

# Getting Started - Initial Thoughts on 3D Printing

**Post by “Joshua” of March 31, 2020 at 9:25 AM**

Welcome to Eugenios!

I'm still moving and shaking here in the Florida Panhandle. I recently bought a Dremel rotary tool—I'd like to play around with lost wax carving if I get the time. I really want to cast an Epicurean ring! I also downloaded Blender the other day. I tried a bit of 3d modeling, but that's all a bit over my head. Doesn't hurt to have a "cottage hobby" in a pandemic.

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**Post by “Cassius” of March 31, 2020 at 9:28 AM**

Please please please keep us posted on that Joshua. I would love to do that myself but I just can't find the time. We really need to develop 3d models of some of the major artifacts, the most doable of which appear to be the Epicurus bust and the leaping pig statue, because we have decent copies floating around which we can photograph from all angles.

The ones I did years ago are hopelessly primitive, and it would be a real service to the cause if we could make good new "meshes" freely available.

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**Post by “Godfrey” of March 31, 2020 at 3:13 PM**

Regarding the piglet, I took photos of three sides of it at the Getty Herculaneum exhibit last year if they're of use. Not the greatest photos, but I shot the front and both sides. Forgot the rear end for some reason.

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**Post by “Charles” of March 31, 2020 at 3:43 PM**

[Cassius](#) I have an archive of some 3d printed material. I'll post the links here since the attachment option has such a small cap.

<https://sketchfab.com/3d-models/epic...e24091256d3af57> (Neck and head of Epicurus - best model by far)

<https://www.myminifactory.com/object/3d-print-epicurus-25611> (Bust of Metrodorus despite title saying its Epicurus)

<https://www.myminifactory.com/object/3d-prin...-epicurus-34291> (Head of Epicurus - with busted nose)

<https://www.turbosquid.com/3d-models/free...d-model/1006704> (Double Herm of Epicurus & Metrodorus)

<https://www.myminifactory.com/object/3d-prin...-london-uk-6093> (Another head of Epicurus)

<https://cults3d.com/en/3d-model/ar...re-paris-france> (Bust of Metrodorus)

<http://www.digitalsculpture.org/archive/epicur...reconstructions> (A blog detailing the process of reconstructing statues of Epicurus digitally)

<https://www.shapeways.com/product/R2YGLS...dant-1-5-inches> (I can't find the model but this is worth mention, a pendant with the "stocky" but recognizable head of Epicurus with the quote on the opposite side: "Sic fac omnia tamquam spectet Epicurus", or 'Do all things as if Epicurus were watching!')

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## **Post by “Cassius” of March 31, 2020 at 7:47 PM**

Thanks Godfrey and Charles! Godfrey I think in order to create a new mesh we'll probably need lots of photos from all angles, but I did not know that there was a reproduction at the Getty so that is valuable info.

And Charles wow I had not seen all those links!

It looks like this one might be the best: <https://www.myminifactory.com/object/3d-prin...-london-uk-6093>

But this one SHOULD have been the best given the starting point:  
<https://www.myminifactory.com/object/3d-print-epicurus-25611>

It looks like we have more work to do to get a recommended mesh,

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### **Post by “Godfrey” of March 31, 2020 at 8:48 PM**

The piglet at the Getty was part of an exhibition which has closed and isn't there any more. I believe it was lent from the Museo Archeologico Nazionale, Naples.

Here's a link to the exhibit: [http://www.getty.edu/art/exhibitions/villa\\_papiri/index.html](http://www.getty.edu/art/exhibitions/villa_papiri/index.html)

They also had a little head of Epicurus, from the same museum in Naples. There's a great photo of it in the middle of this page (2D of course...):  
[http://www.getty.edu/art/exhibitions/villa\\_papiri/inner.html](http://www.getty.edu/art/exhibitions/villa_papiri/inner.html)

The best bet might be if someone can get to the Naples museum with a handheld scanner. They might not allow that in the best of times, let alone in our current pestilent state 🙄

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### **Post by “Cassius” of March 31, 2020 at 10:40 PM**

Godfrey some years ago I remember seeing a 3d version of the leaping pig online, from which this photo was made, but I can no longer find it online anywhere.



I know that there are replicas out there, some better than others, which ought to be doable. I remember seeing one once on ebay but i missed getting it.

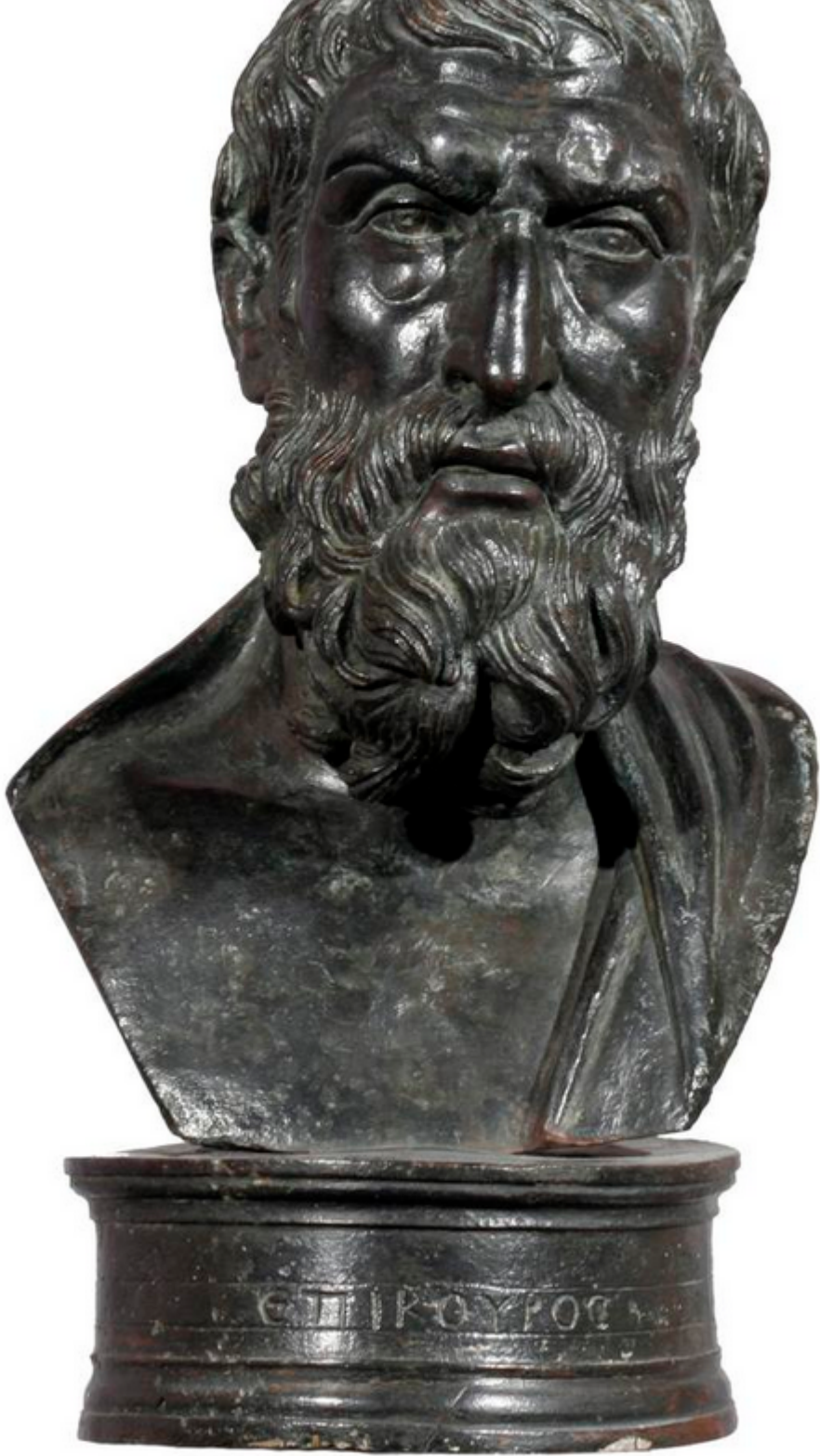
I have one myself, but unfortunately it does not include the correct base. However if push came to shove it is pretty good of the pig, so I have one myself that would make a start.

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**Post by “Cassius” of March 31, 2020 at 10:45 PM**

Ah I see the getty photos now.

This is one of my FAVORITE views of Epicurus, good intense look in eye but still a friendly look i think; it has a nice base, name inscription - the full 9 yards! I think it is the one that the line drawing that I frequently use in graphics is based on. THIS is the one I would love to see 3d duplicated as much as any of them:



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**Post by “Cassius” of March 31, 2020 at 10:57 PM**

Here is my post about my efforts seven long years ago! The results were not very good but seemed better than nothing at the time - the technology is far advanced since then!

I see that I still have a copy of the 20MB mesh file if anyone would like it - just email me and I will post it to a new link for download, but I don't recommend it -- we need a new one with new technology

<https://newepicurean.com/three-dimensio...-now-available/>



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**Post by “Godfrey” of April 1, 2020 at 1:04 AM**

Cassius your efforts look quite good, a bit more detail would finish it off nicely. It seems like a pass or two in Z-brush or Blender is all it would take. Unfortunately I'm a NURBS guy; I'm pretty helpless when it comes to meshes.

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**Post by “Cassius” of April 1, 2020 at 5:38 AM**

Depending on the size and the material used, the result from the mesh I produced back then was decently acceptable. But the technology of the camera resolution I used, and the free adobe (I think) software to render the mesh, I am sure is vastly better now. I think I know at

<https://www.epicureanfriends.com/thread/1507-getting-started-initial-thoughts-on-3d-printing/>

least one person who produced another mesh so I will see what I can find, but the best thing to do would be to start comparing notes on the current best way to do this.

I have a friend who produced this version a few years ago. I need to ask him if he used his own mesh or the one I did



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**Post by “Cassius” of April 1, 2020 at 5:43 AM**

Also of course there is the image i feature on the home page. This one is either not my mesh, or was modified to remove the base:



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**Post by “Cassius” of April 1, 2020 at 6:02 AM**

[Here is a link](#) where the mesh I produced can be downloaded. Caveat is that I have not looked at this in six or seven years so I am no longer sure it is usable - if any tries to open it and gets any benefit out of it please post your results so that I will know whether to remove the link or leave it up.

Hmmm -- the file in the first link is to an .obj file. I no longer recall what the file extensions mean.

[Here is a link to an "stl" file.](#)

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### **Post by “Don” of April 1, 2020 at 7:29 AM**

I know next to nothing about 3D printing but am definitely curious. We have several printers in our library's Maker Space. I know what I'll be experimenting with now after we're back in-person. Thanks everyone for all this info and these files!

My only offer a the [link to the Wikipedia article on STL file format](#) (with See Also links to the other 3d formats)

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### **Post by “Cassius” of April 1, 2020 at 8:38 AM**

Back in 2013 or so this is the website I used:  
<https://web.archive.org/web/2012100104...3dapp.com/Catch>

It's Autodesk (not Adobe as I said earlier) and you took a series of pictures from all angles, uploaded them, and it automatically generated the mesh.

The website is no longer there (at least in the old form) and I am not sure what technology has replaced it. I have access to a decent 6 inch bust of Epicurus that I could re-photograph if needed, but that may not be the best way.

As far as I am concerned most ideal would be to find a way to get scans of [this one](#) because as I understand it that is just the way it came out of the ground in Herculaneum, so there's no possibility that we are working with the interpretations of a modern reproduction (and that's what I think that mine is - a modern reproduction.

I feel sure that Elli and some of our other friends in Greece, including maybe @Michele in Italy, probably have access to better originals from which we could work.

Updated software info here:

<https://www.autodesk.com/solutions/123d-apps>

<https://3dscanexpert.com/123d-catch-alt...droid-workflow/>

Wow look at the prices: <https://www.autodesk.com/products/recap/overview>

I am sure there must be free alternatives.

[michelepinto](#)

do you know anything about access to 3d sources for busts of the founders and/or the leaping pig, or the Boscoreale cup?

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### **Post by “Godfrey” of April 2, 2020 at 7:43 PM**

This article just showed up in my feed; it's an example of creating a 3D model from photos:

<https://unframed.lacma.org/2020/04/02/anc...hree-dimensions>

The software mentioned is:

<https://www.agisoft.com/downloads/installer/>

The demo is free. The pro version is \$3,499, however there's a standard version for \$179.

I assume that the model can only be as good as the photos, so there's that....

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### **Post by “Godfrey” of April 2, 2020 at 7:45 PM**

Here are more examples, some with more complex shapes:

<https://sketchfab.com/lacma>

## Post by “Cassius” of April 2, 2020 at 8:40 PM

I see they have my mesh here: <https://sketchfab.com/3d-models/epic...ab1586e10521e36>

and here: <https://sketchfab.com/3d-models/epic...c0469e112a8071b>

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## Post by “Godfrey” of April 28, 2021 at 3:10 PM

<https://www.myminifactory.com/scantheworld/>

I just came across this site for various 3D models. There are a few of Epicurus, of varying quality. There may be others of interest on the site as well. I noticed that there are other "myminifactory" links above but I don't know if they're part of this site or not.... At any rate, here's yet another link!

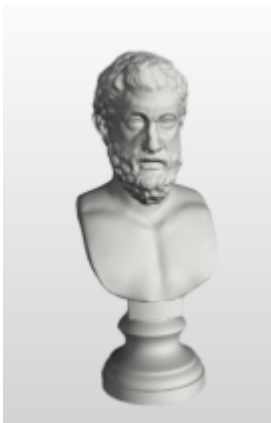
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## Post by “Cassius” of April 28, 2021 at 4:37 PM

That site looks like a great find - thank you:

1 - I wish there were a Herculaneum leaping pig there, but I can't find anything.

2 - That [Epicurus bust](#) looks like it SHOULD be useful, but it looks like the "original" from which it was scanned doesn't really look like Epicurus.



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**Post by “Godfrey” of April 28, 2021 at 8:52 PM**

The Epicurus side of the double herm seems to be the best likeness of the batch.

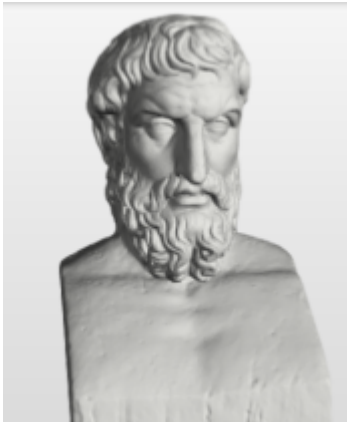
<https://www.myminifactory.com/object/3d-prin...ie-vienna-21407>

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**Post by “Cassius” of April 28, 2021 at 9:25 PM**

Agreed that one is much better!

Which reminds me to comment - I've never understood how anyone came up with the idea of the double-head. I suppose i can see that it saves stone that would otherwise be pretty useless showing the back of the head, but it seems awkward at best as a display mechanism and I would have thought someone with the resources to undertake a project like this would have had two pieces of stone available.



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**Post by “Cassius” of April 28, 2021 at 9:33 PM**

I sent an email to the myminifactory.com address and I will update the thread here if I hear anything.

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## **Post by “Joshua” of April 28, 2021 at 9:52 PM**

You're treading on a peculiar interest of mine, Cassius! The double herm was the reason I bought Bernard Frischer's book.

"Herm" in this case is short for Hermes, who was the figure chiefly represented in early herm statues. The typical herm was a standing stone with a bust carved into the topmost portion. In the case of Hermes in particular, the rest of the statue would be left squared off all the way down, apart in some cases from a conspicuous set of genitals at the appropriate location.

Hermes was the patron god of messengers, merchants and travelers, and-by extension-roads, highways, and crossings. The herm statue was in some places used to mark roads, in some places to mark milestones, and in others to mark boundaries (The Romans had their own patron god of boundaries, Jupiter Terminus, a statue of whom would be placed on property lines and propitiated by both neighbors in a special ritual on *Terminalia* every spring).

How the herm statue came to be sculpted with two heads facing opposite is an interesting question. There was another god, Janus, with a face on either side of his head-he presided over the new year, with one aspect facing to the future and one to the past. In Hermes' case, there was a cultural boundary line just as important as those of time and property; the diad between male and female. Aphrodite was often chosen as the figure to complement him.

In other statues the twin figures are an old man and a youth; the key feature in all of these artistic expressions is the curious interplay of *limitation and continuity*.

Metrodorus, who would certainly have succeeded Epicurus had he survived him, represented continuity-the master/student relationship, the succession of the scholarchs, etc.

I disliked the double herm at first sight, but I'm beginning to grasp its meaning better by seeing it through Greek and Roman eyes.

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## **Post by “Cassius” of April 28, 2021 at 10:22 PM**

Fascinating information Joshua - thank you! i wonder what type of setting this was originally intended for?

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## **Post by “Don” of April 28, 2021 at 10:26 PM**

That's great, [Joshua](#) ! Thanks for that summary. I just saw online that those sockets on the sides of herms were for attaching arms. Those holes have confused me for a long time.

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### **Post by “Joshua” of April 28, 2021 at 10:32 PM**

I say "peculiar interest of mine" because, for one thing, I am a land surveyor and these statues in their original forms were boundary stones. But I'm also beginning to think of Epicurean philosophy as, in a lot of interesting ways, a radical reinvention of limitations. There is Lucretius and his "deepset boundary stone" (*alte terminus haerens*), showing what can be and what cannot; there is the atom, a lower limit on the size and scale of the material; there is matter itself, without expiration and eternal; there is the void, infinite, without boundary; there is the *limit* of the scope of pleasure in the removal of all pain—not *the highest pleasure*, not the *telos* in itself—but the limit of its magnitude; there is the circumscription placed around the gods, bundled up and bounded off-oh, somewhere.

There is the utterly final boundary line of death, beyond which there is nothing. There is *nothing* itself, limited in its own way—for nothing can come from nothing.

These and many others have engaged my thinking for the last several weeks. Epicurus' philosophy is the result of his boundary survey of the *whole of nature*. He established new boundaries, removed those that were set wrongly before him, and rediscovered even older lines that were set rightly by others but had been forgotten or overlooked since.

When Thomas More in his *Utopia* wanted to explore Epicurean philosophy, he flung it out onto the very margins of the New World, at the far tip of the spear of human knowledge. He seems to have intuited what we know in any case: that it doesn't matter much where you put him, because Epicurus and his students are "at home" in the universe. Diogenes of Oenoanda grasped this plainly;

#### Quote

Not least for those who are called foreigners, for they are not foreigners. For, while the various segments of the Earth give different people a different country, the whole compass of this world gives all people a single country, the entire Earth, and a single home, the world.

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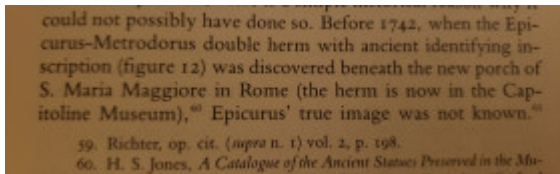
### **Post by “Cassius” of April 28, 2021 at 10:34 PM**

So what are you thinking was in the mind of the sculptors as to the purpose of this herm in particular.

Are we thinking this dates back to Greece or is a later Roman sculpture?

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### Post by “Joshua” of April 28, 2021 at 10:40 PM



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### Post by “Don” of April 28, 2021 at 10:41 PM

#### [Quote from Cassius](#)

So what are you thinking was in the mind of the sculptors as to the purpose of this herm in particular

#### [Quote from JJElbert](#)

In other statues the twin figures are an old man and a youth; the key feature in all of these artistic expressions is the curious interplay of limitation and continuity.

Metrodorus, who would certainly have succeeded Epicurus had he survived him, represented continuity—the master/student relationship, the succession of the scholars, etc.

I like that interpretation.

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### Post by “Joshua” of April 28, 2021 at 10:52 PM

No precise date can be assigned to the original statue of Epicurus because, as is usually the case with Greek portraits, neither the original nor any Hellenistic copies survive. A *terminus ante quem* may, however, be provided by the "Epikouros]" inscription on what was probably once the shaft of a herm of Epicurus in Old Paphos.<sup>59</sup> According to Mitford, the lettering of the inscription is datable to the period 250–200 B.C. Assuming that there must have been a lapse of some

(This passage does not describe the double-herm in question, but a separate herm bust now lost. Only the shaft with the inscription survives.)

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### Post by "Don" of April 28, 2021 at 11:13 PM

#### [Quote from JJElbert](#)

could not possibly have done so. Before 1742, when the Epicurus-Metrodorus double herm with ancient identifying inscription (figure 12) was discovered beneath the new porch of S. Maria Maggiore in Rome (the herm is now in the Capitoline Museum),<sup>60</sup> Epicurus' true image was not known.

59. Richter, *op. cit.* (*supra* n. 1) vol. 2, p. 198.

60. H. S. Jones, *A Catalogue of the Ancient Statues Preserved in the Mu-*

So is this saying there was no identifiable portrait of Epicurus in the "modern" era before 1742? Or at least between the end of antiquity (400/500 CE?) and 1742?

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### Post by "Joshua" of April 28, 2021 at 11:24 PM

That's the claim Bernard Frischer makes several times in his book. Apparently there were several "candidate" busts conforming to various pet theories, but the conclusive evidence didn't come until 1742.

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### Post by "Cassius" of April 29, 2021 at 6:24 AM

That's good to know (that it's a claim, anyway) because I was thinking that the date of confirmation was more traceable to the small busts at Herculaneum. I'm not sure of the date of

that one but maybe not so far apart (?) At any rate I would think this would be a key part of Frischer's studies so if he thinks the date of confirmation is traceable to the herm, then that seems like a pretty reliable source.

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### **Post by “Don” of April 29, 2021 at 7:30 AM**

<https://herculaneum.uk/Villa%20dei%20...apiri%20p07.htm>

Looks like the Herculaneum Villa Epicurus bust with his name was dug up in 1753 according to this catalog of the sculptures found there.

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### **Post by “Cassius” of April 29, 2021 at 8:55 AM**

Good site!

1 - That is a really good bust of Epicurus - maybe one of the best from my point of view. But there were several from Herculaneum - cause I don't see an inscription on this one? Is the base original? Also, that date of discovery sure is close to that of the herme - almost too much to be a coincidence and almost points to "this is the period we started keeping track of things" rather than "prior to this date no one anywhere in the world had any idea."



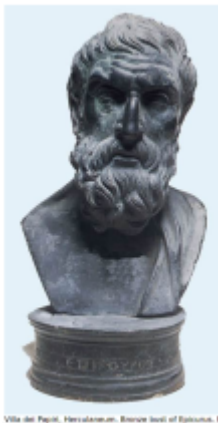
2 - This one struck me as funny - that's quite a divergence of possibilities!



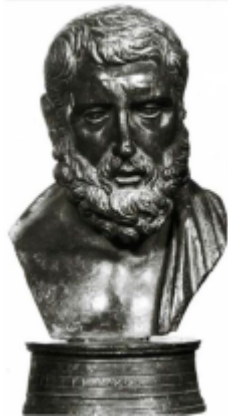
3. This is a really clear view of Hermarchus. Almost looks as if he is frowning or sad? And this one emphasizes my ongoing question about these bases -- are these bases original, or added?



4. Because THIS view of Epicurus has a base that looks original, and as if this could be the inscription that confirmed his identity:



5. Same comment again as to Hermarchus. Does he look sad? This base looks "original"?



6. For no reason whatsoever other than I like it I have to include the one of the leaping pig. I also wonder on this one? Presumably the base is original?



Villa del Pignone, Herculanum. Bronze statue of a pig or boar. Found in 1756, between the east peristyle and the peristyle. Now in Naples Archaeological Museum. Inventory number 4993.

7. Also for completeness:



Villa del Pignone, Herculanum. Possibly found in area V of Nester's plan. Small bust of Epicurus 0.34201 high. According to Compendio and de Pignone, it found which bears a striking resemblance to the two previous ones but is a less beautiful specimen. Found in 1753, certainly in area V of Nester's plan. See Compendio II and De Pignone, 1984. La Villa Epistolare di Pignone. Istituto Britannico Linceo, p. 238 ff., p. 242 n.23, the 212 n.6.

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**Post by "Cassius" of April 29, 2021 at 9:22 AM**

I have heard back from the myminifactory folks and will keep you posted.

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## Post by “Joshua” of May 3, 2021 at 6:39 PM

Since we were on the subject of Hermes earlier, I thought I would post this. It's a passage from *The Swerve* by Stephen Greenblatt, quoting Giordano Bruno. Bruno was illustrating the silliness of the idea that human life is divinely ordained and influenced. Bruno himself, of course, was heavily influenced by Lucretius.

### Quote

"He has ordered that today at noon two of the melons in Father Franzino's melon patch will be perfectly ripe, but that they won't be picked until three days from now, when they will no longer be considered good to eat. He requests that at the same moment, on the jujube tree at the base of Monte Cicala in the house of Giovanni Bruno, thirty perfect jujubes will be picked, and he says that several shall fall to earth still green, and that fifteen shall be eaten by worms. That Vasta, wife of Albenzio Savolino, when she means to curl the hair at her temples, shall burn fifty-seven hairs for having let the curling iron get too hot, but she won't burn her scalp and hence shall not swear when she smells the stench, but shall endure it patiently. That from the dung of her ox two hundred and fifty-two dung beetles shall be born, of which fourteen shall be trampled and killed by Albenzio's foot, twenty-six shall die upside down, twenty-two shall live in a hole, eighty shall make a pilgrim's progress around the yard, forty-two shall retire to live under the stone by the door, sixteen shall roll their ball of dung wherever they please, and the rest shall scurry around at random."

This is by no means all that Mercury has to arrange.

"Laurenza, when she combs her hair, shall lose seventeen hairs and break thirteen, and of these, ten shall grow back within three days and seven shall never grow back at all. Antonio Savolino's b.i.t.c.h shall conceive five puppies, of which three shall live out their natural lifespan and two shall be thrown away, and of these three the first shall resemble its mother, the second shall be mongrel, and the third shall partly resemble the father and partly resemble Polidoro's dog. In that moment a cuckoo shall be heard from La Starza, cuckooing twelve times, no more and no fewer, whereupon it shall leave and fly to the ruins of Castle Cicala for eleven minutes, and then shall fly off to Scarvaita, and as for what happens next, we'll see to it later."

Mercury's work in this one tiny corner of a tiny corner of the Campagna is still not done.

"That the skirt Mastro Danese is cutting on his board shall come out crooked. That twelve bedbugs shall leave the slats of Costantino's bed and head toward the pillow: seven large ones, four small, and one middle-sized, and as for the one who shall survive until this evening's candlelight, we'll see to it. That fifteen minutes thereafter, because of the movement of her tongue, which she has pa.s.sed over her palate four times, the old lady of Fiurulo shall lose the third right molar in her lower jaw, and it shall fall without blood and without pain, because that molar has been loose for seventeen months. That Ambrogio on the one hundred twelfth thrust shall finally have driven home his business with his wife, but shall not impregnate her this time, but rather another, using the sperm into which the cooked leek that he has just eaten with millet and wine sauce shall have been converted. Martinello's son is beginning to grow hair on his chest, and his voice is beginning to crack. That Paulino, when he bends over to pick up a broken needle, shall snap the red drawstring of his underpants. . . ."