

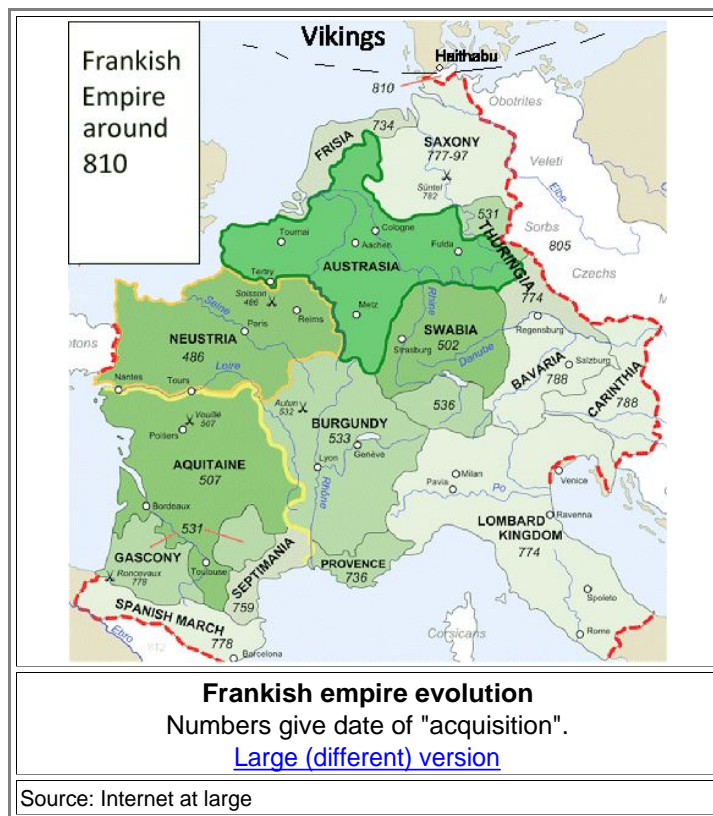
The Frankish Empire And Its Swords

Born to Rule (or to Be Killed)

Advanced

The Frankish Empire (also known as Frankish Kingdom, Frankia, Frankland) was the territory inhabited and ruled by the Franks, a confederation of Germanic tribes, during Late Antiquity and the Early Middle Ages. It starts with the [Merovingians](#), who we know from before. Here is a very brief history of the Frankish Empire (mostly based on Wikipedia).

- Clovis** (ca. 466 – 511) was the first King of the Franks and the founder of the Merovingian dynasty that ruled the Franks for the next two centuries. His father was **Childeric I**, whose [sword hilt](#) we so admire. In the 150 or so years before his coronation in 496, a confederation of various tribes like Sicambri, Saliens, Bructeri, Ampsivarii, Chamavi and Chattuarii, fought the Romans, each other, or were allies of the Romans. Nevertheless they established some "Frankish" territory in what is now France. Around 428 the Salian King **Chlodio**, a member of the Germanic Franks from the Merovingian clan, ruled over an increasing number of Gallo-Roman subjects on both sides of the Rhine. His name is Germanic, composed of the elements "hlod" = "fame" and "wig" = combat. The French, [of course](#), later wrote it "Clovis" and pronounced it like "Louis", the name born by 18 kings of France. The Frankish core territory then was Austrasia (the "eastern lands"); see the map below or on a larger scale [here](#). Chlodio was a Christian and, like his forebears, under constant attack from the heathen Saxons in the North. After his death in 511 the Kingdom was partitioned into 4 parts, ruled by his four sons:



Theuderic I
Reims

Chlodomer
Orléans

Childebert I
Paris

Chlothar I
Soissons

The kids did well. During their reigns, the Thuringii (532), Burgundes (534), and Saxons and Frisians (c. 560) were incorporated into the Frankish kingdom. The "trans-Rhenish tribes", the guys across the river Rhine in the East or the Alemanni in other words, could on occasion be forced to contribute to Frankish military efforts but then were uncontrollable and liable to attempt independence in times of weak kings.

The fraternal kings showed only intermittent signs of friendship and were often in rivalry. Chlothar, for example, upon the early death of his brother Chlodomer, had his brother's young sons murdered so the three remaining brothers could, in accordance with time honored custom, take equal shares of his kingdom. In 558 the entire Frankish realm - much larger now - was reunited under the rule of one king: **Chlothar I** because all his brothers and their offspring expired before him (with a little help on occasion).

In 561 Chlothar died and his realm was divided, in a replay of the events of fifty years prior, between his four sons. The chief cities remained the same.

Charibert I
Paris
Guntram
Orléans
Sigebert I
at Reims
Chilperic II
Soissons.

These kids did not do all that well - they fought each other over women. War was waged because Galswintha, the wife of Chilperic, was murdered (allegedly) by his mistress (and second wife) Fredegund. Galswintha's sister, one **Brunhilda**, was married to Sigebert and incited him to revenge Galswintha by going against Chilperic. The conflict between the two queens continued to plague relations until the next century - and here you have a possible source of the famous [Nibelungen saga](#).

After the usual back-and-forth (like the assassination of Sigebert in 575) three parts or Frankish kingdoms emerged around 590: **Neustria**, **Austrasia**, and **Burgundy** for the next round of princelings.

Theudebert II
Austrasia plus
parts of
Aquitaine

Theuderic I
Burgundy plus
rest of Aquitaine

Chlothar II;
Rest

These guys were the sons of Childebert II, Brunhilda's son, and they took over much of the empire in 595; the rest being held by Chlothar II, Chilperic's successor. Most of their time, however, was spent by fighting each other. Theudebert kicked out Grandma Brunhilda from his court, something that annoyed her so much that she succeeded to convince her darling grandson Theuderic to kill Theudebert in 612.

Just your normal family feud but with the result that the realm was once more ruled by just one man - but only for one year because Theudebert died in 613, while preparing an expedition against Chlothar who still held a few cities. During those exciting times the empire had won territories in the South (Gascony) but was in trouble at its Eastern border where the Alemanni were acting up and produced major trouble.

Theudebert left a 10 year old Sigebert II as successor but now the powerful nobility of the Empire had had enough. A kind of rebellion, led by one Chlothar, son of Fredegund, succeeded and Sigebert II plus Brunhilda were killed and Chlothar was "elected" to be King Chlothar II in **613**.

- **Chlothar II** (584–629) now ruled the empire. Since 623 he did that together with his son Dagobert I who was made King of Austrasia to quell some unrest there.
- **Dagobert I** (c. 603 – 639) became full King in 628, when Chlothar died. In accordance with his father's wishes, he granted a subkingdom - Aquitaine - to his younger brother *Charibert II*. He lost and won various battles and thus territory. He also managed to re-unite the empire once more by assassinating his brother's infant son and successor, another *Chilperic*.
But like his father, he was forced to grant the Austrasians their own king - his son *Sigebert III* in 633. The Austrasians and the Burgundians hated the "nouveau-riche" people from Neustria (meaning "new [western] land") who by then also had started to call their land "Francia".

And so on for a while longer. After Dagobert's death in 639 lingering rebellion broke out openly and was fuelled by some "mayors" (German "Maier" or "Meier") the caretakers of possessions and cities for the kings and their folks. Civil wars broke out, and in 687 one *Pepin* (German: Pippin) of Herstal, the *mayor* of Austrasia and the real power in that kingdom, won the battle of Tertry and became "Duke and Prince of the Franks". As far as we know some Merovingian monarchs still existed after that but with only symbolic relevance if any at all. And now you know why [Oakeshott](#) called the Merovings "[the most bloody and inefficient dynasty which has ever disgraced a nation](#)". When Pepin died in 714 all hell broke loose once more until his illegitimate son, one *Charles* took over in 718 and became known as Charles Martel or Charles, the Hammer. No more Merovingians in power. From now on the Frankish empire was run by **Carolingians**.

- **Charles Martel** (c. 688 – 741) wasn't called the hammer for nothing: "[In 718 he defeated the rebellious Saxons, in 719 he overran Western Frisia, in 723 he suppressed the Saxons again, and in 724 he defeated Ragenfrid and the rebellious Neustrians, ending the civil war phase of his rule. In 720, when Chilperic II died, he had appointed Theuderic IV king, but this last was a mere puppet of his. In 724 he forced his choice of Hugbert for the ducal succession upon the Bavarians of Hugbert and forced the Alemanni to assist him in his campaigns in Bavaria \(725 and 726\), where laws were promulgated in Theuderic's name. In 730 Alemannia had to be subjugated by the sword and its duke, Lantfrid, was killed. In 734 Charles fought against Eastern Frisia and finally subdued it](#)", says Wikipedia, and it hasn't even come to Charles major victory yet.
Charles Martel is best known for stopping the **Islamic conquest**. In the **battle of Poitiers** and Tours around 735 he crushingly defeated the invading "Arabic" army that already had taken most of Spain and was now moving towards what is now Southern France, see below.
Shortly before his death he divided the empire between his sons:

Carloman

Pepin the short

Grifo

Grifo only got a small part and was of no consequence. The two others, surprise, fought each other, the Saxons, and plenty others. In between Carloman found time to kill all of the Alemanni nobility by [luring them into a trap](#). However, at some point he retired and became a monk.

Pepin the short, also known as Pepin III, was now the only real power left. He made himself King - with some help (for a little consideration, like parts of Italy) by the Pope.

Pepin had two sons; a Charles and another Carloman, who together inherited the empire. Carloman II, however, followed the example of his namesake uncle and retired early to a monastery where he died shortly after. That left the stage free for Charles, who is still well known under the designation:

Charlemagne

Charlemagne or "Karl der Große" (ca. 745 – 814); we [have met before](#) as the bearer of a [mythical sword](#). Charles was bent on having those heathen Saxons christianized; the folks who lived in North Germany just below the Vikings - look at the map above. After winning a battle in 787 at Verden, Charles ordered the wholesale killing of thousands of pagan Saxon prisoners, following the example of his uncle Carloman. After several more uprisings, the Saxons suffered definitive defeat in 804.

Charlemagne conquered most of what there was to conquer and created a realm that reached from the Pyrenees in the southwest over almost all of today's France (except Brittany, which the Franks never conquered) all the way eastwards to most of today's Germany, including northern Italy and today's Austria.



- On Christmas Day 800, Pope Leo III crowned Charles as "Emperor of the Romans" in a ceremony presented as a surprise (Charlemagne did not wish to be indebted to the bishop of Rome), a further papal move in the series of symbolic gestures intended to increase the power of the church. The ceremony formally acknowledged the Frankish Empire as the successor of the (Western) Roman one. That enraged the Byzantines who claimed the successorship to the Roman empire themselves. It took a while before the Byzantine Emperor Michael I Rhangabes finally acknowledged Charlemagne as co-Emperor in 812. I mention this to show that the Frankish empire had relations to Byzanz, the former Constantinople and present-day Istanbul. It also had relations to Arabic / Islamic sword bearers - it was fighting them in a major way in Spain. It is thus quite likely that crucible steel swords were known in the West around this time.
- Charlemagne died in 814 leaving only one surviving son, *Louis the Pious*, who ruled until 840 - not without much internal and external struggles. After his death his son **Charles the Bald** (823 – 877) took over but the empire started to decline and eventually split for good into what later was to become France and Germany.

If you read through all of the above, you must have gotten the impression that the empire was at war all the time, including internal unrest and civil wars. Yes, up to a point that was the case but for the population a large the (later) Frankish empire provided for far more peaceful living than the older times when smaller local clans and kingdoms fought each other all the time. Wars at the fringes of the empire where far away from Aachen for example, one of Charlemagnes major residences (you find it on the map above). Moreover, the armies fighting wars were small in comparison to modern times. Estimates come up with 5000 or at most 30 000 soldiers.

Prolonged peaceful times with some security for people, production, trade and commerce will produce cities with specialized artisans, big buildings, and a general infrastructure that is simply not possible in small towns or Kingdoms. Indeed, large and [complex stone buildings](#) sprouted up for the first time after at the collapse of the Roman empire.

More important for us here, the production of iron and steel must have gone up steeply, too. This is described in the [backbone](#) so I will not repeat it here.

What I will do here is to give a quick look at the Frankish arms and the export restrictions for those arms, including swords. They are the core evidence for the belief that "Viking era swords" were originally made in Francia. That does not mean that all swords in most of Europe came from Francia. All and sundry forged their own standard swords *locally* but essentially tried to copy the Frankish design and technology. Frankish swords, however, were ahead of the others and always the best. I have no problem in adopting this point of view; it's just like German cars nowadays. However, it is still a hypothesis and not a certainty.



The Frankish Empire And Its Arms

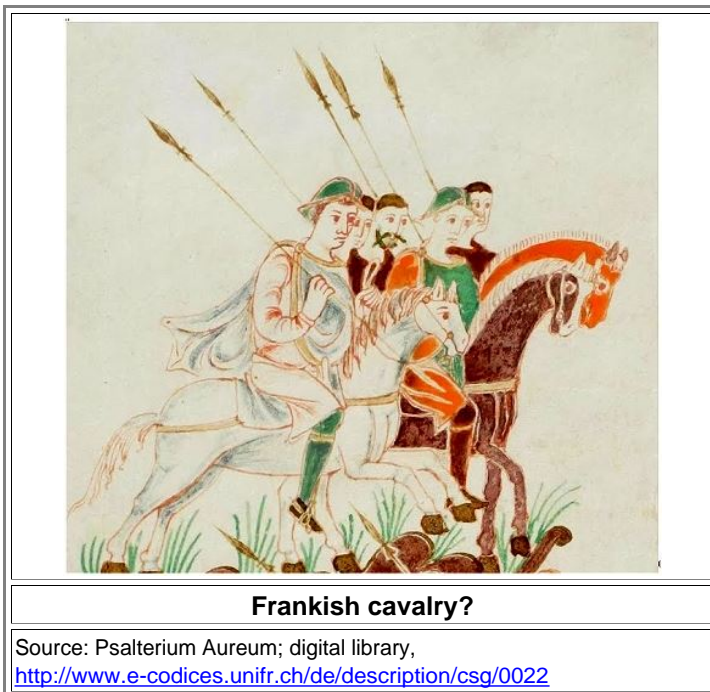
Notker the Stammerer (Latin: Notker Balbulus; c. 840 – 912) wrote a collection of anecdotes regarding Charlemagne: the "Gesta Caroli Magni" (The Deeds of Charles the Great) where he attributes the success of Carolingian armies to their iron weapons. The emperor and his entire army are portrayed as outfitted with an iron helmet, cuirass (a single or multiple piece of metal covering the front of the torso like Roman stuff), thigh plates, greaves (piece of armor that protects the leg), iron shields and gloves for protection, swords and spears for attacking. This is most likely not completely true (they certainly also carried bow and arrows) but we might assume that Frankish armies were well equipped. They must also have been large enough and quite disciplined to defeat most enemies.

Notker also mentions that Frankish arms and armor were exported widely, and that the Vikings wanted to purchase the superior swords and other weaponry.

- We still have a few contemporary "illuminated" manuscripts (unfortunately always with religious contents) like the [Stuttgart Psalter](#) that might show what Frankish army equipment looked like. I'm writing "might" because there are good reasons for believing that the ancient artists did not necessarily use contemporary soldiers as models but were also influenced to some extent by older paintings, especially from the Byzantine empire. Nevertheless, the swords shown in these pictures, [as we have seen](#), do look like the few ones found in the Frankish empire and the thousands found outside.

What we don't know is if the rest is accurately shown, in particular the helmets, because no helmet from around 800 AD has ever been found.

Here are some mounted Carolingian warriors from the **Psalterium Aureum**:

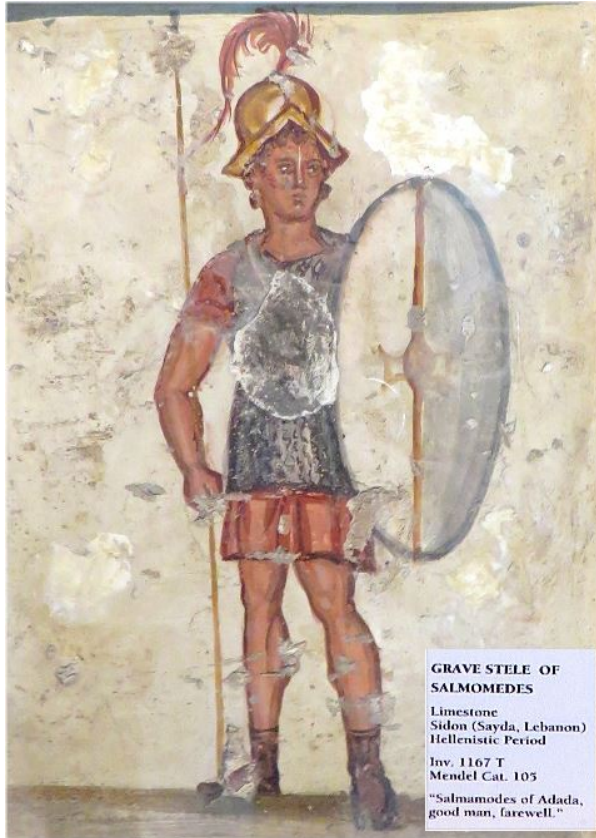


- The Psalterium Aureum was made in the second half of the 9th century in St. Gallen, a monastery in today's Switzerland. Note the peculiar helmet, and also note that a steel helmet was a very valuable piece of equipment, just as expensive as a good sword. It was also an extremely important piece of equipment. With an unprotected head you couldn't last long in battle, especially if attacked by cavalry.

Here is another picture from the "**Vivian Bible**", the Bible of [Charles the Bald](#). It was commissioned by Count Vivien, the lay abbot of St. Martin at Tours, and presented to Charles the Bald in 846.



- Same type of helmet, typical Frankish sword, and a cuirass type body armor. Unfortunately, these guys look a lot like warriors or Nobles in Byzantine or Roman times and may not show authentic 9th century Frankish gear. Below is a picture showing a Byzantine or Hellenistic helmet and a sculpture of some Roman hotshot. There is a similarity



**GRAVE STELE OF
SALMOMEIDES**
Limestone
Sidon (Sayda, Lebanon)
Hellenistic Period
Inv. 1167 T
Mendel Cat. 105
"Salmamodes of Adada,
good man, farewell."

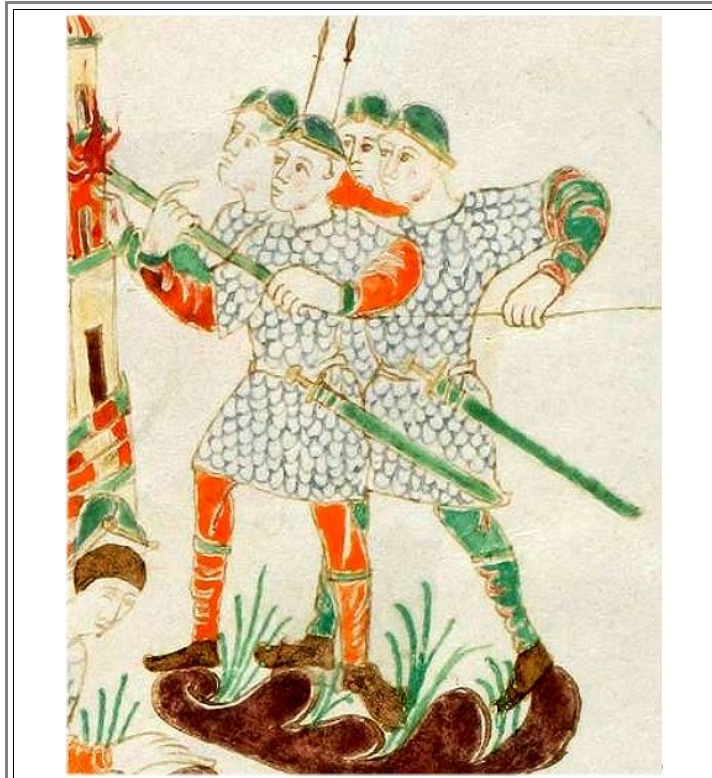
Source: Photographed in the [Archaeological museum](#), Istanbul; Turkey



Outfit of Roman army top guy

Source: Photographed at Pergamon; Turkey

- Guys who look a bit like those described by [Notker](#) can also be found. The helmets are of the same type as above. In addition they are wearing some kind of [mail coat](#) or "brunia" and carry lances, swords and torches (they are just putting the city of Edom to the torch). At least the swords are right.



Frankish soldiers (?)

[Large picture](#)

Source: Psalterium Aureum; digital library

- ▶ How large was a Frankish "army"? That is of some interest because it tells us something about the magnitude of the iron and steel weapons business. The forging of a 7th century pattern welded sword could only be done by a master smith, and he and his assistants were at work for something like 70 hours, just for the blade. One eminent historian (F. Lot) came up with the number 5.000 and this was it - until recently. Around 1970 it became clear that this was a typical "ex cathedra" proposition, based on nothing but what F. Lot [thought](#) about the question. Meanwhile the number has increased to 30.000 or so, based on estimates of how many warriors would result if one adds up what the King could have raised. Many entities like abbeys, monasteries (more than 200 in Charlemagnes empire), royal "patatia" (domains), duchies, and so on were required to send a specified number of soldiers if asked so by the King. Several 1000 entities existed that were under obligation to provide, and far more than 5000 could have been raised. That means that a lot of swords were needed, plus all the other hardware like helmets, mail, lance points, daggers, and so on. Obviously the weapon forging industry was not only up t the task of equipping the Frankish army but had enough spare capacity to make all these swords and other items that were found outside the empire all over Europe.
- We are forced to conclude that the industry must have grown *a lot* in the 7th and 8th century. There can be no doubt about that. We are not quite *forced* to conclude that the productivity must have gone up too, but there are good reasons to believe that this has happened. Bloomeries produced more and better iron and steel from the same amounts of raw materials, sword smiths had access to better materials at lower prices, and forging methods became simpler and thus faster. Exactly how that happened is anybody's guess. I have given a few more details about that already in the [backbone](#). You also may want to read Radomir Pleiner's [article¹](#); looking a the issue from the viewpoint of the "East".
- ▶ One of those turning points in history, instrumental not only for the building of the Frankish empire and thus the advancement of iron and steel technology, but the fate of all of Europe, was the **battle of Tours** on Oct. 10th 732, when Charles Martel defeated a superior force of an invading and plundering Islamic army led by Emir Abdul Rahman Al Ghafiqi Abd al Rahman of the Caliphate of the Abbasids. The Caliphate was a huge empire (look at the [map!](#)), put together not entirely peacefully in the name of Islam. Large parts of Spain had already fallen after 711, and the Emir was on the brink to move into Gaul / France for good. God (whichever one) only knows what would have become of Europe if the Emir would have won the battle.

- Charles Martel had only infantry at his disposal. All or most were without armor and the head count must have been between 15,000 and 75,000. The Muslims commanded an armored or mailed cavalry besides the infantry, and counted between 60,000 and 400,000 according to (unreliable) ancient sources. The lower numbers are most likely closer to the truth, and the disparity might not have been as bad as 1 : 4 or 1 : 5. Nevertheless, the Muslims had the upper hand in quality and quantity and should have won the battle. They didn't because of some clever strategies of Charles Martel and, obviously, because the Frankish soldier must have been up to his counterpart in all respects, including the quality of the weaponry.

If the Muslims carried swords made from crucible steel they didn't make a big impression on the Frankish, who wielded pattern welded swords or all-steel sword made from bloomery steel.

An *Arabic* account states: "And in the shock of the battle the men of the North seemed like a sea that cannot be moved. Firmly they stood, one close to another, forming as it were a bulwark of ice; and with great blows of their swords they hewed down the Arabs. Drawn up in a band around their chief, the people of the Austrasians carried all before them. Their tireless hands drove their swords down to the breasts of the foe."

- In 736 the Caliphate launched another massive invasion - this time by sea. It landed in Narbonne in 736 and took Arles. "Charles Martel once more descended on the Provençal strongholds of the Muslims. In 736, he retook Montfrin and Avignon, and Arles and Aix-en-Provence (with the help of Liutprand, King of the Lombards). Nîmes, Agde, and Béziers, held by Islam since 725, fell to him and their fortresses were destroyed. He smashed a Muslim force at the River Berre, and prepared to meet their primary invasion force at Narbonne. He defeated a mighty host outside of that city, using for the first time, *heavy cavalry of his own*, which he used in coordination with his phalanx. He crushed the Muslim army, though outnumbered, but failed to take the city. Provence, however, he successfully rid of its foreign occupiers" writes an unidentified expert on the Latin Library Internet site.

Here we may have an important point for the development of the long swords or spathae in the Frankish empire. Charles Martel learned from his foes that a cavalry was a good thing, set out to establish one of his own, and became the father of western heavy cavalry (with stirrups!). A cavalry man needs a long sword, and he needed discipline and extensive training. The old paradigm for raising an army, best described by "call up the free men with whatever equipment and skills they have to follow the king on a campaign" was now challenged, and eventually fully professional units materialized.

- All of that seems to have interfaced with technology development and possibly the centuries-old iron working technology along the river Rhine to the point that a "Made in Franconia" label on a sword had about the same impact as the "Made in Germany" label on present day cars and much other stuff. Some other countries make cars, too, and some are not notably worse than German cars, but ... well, you know yourself what you would get if you could [2](#).

And we know about the superiority of Frankish weapons because of the export restrictions. Funny enough, present day Germany also has a lot of export restrictions on things like fuel-cell powered submarines or Leopard tanks. The restrictions, however, did not prevent the spreading of the weapons all over the place - neither 1200 years ago nor right now.

We know about restrictions of exporting weapons (and many other things) from the "**Capitularies**", legislative or administrative acts, edicts or laws issued from the King; in particular Charlemagne and the Kings before and after him. The name comes from their formal division in capitula = chapters (German: Kapitel). A capitulary was sent to the various functionaries of the Frankish empire, and the chancellor kept a copy in the archives of the palace. In other words: Bureaucracy had started.

Here are few capitularies and edict of interest to us because they contain export restrictions³:

- **Capitulare Herstattense**, AD 779:

No one should dare to sell bruniae outside our kingdom.

A **brunia** (German: Brünne) is most likely a suit of chain mail but it may also denote just body armor in general

- **Capitulare Mantuanum**, AD 781:

Let no one sell arms or stallions outside our kingdom.

- **Capitulare missorum**, AD 792/93:

Merchants must not get leg guards or bruniae.

The Capitulare missorum also specified the armament the cavalry needed to possess: horse and armor, shield and lance, longsword (spata) and sax (semispatuma). In the letter sent by Charlemagne to Abbot Fulrad in 806, a bow and several quivers of arrows was added.

- **Capitulare de Villis vel Curtis Imperialibus**, around AD 800:

"Every steward shall have in his district good workmen, that is *blacksmiths*", plus a large number of other workmen like weavers. Blacksmiths, just as gold- and silversmiths, have no special status compared to all the other artisans and workmen enumerated. The steward is also instructed to make an annual statement of all the King's income, including income from forges and iron-working among a long list of other income.

- **Capitulary of Aachen**, AD 802/3

The Capitulary of Aachen made it obligatory for counts to have bruniae and helmets *in reserve*, in order to equip horsemen destined to be armored knights. However, infantry and cavalry men were not required to possess body armor. Foot-soldiers were to be with a shield and lance as well as a bow with a spare string and twelve arrows.

- **Capitulare from Thionville, AD 805**,
The Capitulary from Thionville says that merchants who travel in the territories of Avars and Slavs must not take arms and bruniae with them to sell.
 - **Capitulary of Boulogne, AD 811**
"It has been decreed that no bishop or abbot or abbess or any rector or custodian of a church is to presume to give or to sell a brunia or a sword to any outsider without our permission; he may bestow these only on his own vassals. And should it happen that there are more bruniae in a particular church or holy place than are needed for the people of the said church's rector, then let the said rector of the church inquire of the prince what ought to be done concerning them".
 - **Edictum Pistence, AD 864**, says that no man may without the King's permission may give or sell bruniae or weapons to a foreign man, and further that greedy priests must not let the nortmanni (= Vikings) have bruniae, weapons or horses.
 - **Charles the Bald** in AD 864 was reinforcing the old laws on exports. He threatened death to anyone caught supplying Vikings with arms.
- It didn't work too well. Not only did plenty of swords and other hardware make it to people outside the empire, the discrimination against Non-Franks was not well received in certain parts. The Vikings, according to some sources, figured if they couldn't legally buy the stuff, they just as well could take it by force and started raiding the empire and other parts of Europe. That is probably a bit too simple minded but there might be some truth to it. Anyway, the fact that the Frankish rulers tried to restrict the spreading of their weapons together with the fact the these weapons were coveted by all and sundry, does provide a strong argument for the hypothesis that the Frankish heartlands were the leading centers of early medieval iron and steel technology. If one equates the Frankish heartland by the general regions along the lower Rhine valley, including what is today Suebia, it should come as [no surprise](#). Nowadays this region supplies the world with Mercedeses and Porsches.
- Going for the best always means that you pay more. During the reign of Charlemagne, the Lex Ribuaria, a 7th-century collection of Germanic law, gives the following numbers:
"If someone must pay wergild, than a horned, sighted ox counts for 2 solidi. A horned, sighted and healthy cow counts for 1 solidus. A sighted and healthy horse counts for 7 solidi. A sighted and healthy mare counts for 3 solidi. A sword with scabbard counts for 7 solidi. A sword without scabbard counts for 3 solidi. A good breast plate (or chain mail byrnie) counts for 12 solidi. A usable helmet counts for 6 solidi. Good greaves count for 6 solidi. A shield and lance count for 2 solidi."
Why a scabbard should be so expensive is a bit unclear. Probably the whole system, with belts and silver trimmings, is implied.
 - The "**Saracenes**", the Islamic forces in the Caliphate, also went for Frankish swords. They demanded 150 swords as ransom for Archbishop Rotland of Arles in 869 - on top of 150 pounds of silver, 150 coats and 150 slaves. The Franks, in turn, put some value on the swords they had captured from the Islamic Forces in Spain or elsewhere. One source refers to them as "spata india", Indian swords - a clear indication that these guys new where Saracene swords or at least the steel for their blades came from.

The Smith

- What do we know about the master smiths in the Frankish empire who were able to forge complex pattern welded blades or advanced all-steel blades, not to mention chain mail, helmets, and so on? And the people in the supporting infrastructure like the the guys (and galls) who dug out the ore, smelted the iron / steel, finished the blades, made scabbards, and so on?
The answer is rather clear: Almost nothing.
- We can be rather sure, however, that every town had a blacksmith who made or mended the every day objects needed in any farming community. And we can be rather sure that most of the iron smelted was going into these [more pedestrian things](#). The "weapon smith" (German: Waffenschmied) was a specialist, most likely focussing on just a few objects, e.g. either swords or chain mail. His market was restricted and since he was a valuable asset to the upper class in need of weapons, he was probably "owned" by his superior - like most everybody else.
Anne Stalsberg³⁾ uses the ugly word "**slave**" for this and points out that the slave trade was a large part of the economy in the Frankish empire - and in all the others. She refers to two rather telling examples:
 - **Alcuin**, Charlemagne's Anglo-Saxon adviser, was abbot of four abbeys which had more than twenty thousand slaves.
 - The Emir of Cordoba, probably Abd ar-Rahman II, bought five thousand slaves from the "Franks" in AD 822 for use in his troops and administration; not to mention his harem.
- Could slaves have the high level of skill required to forge a sword, not to mention the motivation? Certainly! Slaves were not necessarily an uneducated lot but just as bright and possibly better educated than their masters. The "be motivated or else" managing principle has also worked quite well throughout the millennia. Nevertheless, giving all the secrets in the process chain needed for making a complex blade, one is entitled to wonder if the work of a slave could really measure up to that of a free master smith who was the scion of a long list of master smiths before him, learning the secrets for making master blades from his father.

- The answer is simple. Any able bodied person with a minimum of talent can make chain mail after some training. Making a complex pattern welded sword is no problem either for a handy slave as soon as this can be done by a standard process without any special secrets. The slave still needed to assess the right temperature by the color of the hot iron, for example, but this is not too difficult if you *know* what to look for. Same thing for the right time in the quenching liquid, and so on.

▸ In other words: The strong increase in the quantity of iron things and especially complex steel weapons triggered by the building of the Frankish empire most likely also triggered a certain "industrialization" of the process. No longer just single master smiths with a few helpers here and there, but concentrated manufacturing with a hierarchy of money-driven managers on the top, intermediate levels of specialists and shop bosses, and plenty of cheap labor in the form of slaves.

- This is contrary to the notion that blacksmiths had a special position in most society, and therefore could not have been slaves. First, the special position might have existed - but it might have been right at the bottom of the social ladder, like in [Africa](#). If the social position of smiths was not right at the bottom, it was not very high up either for sure. Frankish literature like the "Capitulare de Villis" above makes rather clear that smiths were not seen as special at all.

▸ If all of the above this is right, we also can understand why Frankish weapons abounded outside the empire, despite all the restrictions.

- A place that made weapons in bulk close to a trade center had a far easier time to funnel off some contraband for illegal and profitable exports than a single smith in his town in the middle of nowhere. The upper-crust guys running the enterprises always needed more money, were able to "network", and had the means for the necessary bribes.
- While the small town master smiths never left his town, slaves were traded and the knowledge thus spread. Get a slave knowledgeable in making sword blades, either by buying him or taking him in a raid, and you could start making your own blades. Since the guy was now outside a well-established infrastructure for supplying good iron and steel, his blades still looked right but the quality would tend to be inferior.

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- 1) Radomir Pleiner: "Vom Rennfeuer zum Hochofen Die Entwicklung der Eisenverhüttung, 9.-14. Jahrhundert", in: EUROPÄISCHE TECHNIK IM MITTELALTER 800 bis 1200. Ein Handbuch; herausgegeben von Uta Lindgren. (1999?) p. 249 - 256
 - 2) One upon a time, when I arrived at the JFK airport in NYC still half asleep, I picked the wrong line ("USA citizens only") for the immigration procedure. The officer, a young guy, gave my wrongly colored passport one look and said: "Can't you read?" I woke up and replied "Sorry about that, excuse me please". When I was about to turn back he asked me: "where are you from?" I said: "Germany", which elicited the question: "What car do you drive?" I replied "A Mercedes sports car" and got the response: "You are excused." He did whatever they do in their cubicles and I could enter the Land of Plenty except good cars.
 - 3) The data are mostly from [Anne Stalsberg's](#) and [Valerie Dawn Hampton's](#) articles.