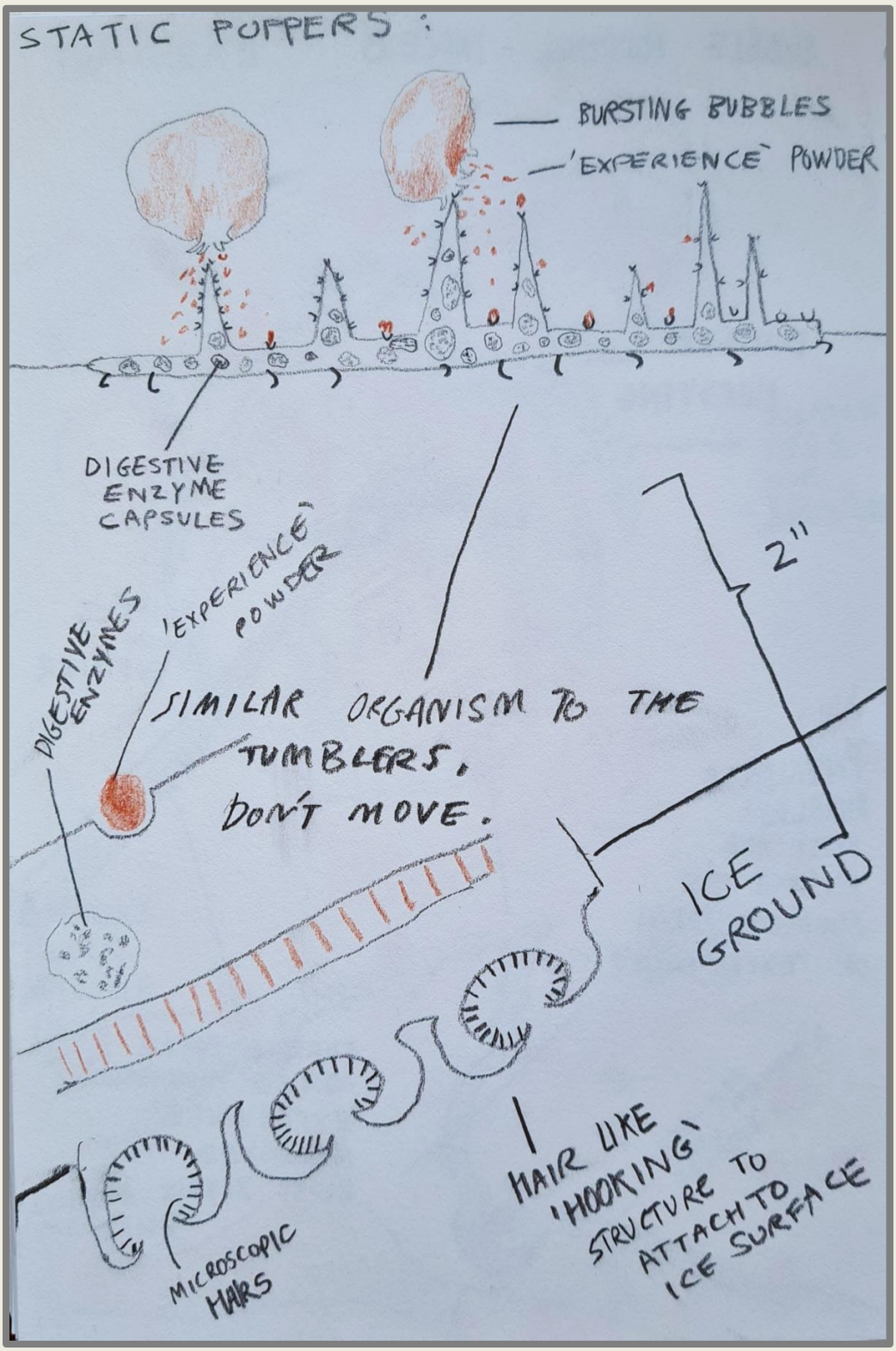
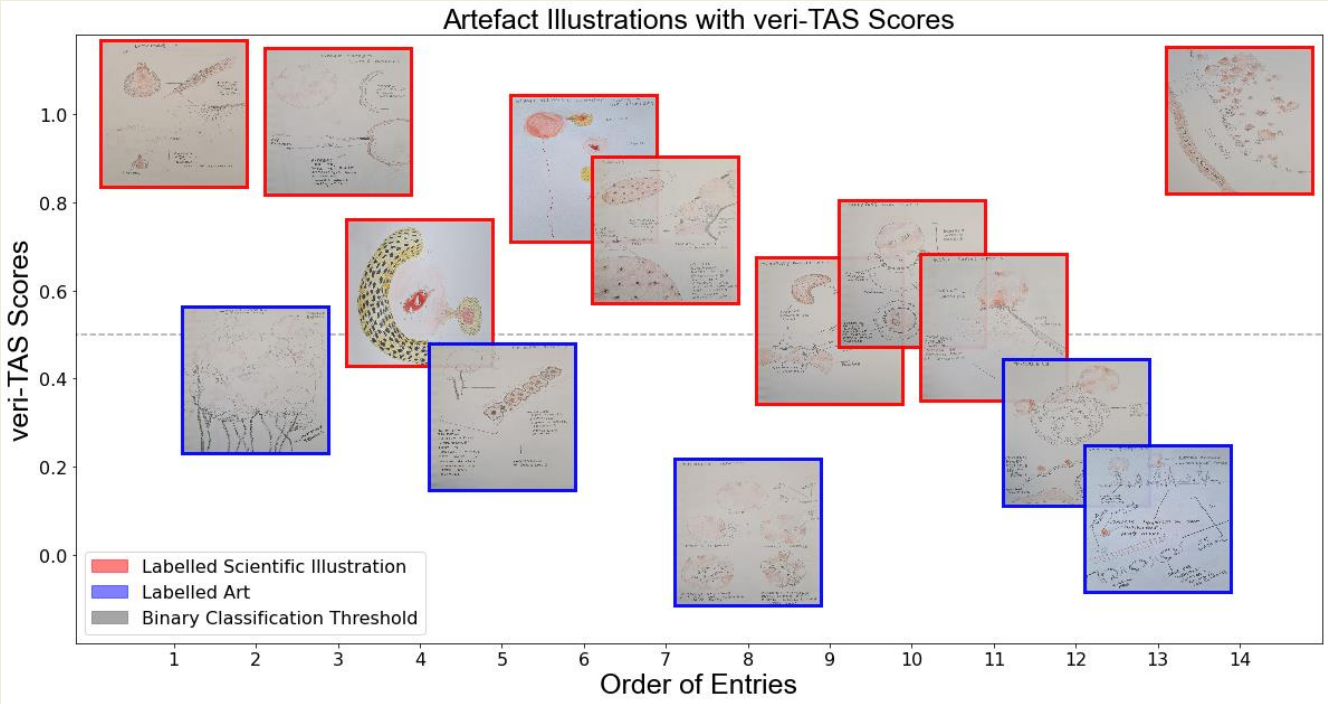


Figure 18: Scanned image of page 18 of logbook received

Veri-TAS score: 0.08065565

Figure 19: Scanned image of page 19 of logbook received
Veri-TAS score: 0.98369616

Visualisation of Veri-TAS scores for the Artefact



A linear regression analysis was performed on the veri-TAS scores of the artefact illustrations, aiming to explore any potential trends in the scientific rigour of the illustrations as the artefact progresses. This analysis found that for all of the images, there is a non-significant (P=0.286) downwards trend in scientific rigour over time.

Therefore, despite the ravings of our explorer between Illustrations 3 and 4, we cannot determine that their post-inebriated illustrations were significantly less scientifically rigorous than those drawn beforehand. Although this shocks us here at EEL, we have full faith in the findings of veri-TAS, and can only deduce that our explorer gained lucidity after their nonsensical ramblings, to continue in the pursuit of scientific objectivity.

However, if the final illustration (Fig. 19) is removed from our analysis, as it depicts the whole system rather than just its component parts as the other illustrations do; the results of the analysis change. With this modified sample, a significant (P=0.042)

downwards trend can be seen. Thus, with the support of veri-TAS scores, we can state that, for component-part illustrations, there is a decrease in scientific rigour over time - perhaps as a result of the explorer’s inebriation.

This is not to say that veri-TAS is incorrect in its high scoring of Figure. 19 (0.9837), rather we suggest that Figure. 19 is another type of scientific illustration: a scientific systems illustration, which cannot be fairly compared with the other artefact component-illustrations. Thus, from the high scientific rigour of Figure. 19, we can deduce that the explorer had a scientifically rigorous understanding of the system, this extraterrestrial planet, as a whole. As science is objective, and objectivity presents a true reality, we believe that this extraterrestrial planet does exist, we just have to find it.

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AI Declaration:

Chat GPT was used to identify the correct python commands when coding the neural network. Chat GPT was not used for the production of any of the written text in this work.

This work contains 2517 words