

Terminus Est

The Urth list — 24 messages, 12 voices, 02 Jul 2008

<https://urth.darkrealm.vip/thread/urth/5082>

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Stuart Hamm — 02 Jul 2008, 06:11

Can anyone please direct me to a link to what you feel is the best picture of what Terminus Est looks like?

Thanks

Stuart

OK I'm going to be in Buenos Aires and Nessus seems like a good place for a new tattoo...

skype: stuart.hamm

stuarthamm.net

Lane Haygood — 02 Jul 2008, 06:16 · in reply to Stuart Hamm

http://www.amazon.com/gp/reader/0312890176/ref=sib_dp_pt#reader-link

That's the cover of Shadow and Claw, with a pretty good picture. TE is actually a copy of a common medieval executioner's sword, like this one:

http://lh3.ggpht.com/_NbJ7tGRdKh0/SA5jUTfngHI/AAAAAAAAAhg/02p19YKx228/DSC01101.JPG

Except of course it has the mercury channel, which I ran by some swordsmith friends of mine who told me that it wouldn't be possible to actually make a mercury channel and fill it with mercury and have the sword retain enough strength. The spine of the sword is actually what gives it its strength.

Lane

On Jul 2, 2008, at 1:11 AM, Stuart Hamm wrote:

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Jeff Wilson — 02 Jul 2008, 08:59 · in reply to Lane Haygood

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I understand that pistol-size rayguns and interstellar-range spacecraft are also not actually possible. Who does that Wolfe guy think he is fooling?

Jeff Wilson - jwilson at io.com
< <http://www.io.com/~jwilson> >

brunians at brunians.org — 02 Jul 2008, 09:28 · in reply to Lane Haygood

It could be done with a brass tube.

It would be a tricky bit of work.

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John Smith — 02 Jul 2008, 12:26 · in reply to brunians at brunians.org

The mercury channel would weaken the spine of the sword no matter how it was made. Another problem: If the empty part of the channel is filled with air, the pressure of the air would impede the mercury from flowing freely when the sword descends. The empty area needs to be a vacuum. This would be hard to craft and would further weaken the sword.

Jack

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Gwern Branwen — 02 Jul 2008, 13:48 · in reply to Lane Haygood

On 2008.07.02 01:16:38 -0500, Lane Haygood <lhaygood at gmail.com> scribbled 4.5K characters:

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Lane

I've never entirely understood why the mercury channel would be difficult. Here's how I always envisioned it in my reading; we all know that I-beams are so strong for their weight in part because of the excavated material, and from what I can tell, there are any number of swords which use the I-beam shape (fullers, I think they're called).

So, what's stopping a sword smith from making an I-shaped sword, and then welding a flat layer lengthwise over one side's gap and filling the 'tube' up with some mercury just before the final weld?

(Or doing some even more clever method not apparent to a non-swordsmith like myself...)

gwern

Blacknet NIOG Cocaine 03 SAS MEU/SOCPAS AOL zip quiche NVD

Adam Thornton — 02 Jul 2008, 13:49 · in reply to John Smith

On Jul 2, 2008, at 7:26 AM, John Smith wrote:
This would be hard to
craft and would further weaken the sword.

Yeah, but if you can make pistol-sized ray guns, time-and-dimension- hopping-mirrors, and The Ship.....

Doesn't Wolfe *say* in one of the Appendices that Terminus Est is interstellar-level technology, not merely the product of a skilled terrestrial blacksmith?

Adam

Jeff Wilson — 02 Jul 2008, 14:05 · in reply to John Smith

John Smith wrote:
Another problem: If
the empty part of the channel is filled with air, the
pressure of the air would impede the mercury from
flowing freely when the sword descends. The empty
area needs to be a vacuum.

This is exactly how Toricelli made a vacuum in 1643, the tube being equal in length to TE.

Jeff Wilson - jwilson at io.com
< <http://www.io.com/~jwilson> >

brunians at brunians.org — 02 Jul 2008, 14:12 · in reply to John Smith

I still think it is doable.

You are right about the vacuum: you'd have to let the brass tube into the hilt and have a little nipple for pumping it out occasionally. It's getting a little complicated.

I have heard of a similar type of sword that had a sliding weight.

.

The mercury channel would weaken the spine of the sword no matter how it was made. Another problem: If the empty part of the channel is filled with air, the pressure of the air would impede the mercury from flowing freely when the sword descends. The empty area needs to be a vacuum. This would be hard to craft and would further weaken the sword.

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On Jul 2, 2008, at 1:11 AM, Stuart Hamm wrote:

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Gary — 02 Jul 2008, 14:57 · in reply to Lane Haygood

Lane Haygood wrote:

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Except of course it has the mercury channel, which I ran by some swordsmith friends of mine who told me that it wouldn't be possible to actually make a mercury channel and fill it with mercury and have the sword retain enough strength. The spine of the sword is actually what gives it its strength.

One of Clarke's laws of prediction should apply to swordsmiths as well as scientists, eh? "When a distinguished but elderly scientist states that something is possible, he is almost certainly

right. When he states that something is impossible, he is very probably wrong."

Unquestionably it may be weaker than a solid-core sword, but this doesn't mean it can't be engineered to be sufficiently strong - as others have pointed out we do for bridge girders. This is especially true if it's built around a mercury-and-vacuum-filled tube of unobtainium - I'm sure it's true that it can't be done to give the wonderful combination of properties seen in Terminus Est using current techniques & materials. And I'm very willing to assume they can make a "perfect" seal around a sufficient vacuum using some arcane machine.

Gary.

Jeff Wilson — 02 Jul 2008, 22:00 · in reply to Gary

Gary wrote:

And I'm very willing to assume they can make a
"perfect" seal around a sufficient vacuum using some arcane machine.

Like the mysterious alien artifact used to make mercury thermometers?

Jeff Wilson - jwilson at io.com
< <http://www.io.com/~jwilson> >

Gwern Branwen — 02 Jul 2008, 22:17 · in reply to Jeff Wilson

On 2008.07.02 17:00:41 -0500, Jeff Wilson <jwilson at io.com> scribbled 0.2K characters:

Gary wrote:

And I'm very willing to assume they can make a "perfect" seal around a
sufficient vacuum using some arcane machine.

Honestly, I think everyone is overcomplicating Terminus Est.
Everything about its construction is explicable through simple mechanisms.
It has a channel running down the center but is still strong? Simple, it has an I-beam shape and one void is covered up to make a channel.
It requires an exotic method of forging which creates a vacuum in it to let the mercury slosh around? Well, why do we need a vacuum at all, when we could just have air in it like normal and avoid displacement problems by making our channel a circular tube.
(This suggestion leads to a nice design where we have two channels, one on either side of the I-beam, and they are linked by a hole at the top and bottom; even better, a double-channel design would hide the I-beam shape and make it basically the flat rectangular prism shape we expect of a sword of justice.)

gwern
Hutsul Fox Abbas COSMOS Macintosh Ansar supercomputer Stego HAARP LABLINK

Stuart Hamm — 02 Jul 2008, 23:16 · follows Gwern Branwen

Thanks for all the discussion...and to think all I was looking for was a decent picture..

Just to clarify...do I have the tattoo artist put in the mercury filled channel or not???????????????

That might hurt

hehehe

John Smith — 02 Jul 2008, 23:22 · follows Stuart Hamm

Gwern has a clever suggestion about the mercury channel in Terminus Est:

"Well, why do we need a vacuum at all, when we could just have air in it like normal and avoid displacement problems by making our channel a circular tube."

This is a good idea, but I don't think it would work. When you raise the sword, the mercury would pool at the bottom in both channels. Then on the downstroke, the mercury would flow down both channels, resulting in the same air compression problem. We might want the mercury to flow down one channel and the air to flow up the other, but mercury will simply follow the laws of physics.

The text also indicates a single channel:
"There is a channel in the spine of her blade, and in it runs a river of hydragyrum" (Shadow, XIV).

Best wishes,

Jack

Best wishes,

Jack

brunians at brunians.org — 02 Jul 2008, 23:39 · in reply to John Smith

Put a one way valve on one side.....

.

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Dave Lebling — 03 Jul 2008, 00:19 · in reply to brunians at brunians.org

I'm trying to remember if there is any evidence that Terminus Est is actually particularly strong. Severian mostly uses it to cut heads off, not duel Excalibur and King Arthur, after all. In the one big SF fight he gets in with it (i.e, with Baldanders), the sword is destroyed. But perhaps my memory fails me.

In any case, one of the continuing tropes of BotNS is that something that appears medieval and mundane ("ships," "statues") are actually examples of advanced technology ("starships," "robots").

-- Dave Lebling, aka vizcacha

Tim Walters — 03 Jul 2008, 00:37 · in reply to brunians at brunians.org

When you raise the sword, the mercury would pool at the bottom in both channels. Then on the downstroke, the mercury would flow down both channels, resulting in the same air compression problem.

I'm no physicist, but wouldn't this happen only if the mercury were in perfect equilibrium on both sides? Otherwise the downward pressure on the side with more mercury would push the air around, and the rest of the mercury up, I think.

Tim Walters | <http://doubtfulpalace.com>

Kerry Benton — 03 Jul 2008, 00:38 · in reply to brunians at brunians.org

not sure that'd do it.

if you put a valve at tip and tang, facing the same direction, they're disconnected, effectively... neither air nor mercury can flow. if you only use one valve, then at some point the mercury level equalizes, and you're back to square one.

I still think a vacuum is the way to go, honestly. I'm not certain it could be done with technology present now. Not to even deal with the issue of maintaining a decent vacuum -- which is hard... damn near everything is porous to some degree, and a perfect seal is not happening. -- I think you might compromise the function of the blade, having to make it extra thick at the center. I don't know... how thick can a blade be at the center and still cut through a neck? Probably pretty thick, given how wide the blade is as well... this isn't a katana, after all.

Anyhow, i see nothing fundamentally impossible about it...

-k

On Wed, Jul 2, 2008 at 7:39 PM, <brunians at brunians.org> wrote:
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Gary — 03 Jul 2008, 04:18 · in reply to Gwern Branwen

Jeff Wilson wrote:

Like the mysterious alien artifact used to make mercury thermometers?

I like the Area 51 thermometer on my deck... I assume the supposed "bluebird" decoration is actually the depiction of an alien overlord.

Gwern Branwen wrote:

It has a channel running down the center but is still strong? Simple, it has an I-beam shape and one void is covered up to make a channel.

I really think the channel needs to be along the centre-of-balance - the centre, assuming a symmetrical sword. Otherwise the channel would make it much harder to wield, not easier. So instead of an I-beam, use a tube... or a square rod if you prefer, with the sides being your "I-beam" equivalent, and the channel within.

As others have said, although the circular channel (to skip the vacuum) seems appealing, it can't work as well as a vacuum. Unless the mercury is all on one side (one channel if you will), some of the mercury will be working against the rest... it'll never be perfectly balanced, so the mercury will certainly be displaced, but not nearly as efficiently as with a single channel and a vacuum. But it may work well enough to do the job.

As Transentient says, Severian may be deceiving us, but I think the way he describe's the sword action requires there to be more to the blade than just his training. He clearly feels this blade is unusual, and though the mechanism may not really be a "hydragryum" channel, but something is giving an effect akin to this.

Clearly it's not _needed_ in a head-lopper, but it's a cool little feature, serving no other purpose than to make the sword more interesting to the reader I think. As one who's never lifted a heavy sword, but lifted many other long, heavy things, I can see how it's easier to raise without wobbling when the weight is near one's body, and how it has greater angular momentum on the downstroke with weight redistributed to the tip. It would take practice to get used to, and gain advantage from, the weight shift.

Dan'l Danehy-Oakes — 03 Jul 2008, 16:58 · in reply to Gary

On Wed, Jul 2, 2008 at 9:18 PM, Gary <stuff at oreb.net> wrote:
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There is some cause to believe that the sword is not symmetrical: it has recognizeable "male" and "female" sides.

Dan'l Danehy-Oakes, writer, trainer, bon vivant

<http://www.livejournal.com/users/sturgeonslawyer>
<http://www.danehyoakes.com>

I once absend-mindedly ordered Three Mile Island dressing in a restaurant and, with great presence of mind, they brought Thousand Island Dressing and a bottle of chili sauce. -- T. Pratchett

Adam Thornton — 03 Jul 2008, 17:13 · in reply to Dan'l Danehy-Oakes

On Jul 3, 2008, at 11:58 AM, Dan'l Danehy-Oakes wrote:
On Wed, Jul 2, 2008 at 9:18 PM, Gary <stuff at oreb.net> wrote:

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I always assumed these were actual heads (well, actual worked-metal heads) on the quillion....but I don't know if there is textual justification for this.

Adam

John Smith — 03 Jul 2008, 17:22 · in reply to Dan'l Danehy-Oakes

Doesn't the "man-edge" and "women-edge" distinction just tell the executioner which side of the blade to use? And don't you tell the edges apart by the heads (which I took to be male and female) on the sword's guard?

"Man-edge and woman-edge could part a hair to within a span of the guard, which was of thick silver with a carven head at either end." (Shadow, XIV)

The blade can still be symmetrical, even if each edge has a separate use.

Jack

--- Dan'l Danehy-Oakes <danldo at gmail.com> wrote:
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Pratchett

brunians at brunians.org — 04 Jul 2008, 03:08 · in reply to Dan'l Danehy-Oakes

I think the asymmetry is limited to the gaurd.

.

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Gwern Branwen — 12 Jul 2008, 04:19 · in reply to Gary

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...

Well, it would be balanced - the 'groove' runs up the middle of the blade, which gets you symmetry along one direction, and an I-beam shape has a groove going up both sides, which gets you symmetry along the other dimension, if you follow me.

gwern

Undercover burhop World 757 William BECCA Psyops veggie 3M Treasury