

### Some General Observation, Some Details and Some Speculations

- I acquired my first Luristan Iron Mask Sword (**IMAS**) in 2015. I was already fascinated with these early manifestations of the iron age and that has not changed. Now it is 2025 and I could look at many more IMAS,
- I even managed to get a scientific project funded that allow a close look at some IMAS (most of which are now in the Brussels / Belgium Royal History Museum).
- IMAS come up in numerous modules of this hyperscript and, to be honest, I have kind of lost track of all the stuff I have written in the last 10 years. This module tries to summarize but also will add a lot of new discoveries I made more recently.
- Below you finds:
  - 1. A table supplying links to detailed descriptions to those Luristan swords that I could investigate to some extent. The modules are not in the usu html format but pdf since my eyesight is now (2025) so poor that I cannot read what I'm writing in my html editor any more. For the same reason – please excuse all the typos you might encounter.
  - 2. Some generalization about the findings
- The files you can open with the links are a hodgepodge of some old notes, stuff from projects, pictures floating around my PC, and, in many but not all cases, notes and pictures that are fairly new. I just want to make sure that the relevant information I gathered is preserved.

### Links to the Iron Mask Swords (**IMAS**) Modules

**IMAS 1**

My No. 1. A very well preserved "classic" mask sword, encountered in various modules before.  
Very well preserved "lanimals"  
New features have been discovered: "Wormholes" and a complex way of doing the "crimping"

**IMAS 2**

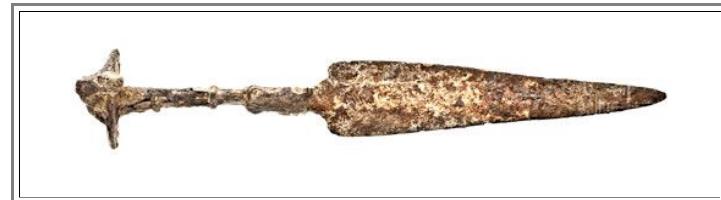
Almost as good as IMAS 1 but the blade is broken. Very well preserved heads.

**IMAS 3**

Rather corroded but with one good head. Shows a few interesting features at the joint of blade and hilt

**IMAS 4**

Very corroded but showing a unique feature (after cleaning): Two dents in the blade were repaired by inserting bronze pieces by soldering!



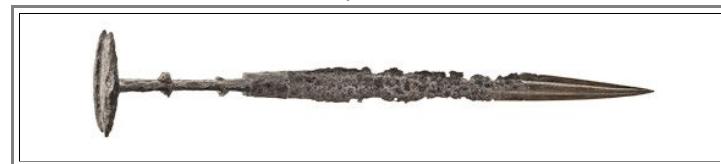
### IMAS 5

Rather corroded but with an interesting feature: It demonstrates that crimping here was done by employing what I called a "crimping ring" or "ctimping plate".



### IMAS 6

A simple undercoated IMAS and rather corroded. However, the tip part of the blade is well preserved and shows remarkable workmanship



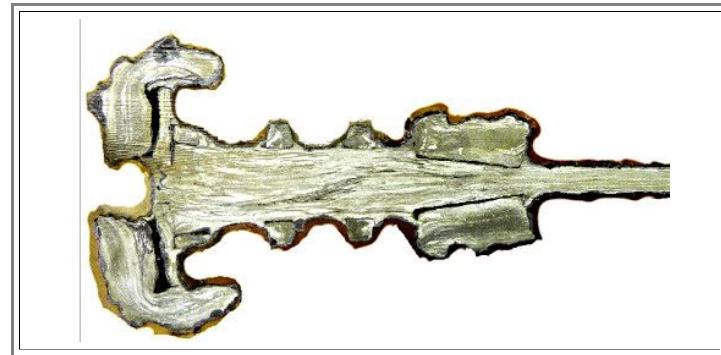
### IMAS 7

This sword is not a real IMAS but nevertheless the key to Luristan swords. It embodies several technologies not formerly encountered like a side bar made from (probably [faggoted](#)) sheet metal. Highly interesting!



### IMAS 8

The "cut sword" from the Luristan sword project. Supplied and still supplies sinsight and questions Both half are now with the Royal History Museum in Brussels



### IMAS 9

Used in the "Luristan Project" for C14 age determination. Age found was 1427 – 1303 BCE ; much too old. Probably "contamination" with old carbon from ore, limestone, ... Some metalographic data..

Now with the Royal History Museum in Brussels



**IMAS 10**

Used in the “Luristan Project” for C14 age determination. Age found was 1745 – 1533 BCE ; much too old. Probably “contamination” with old carbon from ore, limestone, ... Some metalographic data.

The “grip” of the hilt shows some texture (banding).

Now with the Royal History Museum in Brussels

**IMAS 11**

Used in the “Luristan Project” for C14 age determination. Age found was 1006 – 901 BCE; about right if still somewhat too old. But that result tells us that IMAS could have been made after 1000 BC but not before. Some metalographic data.

Now with the Royal History Museum in Brussels

**IMAS 12**

A simple undercoated IMAS very similar to the one investigated by [Mareyon et al.](#), but with a completely different construction .

X-rays were taken.

Now with the Royal History Museum in Brussels

**IMAS 13**

Extremely corroded; lost one “lion”. Perfect for destructive analysis like age determination from several areas .

Now with the Royal History Museum in Brussels

**IMAS 14**

Very corroded blade but good hilt. Somewhat unusual tapered grip part. Now with the Royal History Museum in Brussels .

**IMAS 15**

This “double-disc-pommel” sword is technically not an IMAS; its origin is more likely to be [Hasanlu](#). I include it anyway because it (presumably) belongs to the same time period and is technically rather advanced.



## General Remarks

After studying iron Luristan Mask Swords (**IMAS**) for more than 10 years, I still can find out new things about these fascinating objects. I also have acquired a few IMAS myself (to save them from destruction and to make them available for serious research at some time), and looking at them every now and then still fills me with wonder about the workmanship they embody. Here I will first give you some general remarks (most of them not new but already expressed here and there in this hyperscript).

Let's look at my general points. Here is the list:

1. All IMAS or Luristan [type 1swords](#) were found exclusively in Luristan. It appears that they were never exported, in contrast to type 2 swords that were found all over the middle east.
2. None of the many [sculptures and reliefs](#) found in the middle east and dating from roughly 800 +/- 100 BC show some individual bearing an IMAS. Once more an indications that they were not worn or used and not known outside Luristan
3. The male head and the "animal" so typical for IMAS have no counterpart whatsoever in the antique world around 1000 BC. None of the thousands of Luristan bronzes shows figures of this type either
4. X-ray images (or some cuts through the hilt), as far as available, show large empty spaces inside around the figures or the rings around the hilt - but on the outside you do not see anything.
5. Different technologies were used for rather similar looking swords
6. The crimping is always masterfully done but with different and rather tricky technologies
7. Extremely fine work is done. Think of gold smith and not of black smith
8. IMAS makers must have had access to a very powerful grinding and polishing technology
9. What did new IMAS look like? All shiny or with some features highlighted by painting?

In what follows I will briefly comment on those points.

For the sake of clarity and brevity. I will make clear statements that are mostly not absolute truth but just "high probability". I will thus not discuss the validity of every statement; you will find a lot of that in the remainder of the hyperscript

**1** All IMAS or Luristan type I swords were found in Luristan and never exported, in contrast to type II swords. In [this link](#) the types are explained.

Even so archaeologists have only unearthed one IMAS (in the rubble left by grave robbers), we can be reasonably sure that all IMAS come from graves in Luristan proper. Either nobody outside of Luristan wanted to own one of these rather precious if somewhat peculiar items, or outsiders were just not allowed to possess one of those "holy" (?) objects. The same is true for the many [Master of Animals](#) bronzes – none has been found outside of Luristan. However, Luristan type II swords, bronze daggers, and other objects were traded far and wide, it seems. I think this is a real puzzle.

**2** None of the many sculptures and reliefs from roughly 800 +/- 100 BC show some individual bearing an IMAS

Well, I certainly haven't seen all sculptures and reliefs from that time. But I have seen quite a few. You may find all kinds of swords associated with some guy, including Luristan type II swords, but never an IMAS. Check the [gallery here](#). Obviously, high ranking guys (no others were depicted wearing a sword), did not sport an IMAS.

Now, an IMAS was certainly not used for fighting. They must have been far too precious for that, not to mention that they are not particularly good for that. Could it be that those swords were not part of some dress code either but kept in a shrine, or exclusively used for burials? They would have been somewhat awkward to wear anyway, since the figures on one side would "look" into your belly

**3** The male head and the "animal" so typical for IMAS have no counterpart whatsoever in the antique world around 1000 BC. None of the thousands of Luristan bronzes shows figures of this type either

Classical archaeology sometimes make some vague claims that there is some relation to Assyrian figures or other products. I beg to differ and challenge everybody out there to produce something non-Luristan that looks even remotely like the "lion" or "animal" on an IMAS. To make things even worse, neither the head nor the "animal" on an IMAS bears any resemblance to heads or animals appearing on the many Luristan bronzes.

Here are a few pictures just to illustrate what I mean:



Those two “lions” are quite similar but subtly different. They live exclusively on IMAS; nothing like that has ever been seen in a different context.

From IMAS 1



King Luri here does look a bit like those guys on Assyrian reliefs but how different can sculptures of a bearded guy be? Stylistically, they are quite different.

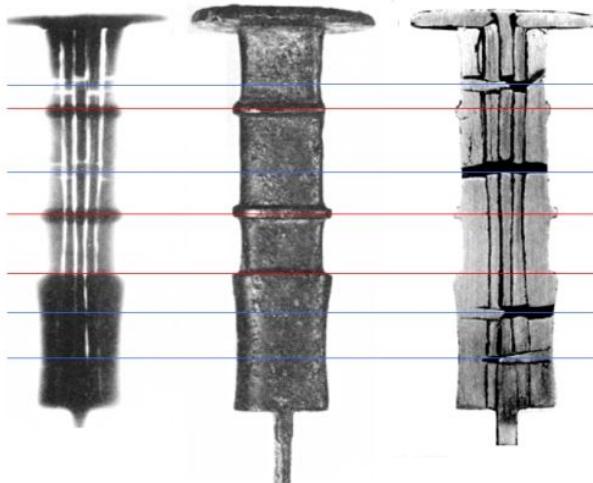
From IMAS 2

Many more pictures all over the hyperscript

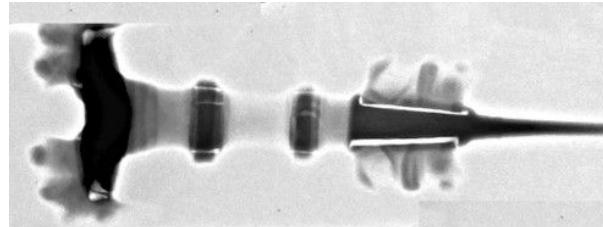
- If you look at the combination of head and animal, there is just nothing that comes close. I could make similar statements regarding the “Master of Animal” bronzes. Nothing ever found outside of Luristan resembles the whole thing nor its parts (heads, animals, ...).

4 X-ray images (or some cuts through the hilt), as far as available, show large empty spaces inside around the figures or the rings around the hilt - but on the outside you do not see anything.

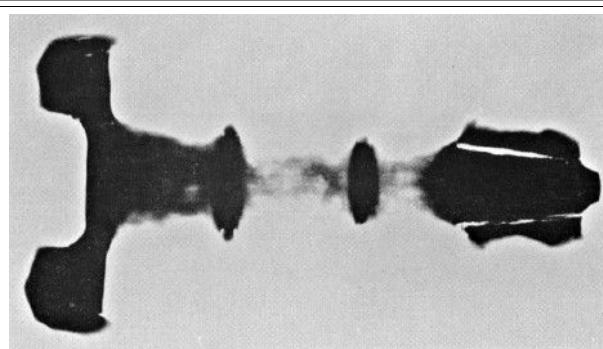
We only have a few X-ray pictures (or major cuts) But when we have shows large internal cavities that do not show in the outside



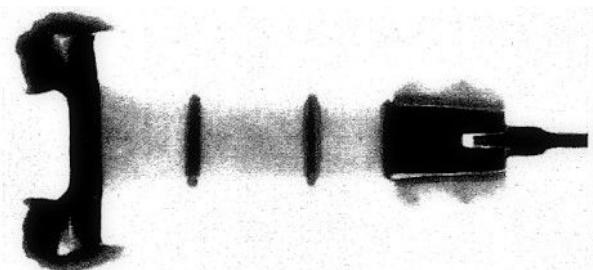
X-ray on the left. The sheets do not touch closely but no sign of this on the outside  
Pictures from literature but newly formatted



Large cleft between the animals and the sword body. But they seem to be an integral part of the whole (see above)  
X-ray from IMAS 1



X-ray picture in:  
Vera Bird and Henry Hodges: A METALLURGICAL  
EXAMINATION OF TWO EARLY IRON SWORDS FROM  
LURISTAN  
(1968)



From: F. K. Naumann: Untersuchung einer eisernen  
luristanischen Kurzschwertes Archiv für das  
Eisenhüttenwesen, 28. Jahrgang, Heft 9, (1957) 575 - 581,  
1957



The "cut" sword showing the empty space in black here  
Large picture [here](#)

- We must conclude that the old Luristan smiths made show pieces. Only what is visible matters. This entails that they could judge the quality of their raw material very well.
- Actually, some time after I had written this, I found a simple explanations for the empty spaces! Check IMAS 5

## 5 Different technologies were used for rather similar looking swords

The example of one of the sword above shows a hilt made by riveting several layers together, in contrast to most other MAS. It is actually the only known example for this technique. It possibly was an early example as it is without decorations.

A very similar sword to the one above (IMAS 12, now in the Brussels museum) exhibits a completely different design as shown by the X-ray analysis; see the picture below. Crimping appears to have been done in more or less complex ways, too. However, far more studies would be needed to clarify this point since we do not yet know the internal composition of most IMAS.



Very similar sword (now in the Brussels museum) to the one above  
but with completely different design as shown by the X-ray pictureX-r.

**6** The crimping is always masterfully done but with different and rather tricky technologies  
- Gross shape made by sheet metal cutting, stacking and welding (?)  
**10** Extremely fine work is done. Think of gold smith and not of black smith  
IMAS makers must have had access to a very powerful grinding and polishing technology  
What did new IMAS look like? All shiny or with some features highlighted by paining?

💡 I won't go into this here. Check [IMAS 6](#) for some details about crimping including a new suggestion of how it was done at least sometimes. The other points are either self-explaining or also treated in the various modules accessible from this link hub.