2.1.2 What Swords Are for Me

Swords are Paradigms for Metallurgy

- While all the points about swords considered previously make sense and provide for some entertainment (I promised!), the major point I want to make is still missing. Here it is:

Swords were always at the cutting edge of iron and steel technology

  - The pun is intended. The cutting edge of a sword did embody the status of the metal technology in a given culture. How sharp was it? Did it stay sharp? Could it cut through the sword and the armor of the enemy without suffering much damage?

- Studying old sword blades, together with the technology for making them, allows us to get a good glimpse at the development of our **most important technology** now and then. Let's read out loud:

The making of iron and steel products was and is our most important technology!

- I promised to give you a good reason to read on, and that's it. No matter what uses a sword has seen when its owner still lived, by now it reflects the technology and artistry of his days.
  - Why, you might ask, don't I use more civilian iron things like ancient *knives*, *pots*, *pitchforks*, *scythes*, *nails*, or *chastity belts* to reflect about iron technology?
    Well, not only are pitchforks rarely works of art, there aren't too many old ones around. Pitch forks were not passed on as treasured heirloom or put into the grave with its owner. More important: they simply do not reflect the cutting edge of steel technology. When your pitchfork, knife or **chastity belt** broke while baling hay, spreading butter, cleaning your nails, or trying to do you-know-what, your chances of surviving that mishap were pretty good. If your sword broke while fighting the infidels (of either denomination), you had a serious problem, if only for the short time of your remaining life span.

Illustration Module

Old iron things

  - A scythe bears some similarities to a sword and in this illustration module you find a particular interesting picture to that. However, as far as properties were concerned, a scythe wielder needed to have his tool repaired or reconditioned far more frequently than a sword wielder.
    Anyway, having the best possible steel hardware intended for battle was important. The following picture from the 12th century shows this quite drastically. Note that good steel seems to cut easily through helmets and chain mail. Maybe it's true, maybe not. The winners write the history books (and illustrate them), and one shouldn't believe all one reads and sees in these volumes.

Fighting the Infidels (of either denomination)
Large size picture

Source: "**Morgan Bible**" (Pierpont Morgan Library, New York); a medieval picture bible.

In battles like this you were much better off with a good sword and other steel hardware. If you had to participate in a battle, you certainly made sure that your sword was the best you could possibly afford. I do believe that I'm justified in claiming that the best old swords represent the top iron and steel technology of their time. They do that for *all* cultures and for a time span from about 1.200 BC to 1.800 AD or roughly **3.000** years.

- Unfortunately, we do not have a lot of old swords or other iron artifacts in our possession since iron and **steel rusts**, as everybody knows who ever owned a .... *(insert the car maker of your choice)*. Many old swords therefore are just longish rusty objects that do not look particular impressive or artistic. Other old iron has simply been recycled since it was valuable. Add to this the unfortunate fact that ancient smiths didn't write up what they were doing. They couldn't write anyway, and what they did was probably semi-secret if not top-secret. The people who could write, and had the leisure to do so, didn't know how it was done. If they wrote anything about a science / technology topic, chances are very high that it was simply wrong. Take **Aristotle**, for example, who got science issues **always wrong** without a single exception, as far as I can tell.
  Many details of the ancient art of iron and steel making are therefore lost or shrouded in mystery. Mystery is always interesting, and new myths about "lost" technologies are a dime a dozen. For unfathomable reasons many modern people are convinced that some ancients knew more about iron and steel, medicine, pyramid building, etc. than modern nerds like me.
  There are certainly many aspects of the ancient iron and steel technology that we don't know about. New discoveries yet to be made might unearth exciting new steel artifacts and force us to change parts of the presently held believes about ancient technologies. One thing, however, *we do know for sure*:

All iron and steel technology, for all cultures and all ages, follows basic principles of Materials Science and Technology

Swords are Works of Art

Do you agree? Are **swords works of art** or instruments of the devil? You may not perceive swords as works of art right now but I hope you change your mind after having read this Hyperscript.

- **Appreciation of art** always requires some knowledge about the artwork you are contemplating. How was it made, how was it embedded in the culture of its time and place? How does it connect to artwork of other periods and places? And so on.
  Some art cannot be fully appreciated outside of its cultural context. Take Japanese haikus, for example, or religious topics in medieval paintings. Moreover, appreciation of art is always done within some personal frame of reference that is based on your specific culture. A Turkish Muslim will perceive **Leonardo's** last supper quite differently from an Italian Christian or a Japanese Agnostic. Not to mention Attila the Hun.
- Swords can be works of art just like haikus or paintings. They are expressions of particular cultures and ages and, considering that they always must be longish steel objects, amazingly varied in appearance. All of them have a common denominator, however: *the art of making their steel blades*. I use the word "art" here quite intentionally because for me some of the old smiths were not just artisans but true artists. You will at least understand if not share my point of view after you have appreciated what it takes to forge a supreme sword blade.

Now you might think: "OK. So some swords might be works of art - but if you have seen one, you have seen them all". Nothing could be farther from the truth. If you have seen one of **Monet's** lily ponds you haven't seen them all, even so they all appear to look alike. Swords do look alike too, but are nevertheless quite different. Not only is the production of a "true damascence" wootz shamshir totally different from that of a Japanese katana or a pattern welded sword, the finished products are quite different too, if you know what to look for.
If you don't know the English language, all Shakespeare sonnets are the same to you. If you have *seen* one, you have indeed seen them all—but comprehended nothing whatsoever. If you go through the pain and labor to learn the English language, you cannot only comprehend Shakespear's sonnets now—a whole rich new world opens up to you!
I'm going to teach you the language of iron, steel and swords. That will enable you to really appreciate the art of swords *and* it will open the door to a whole rich new world!

	
Works of art	
Reproduction of pattern welded (Viking) blade by **Patrick Bárta**	Oriental Wootz blade (end of 18th century / begining of 19th century)
Source: Patrick Bárta's homepage; with permission	Source Weapons of warriors