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INTRODUCTION TO THE HISTORY OF THE EUROPEAN SWORD

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Weapons and Conditions of Life

Most races, tribes or civilizations have weapons of their own, characteristic of them and made in accordance to the particular methods of war which suit their mentality and conditions of living. In the types, shapes and methods of using the different specimens, nations or races reveal something of their character, temperament, social conditions and civilizations. The different categories of weapons, the combination of arms in war and the tactical organization are products of their conditions of life and their social conditions. An examination of the interaction between weapons and civilizations in general is important as a means to solve problems concerning the various culture-centres in antiquity as well as in later epochs. Nomad tribes and peoples living on the steppes or in deserts with long distances, as a rule are mounted and need weapons corresponding to their particular manner of living, weapons which are practical and handy, when used from a horse back (or on a camel). Bow and arrows must be considered an important weapon to horse breeding nomad tribes, just as for instance javelins or light spears may be easy for them to use. The sword is of less importance to the warrior, when he is fighting from horseback, though we see it now and then. When he has dismounted and is fighting on foot, the sword, particularly the short sword, becomes a useful help in a hand-to-hand-fight. Barbarous peoples living in mountainous districts often use other kinds of weapons, such as lances, knives, hafted weapons, which they can easily bring with them in an impassable terrain, just as we see it among the primitive Slavonic mountain tribes of the Balkans in early Middle Ages.

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Agricultural peoples on fertile plains, for instance the populations of the Danubian Valley, peoples living in fortified places such as the Mycenaean castles or the cities of Argolis, as a rule need other kinds of weapons than for instance the nomadic peoples on the steppes of Ukraine, the populations of North Iranian mountain plateaus or the Bedouin tribes of the desert. The tactical organization differs in regard to the division of armies into infantry, cavalry, charioteers, artillery and the like. Of course there must be a difference in the armament of the mounted nomadic tribes of Central Asia, the charioteering Hittite peoples, mounted or charioteering Assyrians, Egyptians, North African Berber tribes and the infantry peoples of the Aegean islands. The light Scythian horsemen with bows and arrows, as their primary weapons and the short akinaces as secondary weapons, for use when fighting hand-to-hand on foot, differ greatly, for instance from the Classical Greek infantrymen, the hoplites with scale corselets, crested bronze helmets, greeves, lances and thrusting swords or single edged machairae. There is a fundamental difference between the heavy armoured, mounted Sarmatian warrior with his cavalry lance and long cut-and-thrust sword at his left and the akinaces at his right, and the Roman legionary soldier with his gladius Hispaniensis for thrusting and his pilum or other kinds of spear or lance. The late Celtic La Tène swords of type III, the long slashing swords without points (sine mucronibus) as Titus Livius and other antique authors tell us, differ from the pointed Sarmate cut-and-thrust swords. The two peoples have a different method of fighting and different tactics. Though Celtic warfare has been influenced from the East, there is a difference in conception of methods and armament.

The Visigothic and the Lombard double edged cutting sword was used from horseback as a weapon secondary to the cavalry-lance as we are told, for instance by Procopius, Julianus de Toledo, Agathias, Paul the Deacon and other authors of the time. But these swords differ widely from the contemporary Sassanian cavalry-swords, particularly in the hilts, though they have, to some extent common sources in the Central Asiatic world. In the warriors' methods of grasping their sword-hilts they differ widely and reveal a clear and evident distinction between Germanic and Eastern conception and mentality. Originally the East and North Germanic peoples were footmen without a sword, at least without a double edged sword, as we are told by Tacitus and Livius. Their first iron swords were broad single edged iron knives or cutting swords, in type related to the saxes and scramasaxes of a later time. Ultimately all of them possibly originate in the East.

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From a rather early time we find a pronounced difference between South and North, East and West, between horsemen and footmen, civilized nations and barbarous peoples. An interdependence is existing between the shape of weapons and the manner in which they are used. The combination in war of weapons and methods of using them depends upon the military organization which is predominant in the societies concerned. A state or society with a highly developped level of civilization has a more complicated military organization than a primitive society. The weapons of offence develop in correspondence with the development of protective weapons.

The evolution of each category of weapons may often seem to take a uniform course, at least in its main features. But it is only apparently. The details may show profound and important differences in their course of evolution, indicating for instance folks' movements, trade connections, local peculiarities, modes etc.

Mediterranean and Central European Lines

As to the *Mediterranean* and the *Central European* civilizations (Europe, Near East, North Africa) a distinct dividing line is easily seen, already from the earliest epochs. This dividing line is more or less evident through the ages, but still noticeable up to the 17th century A. D. or even later. This line distinctly parts weapons and the manner of using them in a *Mediterranean* and a *Central European* group, — and after the time of the Great Migrations in a *Latin* and a *Germanic* group. In spite of many changes during centuries, in spite of folks' movements, wars, conquests and the like, commercial interchanges, technical evolutions and vicissitudes of life, this line is actually existing through the ages not only as far as concerns arms and armour, but in material and spiritual life. The expansion of *Christianity* (for instance the foundation of monasteries) took almost the same course from the Mediterranean to the Atlantic, through the Irish to the English lands and from there across the Channel back to Europe again.

From Migration time and onwards the European dividing line is following the ancient Roman limes, the Alps and the Rhine marking a pronounced border line.

Already from the first metal ages in prehistoric time, when weapons — particularly the sword — besides fibulae and pottery are among the most important index-objects supported by burial costums, such as inhumation or cremation rites and the like, we are able to discern two main centres in European civilization: the *Mediterranean* and the *Central European.*

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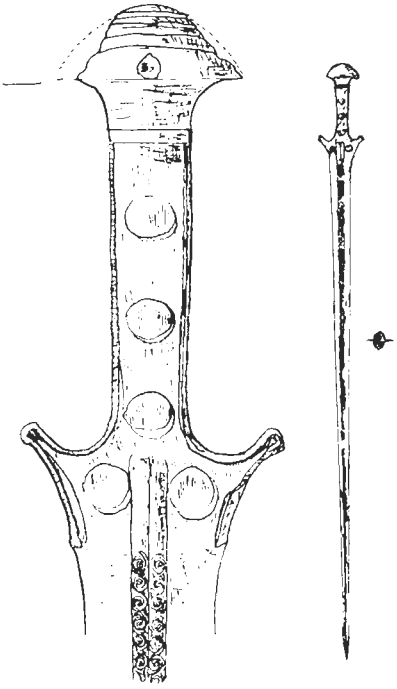

Fig. 1. Bronze rapier with ivory pommel and gold collars on the grip. A double row of connected spirals in relief on the central rib of blade. From »Chieftain's Grave«, cemetery of Zafer Papoura, Crete. Total length 95,5 cm. Late 15th century B. C. (Archeol. Mus. Heraklion, Crete).

In the Mediterranean group we find the *thrusting* sword in the shape of a rapier (fig. 1), with a leafshaped, pistil blade and a pronounced point, or the socalled carp's tongue point, as a very important object used by footmen [1]). In the Provençal part of France, along Rhône—Garonne, in the Paris basin, at the Atlantic coasts, in North-Western Spain, and in some parts of South England these carp's tongue swords still indicate the method of thrusting at a time, when Central Europe had passed to the use of cut-and-thrust swords[2]). At the height of the Bronze Age Midland Europe shows more heavy types of swords than the contemporaneous Mediterranean areas, though in this remote period both the Mediterranean and the inland types all seem to be thrusting weapons. In the later part of the Middle Bronze Age, true *thrusting* swords are found together with the first *cut-and-thrust* swords. The two main types differ in various details, though they ultimately seem to originate from almost the same sources. During the Early Iron Age Midland Europe sticks to the cut-and-thrust sword (fig. 2), but the Mediterranean still prefers the thrusting sword, now a short weapon, often

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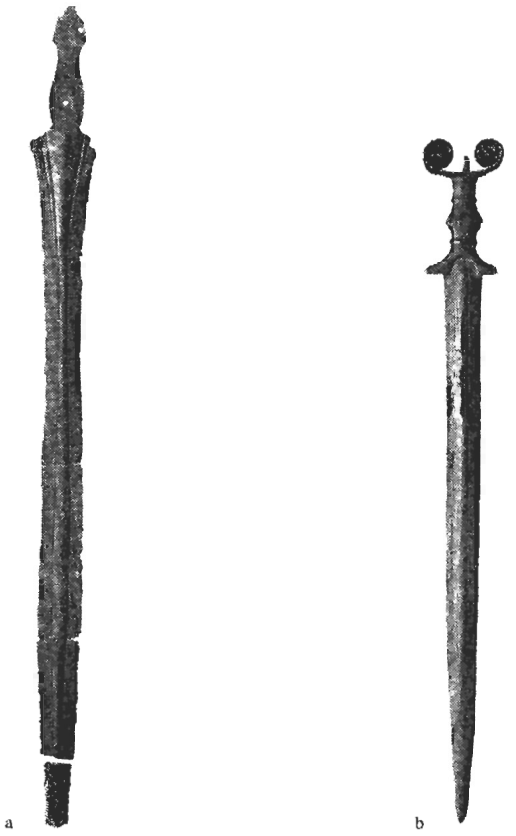

Fig. 2. a: Hallstatt sword of early type for cut-and-thrust. Bronze. From a votive offering at Holbæk, Denmark. Total length 85 cm. (Nat. Mus., Copenhagen).
b: Bronze sword of antennae type, mainly for thrusting. (Compare Rhône Valley types). Found in Denmark, probably import from Germany. Possibly 6th cent. B. C. Total length 64 cm. (Nat. Mus., Copenhagen).

more like a dagger than a sword. During Later Iron Age matters have changed in various sites. New influences have appeared, both in military equipment and in tactics, and the evolution has grown complex. The Early Iron Age long cut-and-thrust sword has been replaced by a short stabbing sword possibly indicating a change in tactics. Other types of cutting and thrusting swords appear, mix

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and create still new types of swords, intended for one or another kind of cavalry or infantry, until at last the basis was established for the medieval knight's swords. Cavalry is used among some barbarous peoples, for instance the Celts, long before it became known to the Germanic tribes and even before it came to play any part of importance in the Roman armies. Chariots were in use among the Celts at a rather late time, and Cimmerian charioteers wielded their long slashing swords, as seen on a Clazomenian sarkophagus in the Brit. Mus. The greater part of the Roman cavalry was recruited among the barbarous tribes — the auxiliary cavalry. The Romans themselves preferred to fight as infantry. The Greeks were almost always footmen; mounted were only the chiefs, commanders and the nobility. In Greek vase painting we find the heavy hoplites acting as footmen just as the light armed bowmen, the peltasts, while warriors of Asiatic origin are often mounted, for instance the Persians and the Asiatic Amazones. In Spain matters differ, particularly in the last centuries B. C. The Iberians in Andalucia mostly act as infantry, equipped with lances and falcatae, the Iberian horsemen only with a cavalry lance, while the Celt-Iberians both act as heavy armed infantry, light armed infantry with stabbing swords and rapid cavalry, armed with lance [3]). The Punic armies of North Africa fight as heavy armoured infantry with stabbing swords and as light and rapid cavalry with lances, as for instance the swift Numidian cavalry. The Germanic tribes were mainly footmen. But they did not use the sword, did not even possess a sword, their main weapon being the framea, the particular kind of spear, mentioned by Tacitus in his Germania, and an axe. A single edged knife or cutting sword is known from archaeological finds, at least among the Northern and Eastern Germanic tribes. Few among them owned a sword, says Tacitus in Germania cap. VI. The Germanic tribes did not even use a dagger. They preferred the single edged knife equally practical as a weapon and as a tool. The Mediterranean footmen used their double edged and pointed sword for *thrusting* and besides the sword they often had their daggers of almost the same shape as the sword. This is already obvious from the late Bronze Age swords and daggers of the Huelva type. Swords and daggers constituting a suit is for instance seen from Numantia, from the 4th and 3rd centuries B. C. For *cutting* the Mediterranean peoples — at least in Classical time — used their single edged machaira or falcata (fig. 3). The Picenes of the Adriatic coast of Italy used their single edged Bosnian knife. Already the Myceneans had had their long and heavy bronze cutting swords with single edge.

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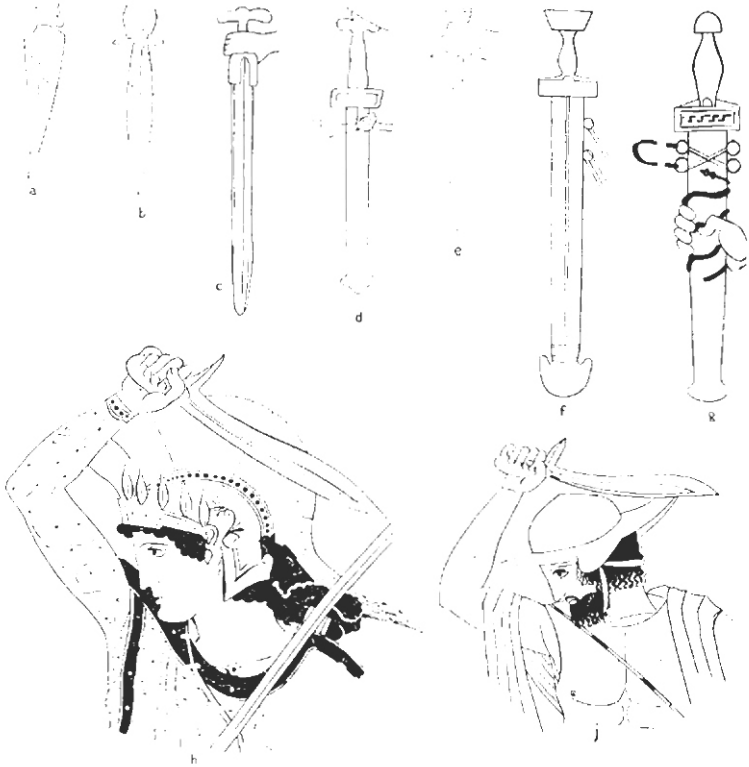

Fig. 3. a–b: daggers; c–e: swords from Greek black-figured vases; f–j: from red-figured vases; h and j: amazone and Greek warrior with machaira. 6–5th century B. C.

Archaeological facts — supported more or less by contemporary illustrations and even by literary documentation — inform us, that the double edged sword does not constitute the most important weapon of the warriors' armament. It is by far exeeded by the lance. But it almost always seemed to belong to aristocracy or to warriors of a certain prosperity. Through almost four millenia it was the most trustfull and dependable companion of the high-born man in the various civilizations, just as the dagger oo knife was an important auxiliary instrument to the poorer classes. As an instrument of war it was exceeded by the lance. Sensitive to even the finest and smallest influence it was always like a living organism, in

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its details reflecting the changes of time, social standard, tactics, national character and skillfullness of artsmen and artisans.

Thrusting and Cut-and-Thrust

Roughly speaking the sword is only a metal blade — of bronze or iron — a knife or a spear-head with single or double edges, more or less pointed, and provided with a handle or grip by which to make it employable for cutting, slashing, thrusting etc. The details of the hilt with the grip, quillons and pommel, the shape of the blade with midrib or fuller, its size and character, pointed or blunt, the decoration of hilt and of scabbard such as mountings, chapes, porte-épées etc. are the facts upon which the student has to base his examinations with a view to ascertaining chronology, nationality, purpose and all the other points of relation to human life and civilization. They constitute his means to place it in its true cultural surroundings. All these details are of importance, giving informations about folks' movements, national history — political as well as spiritual and material — about art and craft, trade, social conditions, about life at court and daily life among civilians. To students of prehistoric times, the development of the sword in its various shapes and details is an important index, in regard to his examinations and conclusions.

As to the European sword and its relatives in the Near and the Middle East as well as on the African borders of the Mediterranean, two main lines must be kept in mind: the *thrusting* and the *cutting* or better to say: *cut-and-thrust* line. Just as the knights of medieval time, particularly in Central and North Western Europe at a certain period used a combination of the two main types — the cut-and-thrust sword — the prehistoric and the antique peoples traversed a period in which cut-and-thrust swords were dominating a great part of the civilized world, — a transitional or experimental period. The *double edged thrusting sword* is above all the sword of the *infantryman,* the *double edged cut-and-thrust or cutting sword* that of the *horseman* and — in antiquity — the *charioteer.* The horseman's sword need not be single edged or curved, — on the contrary! In antiquity the single edged curved weapon was that of the footman. The true curved sabre is not in use until at a far later time, — with the exception of some curved Hittite bronze swords, the Assyrian sapara, and the Egyptian kopsh. The heavy armoured horseman of the Near East is using his double edged, long sword for cut-and-thrust, and has as his uttermost instrument of

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defence the short sword or dagger, just as the light-armed horseman has only his short stabbing sword or dagger.

As to the barbarous civilizations in Midland and Northern Europe the *single edged cutting weapon,* sax or scramasax, belongs almost exclusively to the footman, just as the Picene knife of Bosnian origin, the Greek machaira and the Iberian falcata are infantry weapons. The last one is known from the excellent specimens found in various sites of Andalucia, depicted on Iberian vases or seen on bronze figurines of warriors. During prehistoric Bronze Age the stabbing sword seems to be predominant all over Europe and in the Near East. But in the early centuries of the first millenium B.C. the Assyrian horsemen, for instance, wear long, slender swords in their girdles, possibly a combination of cutting and thrusting swords, though they are almost always represented using bows or lances. Assyrian footmen are sometimes armed with short and pointed stabbing swords. From chariots Assyrians and Egyptians do not usually use their swords, but their bows, slings or other kinds of missiles. The battle of Kadesh in the 13th century B. C. between Egyptians and Hittites was settled by chariots. In the Aegean world chariots were introduced either from Egypt or Asia Minor, or from both, but the chariot was here mostly used as a means of transport, which brought the warrior to the battle field in order to challenge his antagonists to a single combat. In the Homeric epics the chariots are used in that way. The Greeks and the Etruscans only used their chariots for transport as shown in vase paintings representing Warrior's Departure, a most popular subject. And even in Greece and Etruria as later on in the Roman empire, the chariot was mostly used for ceremonial processions and for sport. The barbarous peoples, for instance the Celts in Gaulish France and in England, took over from the Mediterranean world this vehicle of war, and used it after it had gone out of use in South Europe, as testified by Caesar, Strabo, Pomponius Mela, Tacitus and others.

The cut-and-thrust sword probably appears in the 14th century in the Near East, possibly in Anatolia or Caucasus, among the Hittites and in Palestine. Transitional types are known from Ras-Shamra before 1360 (palace of Ugarit [4]). At least from the 13th century it is known in Egypt, where a dated specimen of *iron* with the cartouche of *Seti II* (before 1214) has been found in Tell Firaun in the Delta, while other specimens have come into light for instance at Bubastis. (Daggers with excellent iron blades are known from the tomb of Tut-ankh-Amun, 14th century.) Long swords were possibly unknown in Egypt before the New Empire. In Theban time they occur on the tomb walls, worn for instance by Cretans, Philist-

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ines and other foreign peoples as a tribute to the pharaoh. From the proto-geometric and possibly from Dipylon time are some Greek specimens found in Athens and in other places on the Greek continent, some of them of iron. On the geometrical vases warriors are represented in hand-to-hand struggles using their long swords mostly for thrusting. Their military equipment consists of a long sword and dagger, placed horizontally in the girdle.

The change in Central Europe from thrust to cut-and-thrust possibly took place at the end of the Late Bronze Age or in the transitional period between Late Bronze Age and Early Iron Age, about 1100 B. C.[5]). Possibly it came from Anatolia in Asia Minor to Thracia by way of the Danubian Valley at the beginning of the first Hallstatt period together with the peoples who brought the new burial rites (cremation- and urn-fields). The cut-and-thrust sword may have been an invention of the charioteering and mounted peoples of Asia Minor, just as the long cut-and-thrust sword of medieval Europe was a creation of the knighthood's steel-dressed man-and-horse in the 14th century A. D.

Greek, Roman and Celt-Iberian footmen used their thrusting swords, when fighting hand-to-hand (fig. 3). This is evident from literature and from representations in contemporary art. The same was the case with the later Hallstatt peoples, when the short stabbing sword had come into use again after some centuries, in which the long cutting sword had been dominating. The decreasing size of younger Hallstatt swords indicates a change from the old Hallstatt charioteering or cavalry tactics either to a light rapid cavalry similar to that of the Scythians or to an infantry. In the north of Europe iron is only known at a rather late time. It is not until about 400 B. C. that this new metal penetrated into the Scandinavian countries. The last centuries of, for instance, the Danish Younger Bronze Age (ca 800—400 B. C.) was a period of gradual decline from a high stage of refinement to a poor civilization. In this period bronze was at hand abundantly in Midland Europe and possibly much cheaper than iron, the late appearance of which may be due to economic and commercial reasons. The contacts with the Southern world for some reason grew weak (failing amber trade?) During the first 200 years after the end of the Bronze Age, iron objects are scanty. The so-called Celtic Iron Age in Denmark only shows scarce remnants. From about 300—200 B. C. we have the important find from Hjortspring in Als, the boat containing a rich war-booty of spear-heads, shield-bosses, faint traces of byrnies and some swords of iron; but the swords are single edged cutting weapons.[6]) The total warrior's armament found here is characteristic of a

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footman. It corresponds well to the knowledge we get from Tacitus. It is not till 200—300 years later we find the first traces of horsemen in this part of the world, horse bits, briddle and long Roman cavalry swords.

The Archaeological Material

Most of the prehistoric material, particularly in the Bronze Age consists of sword blades, in some cases with the hilt or parts of the hilt preserved. Now and then we find mountings, chapes or more rarely complete scabbards. The blade is the primary material for an examination. The illustrations of swords in art objects are rather scarce. In the Iron Age — on the other hand — the blade has sometimes been more or less spoiled. In some instances, then, the archaeological material mainly consists of parts of hilts, fragments of blades and — in some parts of the world — of metal covers for scabbards (for instance among the Scythians.)

From about 700 B. C. and onwards the pictorial representations, for instance in Greece, Italy and the near East, increase and form a good support for the student.

While the blade is a most important guide to the study of prehistoric swords, the guard seems to be more important as a guide to the history of medieval swords. During the Middle Ages almost all the blades were forged in great factories, in centres of Spain, Italy, South France, Austria and in Germany. They were mass production, not individual work, while the guards were more or less an individual work by sword-cutlers, goldsmiths or chiselers, or it was a teamwork by artists, goldsmiths, jewellers and sword-cutlers. Only when the blades bear stamps, marks, inscriptions, coats of arms, names or special ornaments, they yield a more detailed support to the determination of chronology, nationality, ownership etc.

During pagan time the warrior was almost always buried with his arms, particularly his sword and spear, either in his inhumation grave or in a cremation burial. Sometimes the sword blades have been purposely bent, sometimes we find them more or less spoiled by the fire. From certain epochs swords have been found in offering deposits, for instance in rivers, wells, moors etc. With the expansion of Christianity burial costums changed. The sword did not as a rule attend its owner in his tomb. Sometimes it was hung on the wall in his burial chapel, together with his helmet, shield and spurs, or it was placed upon the lid of his coffin. Now and then we find it in the sarcophagus. But the archaeological material from the Middle

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Ages is not by far so rich and usual as from pagan time. Swords have been preserved in churches and abbeys, in ecclesiastical and royal treasuries, in the armouries of castles and town-halls. An examination of the evolution and the use of the sword in the Middle Ages must be based just as much or even more upon representations in art, sculpture, painting, manuscript-illuminations and upon literary sources such as handbooks in the art of war, chronicles, annals and the like.

The Broad-Sword and its Routes

An examination of the prehistoric swords shows, that the *thrusting sword* is a *Mediterranean occurrence,* just as the footman is the characteristic Mediterranean type of warrior, whether from Crete, the Aegean islands, Continental Greece, most parts of Italy, Sicily, Sardinia, the Balearian islands or the Iberian peninsula. The thrusting custom mainly seems prevalent in coast civilizations. Even in the Atlantic parts of France up to Brittany and across the Atlantic to Ireland, South England and to the coasts of Denmark we find the Early Bronze Age footman with his thrusting sword predominant, as far away as Mediterranean influence reached. The *cut-and-thrust* or the *pure cutting* custom seems mainly to belong to *inland civilizations* in horse breeding nomadic cultures or on agricultural plains. The cut-and-thrust method first came to Central Europe from Anatolia across the North Balkans or from Syria and Egypt via the Aegean islands. Later on a new wave of cut-and-thrust or cutting came from Central Asia and North Iran by way of South Russia and Danube to the Romans. From the territories of Danube, Hungary, Boehemia it penetrated through Central Europe to northern parts of Germany and reached the Baltic coasts and the Scandinavian countries. The chariots had come to Europe by the same routes as the cut-and-thrust sword.

Among the Midland European tribes, particularly the Germanic peoples between the Elbe and the Baltic and farther to the North originally were footmen too. It is true that during their Early Bronze Age they are mostly using the thrusting sword, which is no wonder, considering its origin. As to the Scandinavian countries, for instance Denmark, the oldest and the »classical« Danish Bronze Age swords, from the Danish socalled Old Bronze Age, corresponding to the periods about 1500—1000 B. C., are of the pistillike type, thrusting swords, while the swords from about 1000—600 B. C. to some extent seem to be influenced by the transitional Midland cut-and-thrust swords with heavy blades, grip-tongues and some-

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times pommels of the »Mexican hat« types (Oakeshott: Archaeology of Weapons). The latest Scandinavian Bronze Age swords from about 600—400 B. C. are degenerate, long, slender rapiers, with tang or a combination of tang and frame, a rather weak and decadent construction of grip, of no real worth.

The first Germanic iron swords are single edged cutting swords, — the national weapons at least among the East Germanic tribes. Maybe this sword originated in the Eastern world too. It came together with the iron to the North. When during the 4th or 3rd centuries B. C. some of the Germanic tribes migrated from their homes and crossed Central Europe from East to West, reached South France and North Spain and at last turned their steps towards Italy, they brought with them their single edged cutting swords. The Gothic tribes — of Germanic descent — who crossed the Danube and went to the Black Sea, to South Russia and Crimea and founded a kingdom of their own, more or less as friends or conquerors of the Sarmate peoples, learned the use of cavalry with cavalry lance and long, double edged cut-and-thrust sword. On their return from the steppes to the Balkans and the Danubian Valley, where they fought against Rome attended by parts of the Sarmate and Alane tribes, they used the Sarmate double edged cut-and-thrust sword (378 A. D.). In the 4th century A. D. they penetrated the Italian peninsula (395 A. D.), together with their Asiatic combattants. The Visigothic king Alaric and his tribes conquered Rome in 410 A. D. Shortly afterwards they left the Italian peninsula and turned their steps against South France and North Spain, and in the 5th century (ca. 415 A. D.) they founded the Visigothic kingdom in Spain, which lasted for three hundred years, until it succombed to the Moslims in the year 711 A. D. During these three centuries and particularly during the Migration time the impulses which the Germanic tribes had brought back with them from Bosporan territories influenced Roman, French and Spanish military art. The broad-sword, composed of elements from the Celtic La Tène III, the Sarmate-Alane cavalry sword and the Roman gladius of Spanish origin (gladius Hispaniensis), was adopted, and from it evolved, in South and West Europe, the well-known spatha type. The heavy cavalry battle of Adrianople in the year 378 A. D. had given an incitement to an augmented cavalry in the Roman empire, particularly in the East Roman part. The Western yet preferred infantry.

Still an infantry existed in South Europe, equipped to some extent with stabbing swords. But monuments, erected for Roman legionaries, for instance in the provinces, often show the footsoldier

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wearing the new spatha type, sometimes still furnished with the old gladius-hilt.[7]) In Visigothic Spain, and in North Italy where another Germanic wave, the Lombards, had succeeded the Goths well-armoured cavalry became predominant. In Merovingian and particularly Carolingian France the cavalry increased in importance. The spatha succeeded the gladius. After a few centuries even the single edged cutting sword disappeared here. But the Germanic method of wielding a sword whether single- or double-edged grew still more common, even among parts of the Mediterranean peoples.

Though both the Mediterranean peoples in the Roman empire and the Germanic tribes north of the Alpes and east of the Rhine are influenced by almost the same peoples in the East, this influence evolves in two directions, a *Latin* and a *Germanic*. Through the last centuries of the Roman empire, through the Middle Ages and even through the time of the Renaissance and just up till the end of 17th century A. D. these two lines of development are evident. The Latin type of sword and rapier, the Latin manner of grasping the hilt and the use of the weapon differ from the Germanic manner. The guard, the quillons and the bows and branches of the guard evolve in a manner different to the Germanic. A fundamental distinction is to be noticed, based upon fundamental differences in mentality and character.

The Medieval Sword

A mixture of Celtic, Germanic and Mediterranean elements grows into the *Latin* type of medieval sword and even leads to the *Germanic* type of medieval sword. But the treatment, the understanding or the »translation« of these same elements differ widely. The sources from which they borrow are to some extent common, they are originating in the same corner of the East. But the routes of the currents are moving not only along the shores north and south of the Mediterranean, but even across Hungary and Bohemia. The Alps and the Rhine form the boundary lines. The Latin line gets a very important influence from the Byzantine empire. This Byzantine influence has its outspring in Persia during the Sassanian kingdom and during the early Caliphate. It moves across the islands of the Mediterranean to South Italy, Sicily and Spain. One branch of influence is moving along the shores of North Africa via Gibraltar to Spain. When the Damascus Caliphate parts in an Eastern and a Western Caliphate with centres in Baghdad and in Córdoba, the Oriental line becomes reinforced on the Iberian peninsula. When some centuries later new Berber tribes are crossing the Strait

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of Gibraltar, particularly the Benu Marin tribes in the 12th and 13th centuries, the Latin line gets a strong impulse, which gives birth to the socalled finger-bows, the pas-d'ânes and the »Italian« method of grasping the sword handle. This new method is seen on the Iberian peninsula already in the 13th century, if not before! The relations during the 8th and 9th centuries A. D. between the Eastern Caliphate, the Byzantine emperor and the Frankish emperor Charlemagne give excellent supports to the evolution in Western Europe.[9])

The Germanic line became influenced by the Eastern waves too, passing through the Danubian Valley, Hungary to Saxony, Northern Germany, and just crossed the Baltic to Scandinavia. This line shows a more heavy type of sword, broader, less pointed, with straight quillons, another manner of grasping the sword handle, and particularly the cutting blow. Centuries later, during 15th and 16th centuries, currents from the East brought to Europe the Turkish curved sabre. The Hungarian light cavalry sabre and the Polish karabelas were influenced from the Turkish types. The curved sabres or even the straight swords with single edge still played a far more important part in Central Europe than in South Europe. The border lines between the Latin and the Germanic methods still follow closely the frontiers of the antique Roman empire. A strange mixture of Latin and Germanic elements characterized the development of the swords and rapiers in England, while for instance the Low-Countries and particularly the Flemish parts, received more Latin than Germanic influence.

The classical knight sword of the Middle Ages has its basis in the spatha of Migration time, this product of Sarmate cut-and-thrust sword and Celtic slashing or cutting sword. The Roman cavalry sword had received influence from the old legionary gladius with its stabbing point. The Roman cavalry swords from the 2nd and 3rd centuries A. D. are long, slender with midrib and a sharp point. Technically they are of an excellent quality, damascened steel from the factories in Noricum and various North Italian places if not imported from Spain. Blade manufactures soon came up in the Roman military quarters along the Rhine. Often the blades from these factories have stamps just as some of the Celtic La Tène sword blades had a stamp. Or we find a maker's name — a pure Latin or a Latinized barbaric name. The Sarmate and Gothic swords had preserved their sharp point, but the spatha type, which developed in Merovingian France, and which particularly during Carolingian time grew still longer and broader, got a more blunt point.

The nordic Viking sword is mainly a continental evolutionary

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Fig. 4. Iron sword with damascened blade. Pommel of gilt bronze, one side with carved animal decoration, the other with cloisonné of red glass. From Bildsø, Denmark. 8th century. Total length 87 cm. (Nat. Mus., Copenhagen).

form of the Merovingian Migration sword. It was further developed in Carolingian forgeries (fig. 4). Local performances of hilts are found side by side with Frankish importware or imitations of Frankish types. In eastern Scandinavia influence may be seen from Bosporan territory, but more or less transformed, owing to the passing through East Germany, Poland and the Baltic coast lands. Sword-hilts, mountings and chapes sometimes show this foreign influence from Byzantium, Persia and other parts of the East.[10]) But this influence is mostly to be seen in the style of decoration and in the decorative elements rather than in the shapes of the pommels. The continental or rather *Germanic medieval sword* from 11—12th centuries and just up until after the middle of the 13th century

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is a common continental swordtype, the brazil-nut pommel — the simplified successor of the Carolingian and Viking pommel of Jan Petersen's type X and Y — and the horizontal, square sectioned quillons are their predominant characteristics.[11]) The brazil-nut-pommel never became usual in the Latin world. It is found now and then in North Italy, possibly due to influence from Switzerland and Austria. It occurs but rarely in pictorial art from Northern Spain. When the disc- or wheel-pommel, coming from the South, began to replace the brazil-nut-pommel, it took a more solid and heavy shape, than seen in South and West, and with pronounced profiles. In the Latin countries a lenticular or flat disc- or wheel pommel predominated. Though the curved quillons found their way from the South even to the countries of the Germanic line, they never became prevalent, such as in the Latin world. But even the pointed blades did not reach the same frequency in the Germanic areas as in the Latin countries.

The knight sword of the *Latin type* was not founded on the Frankish Merovingian or Carolingian types, though to some extent influenced from them. Particularly the Visigothic and to some degree the Lombard swords played a far greater role. And these types -- though brought by Germanic tribes — included a good many elements from the Sarmate-Alane, Byzantine and Sassanian circles. The development, for instance in Spain with its Roman traditions, starts upon the Gothic spatha, the cavalry sword, which rooted in the Sarmate cavalry sword. The Visigothic sword is more slender, more pointed than the Frankish types. Some excellent specimens were discovered in Visigothic tombs in Castiltierra in the province of Segovia. The grips had not been preserved. The guard of the Spanish sword follows the directions given from Byzantium and the Islamic world, though still preserving some traditions from the particular antiquity of the Iberian world. The Mozarab illuminations from 10th—12th centuries with their Visigothic traditions give excellent examples of the Spanish sword from the early Middle Ages. The various editions of the Commentaries on the Apocalypse of Beato de Liebana particularly the oldest ones from the 10th century, now in León, New York, Valladolid, Gerona and Madrid, or the Codex Emilianense in El Escorial show magnificent examples of cavalry swords. Some of them have pommels not unlike the Gothic and Sarmate swords, others have a trilobate pommel, which at first sight looks Carolingian or Viking-like (fig. 5). There are hardly any Viking traditions in this shape, but there may be some Carolingian influence, ultimately Byzantine. The prototypes and analogies we may find in Byzantium, Persia and among

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Fig. 5. Heavy armed warriors from a late MS of St. Beato de Liébana's Commentaries on the Apocalypse. Mozarabic style. The MS completed in 1109. (Brit. Mus., London).

the early Arab swords. Particularly the Arab sword-cutlers are fond of making trilobate pommels, or rather clover-leaf-shaped pommels.

The illuminations to *Libros de los Testamentos* from about 1126—1129 in the cathedral of Oviedo, preserving some Visigothic and Mozarabic traditions, contain various representations of swords with that type of pommel. The clover-leaf or trilobate pommel had spread from the Near East via Byzantium even to the Balkans, to Greece, South Russia, where it occurs in pictorial art influenced from Byzantium. The curved quillons originate in the Eastern world too. The Arabs let their quillons end in clover-leaves encircled by a volute scroll. Originally such quillons seem to have come from Persia, where the volute endings encircle a dragon's head (influence from China), a lion's head or another animal's head (fig. 6). Passing from Persia to Byzantium and the Arab world the animal's

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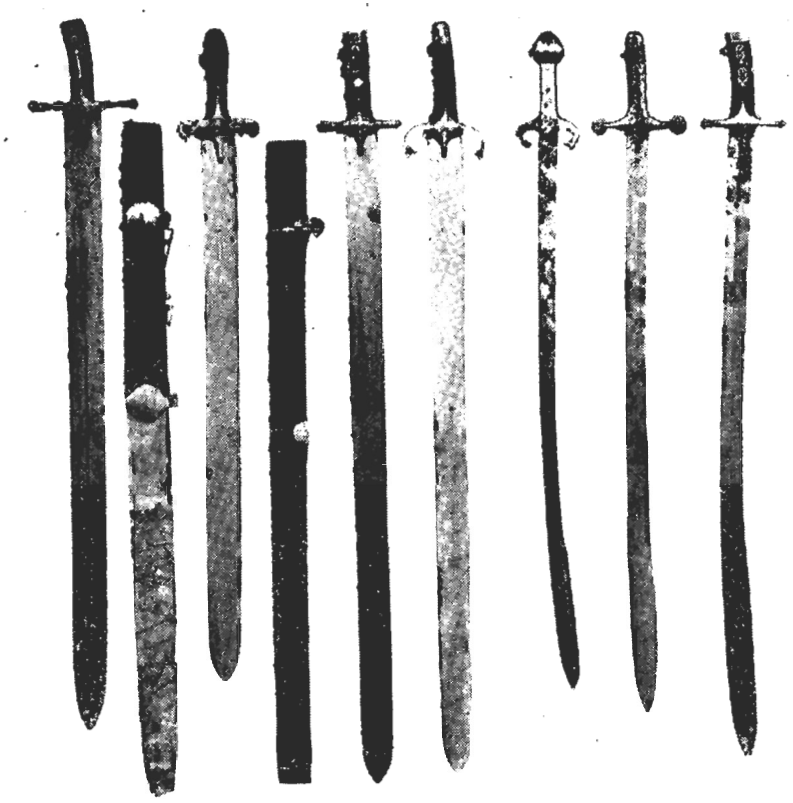

Fig. 6. Islamic swords and sabres. a: Persian, 13 14th century; b: Arab, 8–9th century (compare fig. 4); c: Mamluke, 14th century; d: Persian, 15th century; e: Persian, 15th century; f: Egyptian, medieval; g: Mamluke, 15th century. (Top Kapu Saray, Istanbul).

head becomes stylized or is often replaced by a clover-leaf.[12]) Possibly we may here see the origin of the particular shape of quillons on the Moorish cavalry-swords of the socalled Boabdil-type, carried by the Spanish jinetes in the 14th and 15th centuries (fig. 7).[13]) It occurs several times in the 10th and 11th centuries Byzantine ivory carvings such as for instance the triptychs in Palazzo

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Fig. 7. Hispano-Moorish sword, »Espada a la jineta« with inscriptions; one of the most important specimens of this type. Originally from Granada. Late 15th century. (Bibliothèque Nationale, Paris).

Venezia in Rome, the Harbaville triptych in the Louvre or the ivory caskets from almost the same time such as the 11th century casket

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in the cathedral treasury of Troye.[14]) A combination of trilobate pommel with strongly curved quillons ending in clover-leaves is seen on the sword named that of San Fernando in Armeria Real in Madrid (fig. 8). The accompanying scabbard is richly adorned with ornaments in Mozarabic style, and the sword corresponds rather well to some of the sword representations from the Libros de los Testamentos in Oviedo.

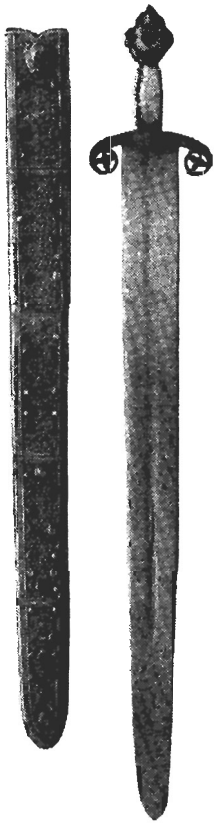

Fig. 8. Sword attributed to San Fernando. Hilt and scabbard embellished with jewels. Ornaments of filigree work, all of it in Moorish style. 13th century. Length of blade 88 cm. (Real Armeria, Madrid).

The development of the Latin sword joins the directions given by the Byzantine empire, based upon ancient Roman traditions and mixed up with elements from Persian, Sassanian art and the early Arab swords. The Latin development takes two different routes, one along the Northern shores of the Mediterranean via the Balkans, across the Adriatic to Italy, South France and down into Spain.

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The other route is going along the African coast via Egypt, Morocco, passing through the whole Islamic area in North Africa to Spain, and even across the Mediterranean via Sicily and South Italy to Spain. But in spite of folk's movements, wars, conquests, influences of various cavalry peoples etc., the Latin one ultimately has been founded upon the ancient Mediterranean thrusting technic, and it results in a pointed sword with curved quillons, short grip and disc-shaped or spherical pommels, fit for both cavalry and infantry. During the High Middle Ages we find the ancient and original elements breaking out from their latency, to a certain degree thanks to cavalry peoples from North Africa, via the Berber invasion of Spain. The original Mediterranean footman's thrusting technic, which never entirely died out in Spain (and South Italy), and the contacts with the Persian and Arab cavalry swords coming to the Iberian peninsula with the Moslim conquests and particularly during the 12th—13th centuries, lead to the birth of the European rapier and the fencing sword. The development takes place primarily in Spain, when the Benu-Marin tribes bring their characteristic short-hilted swords and their particular cavalry technic to the peninsula. Soon afterwards it penetrates certain districts of Italy, passing via Venezia and Naples, the main ports open to the Eastern world. In Spain a cavalry created after Berber pattern soon was established, using a very short-hilted sword wielded with the pommel inside the palm and one finger across the foremost quillon. It leads to the ricasso of the blade in order to make it more comfortable to the index-finger, and to the finger guard in shape of one, later on two protective rings below the quillons. Swords of this type with one or two protective finger-rings are represented in numerous Spanish paintings from the 14th and 15th centuries.[15]) And we find the same phenomenon in Italian medieval paintings, particularly from the surroundings of Naples and Venice, but even from Tuscany.[16]) From this kind of finger-guard and this manner of grasping the grip -- closely paralleled by the bull-fighter's rapiers — the step is only short to further development of a protective hilt with all its various branches and bows. In execution scenes from 15th century Flemish-Spanish painters show the executioner wielding his sword with both hands, and the right index-finger across the foremost quillon. Here are combined the *Latin method* and the *Germanic sword-type*.[17])

The Germanic countries still use their cutting blow with one hand and with both hands, as we find it in the paintings and illuminations of the time.[18]) Both footmen and mounted warriors brandish their swords with one or both hands from early Middle Ages just

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until the time of the lansquenets. The Germanic technic easily joins with the cutting technic of the Turkish curved sabre too, introduced after the encounters with the Turks in the 15th—16th centuries.

How natural the cutting or slashing technic is felt to the peoples of Midland Europe — and the peoples of Eastern Europe too — is evident for instance in Hungary already in prehistoric times. Here did the long Hallstatt cut-and-thrust swords first appear in Europe. When later on the Scythian stabbing swords came to Hungary, they were sometimes changed in order to suit the cutting methods, as we are taught by archaeology. The fuller or the midrib of the blade from grip to point was placed assymetrically, not through the middle of the blade. The blade became single edged. The grip was sometimes bent, slightly sloping or curved. But even assymetrical blades came from the East. We may find them in some early Caucasian daggers, and their prototypes, some prehistoric dagger-swords. This change from double edged to single edged daggers or short-swords was more in accordance with Germanic mentality.

The Eastern Sources

The great and important contrast to the Mediterranean peoples as well as to the Midland Europeans — as far as concerns the armament — are the tribes and populations dwelling in the areas near and around the Black Sea, in the mountains of Caucasus and in the Northern plateau of Iran. While almost all the Mediterranean peoples of prehistoric and Classical time are footmen using their thrusting swords, we find on the steppes of South Russia and along the shores of the Black Sea some Asiatic tribes — *the Scythians* — acting as horsemen, a light cavalry using their short thrusting sword, which is more like a dagger than like a sword. The main part of these nomadic tribes were possibly of North Iranian descent, but they had adopted so many more or less related tribes living in their neighbourhood, that the Scythians were a rather heterogeneous mixture.[19]) Above all they were a horse breeding people, and their warfare was that of light cavalry, with bow and arrows as their main weapons, throwing-lance and possibly an axe as their secondary weapons. At their right thigh they carried the short akinaces, used in hand-to-hand struggles on foot. The Scythians were famous for their tactics, which had much in common with those of their kinsmen, the Persians. Herodotus and Thucydides give descriptions of them, and these descriptions agree rather well with the representations in contemporary art, for instance on Greek

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black- and redfigured vases and on Greek and Scythian gold objects. The archaic Scythian sword from about 600 B. C. had a blade of about 40—50 cm in length, 3 cm in largest width, and a grip of about 12—14 cm. Some of the swords from Kul-Oba, Chertomlyk and the Don area have blades about 54 cm long. But the younger

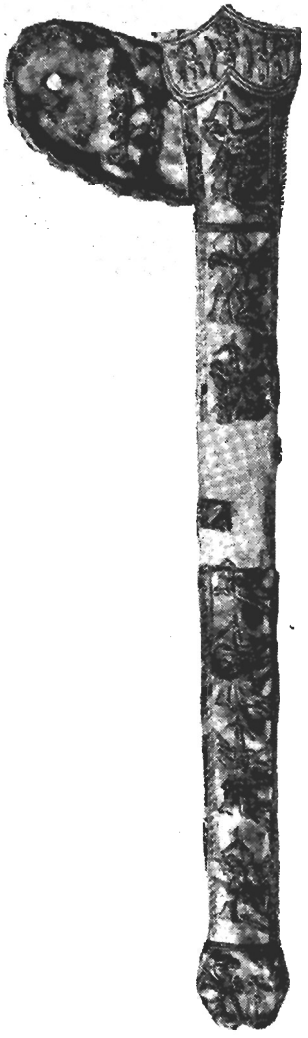

Fig. 9. Gold cover of akinaces-sheath representing lion monsters with fish-shaped wings. Mesopotamian character, about 600 B. C. or shortly after. From Melgunov Kurgan. Length 47 cm. (Hermitage Mus., Leningrad).

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specimens often have a length of about 60—80 cm. Of particular interest is the shape of the quillons with their heartshaped lower brim turned towards the blade, and the peculiar scabbards. Only rarely the whole scabbard has been preserved. The wooden parts of it have mostly disappeared. But the metal cover, often of gold, in many instance has been preserved. This gold cover frequently is adorned with embossed ornaments. The earliest specimens have purely decorative elements in a Late-Assyrian or Persian style. Younger specimens often show complete figure scenes (fig. 9), some

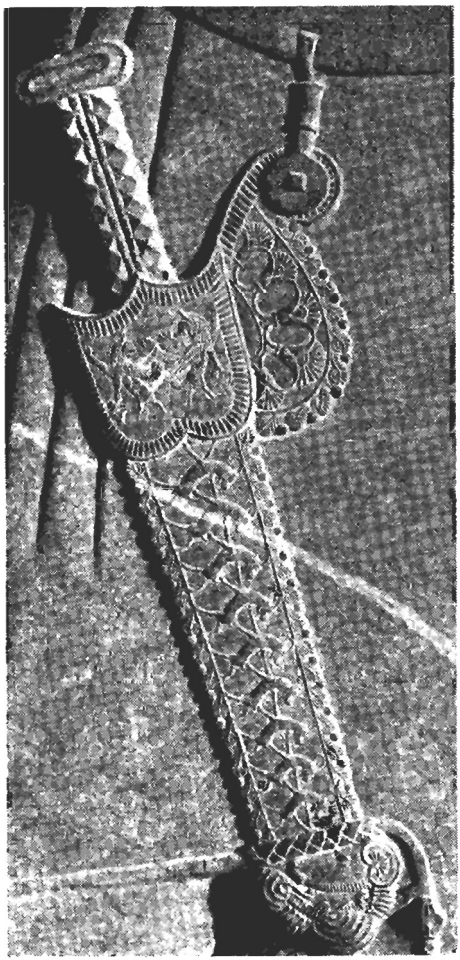

Fig. 10. Detail from Audience-reliefs, treasury, palace in Persepolis. Akinaces in its scabbard. Total length of sword 49 cm, of scabbard 37 cm.

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of them representing resting dismounted warriors, cavalry struggles, single combats or the like and made in purely Greek style by Greek goldsmiths settled in Scythian towns, or in a barbarized Greek style, by native goldsmiths. Remarkable is the manner of attaching the scabbard to the girdle with a broad wing or patch often richly ornamented and with perforations for a thong or a cord which, passing trough the perforations, tied it to the girdle (fig. 10). Through a hole in the chape a second cord passed, which encircled the thigh and kept the scabbard in position, when the warrior was mounted or walking on foot. Not only the sheaths from true Scythian or Persian areas but even Graeco-Scythian, sheaths from Europe were covered with plates of embossed gold. We find the akinaces, in its peculiar scabbard represented on the gold plate from the Oxus treasure and on the reliefs from the staircase in the hall of the palace of Xerxes in Persepolis (fig. 10).[20]) Herodotus tells us (IV, 62 and other places) that the Scythians mostly used the Persian akinaces. In VII, 54 he says, that the word akinaces is the Persian name of a kind of short sword worn at the right thigh. The akinaces is — he says — a royal weapon. The Persian kings honoured princes and highborn friends with golden akinaces-swords. Xenophon in his Anabasis (I, 8, 29) mentions the Persian akinaces. Before crossing the Strait of Hellespontos Xerxes brought his gods a sacrifice throwing a golden akinaces into the Sea. Kambyses was killed accidentally by his own akinaces (Her. III, 64), when — during his stay in Egypt — he jumped upon his horse. The scabbards of the akinaces always were furnished with a chape. But the sword of Kambyses had lost its chape, and the pointed blade pierced the royal thigh. The manner of carrying a short thrusting sword at the right was characteristic of cavalry peoples. Among the military persons represented on the reliefs from the palace of Xerxes in Persepolis the Scythians have their akinaces at their right thigh, but the Median footmen carry their dagger-like short-swords — differing in form from the akinaces — suspended in the girdle at their front.[21])

The akinaces is met with as far to the West as in Rumenia and in Hungary. In the East it reaches far into Asia. A rich variety in the details is seen for instance in the shapes of the quillons and the pommels or buttons, such as flat ogival pommels, antennae pommels, ring shaped pommels and the like, varying after time and place. The length of the swords seems to increase by degrees as they are spread to the West. Certainly swords of such an extraordinary length as the specimen found at Aldoboly in Hungaria are exceptions, and may possibly be considered as mere ceremonial swords.[22]) The Aldoboly sword has a length of 113 cm, and the hilt

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is about 18 cm long. The length of the blade might suggest Sarmate influence, but the antennae-shaped pommel, composed of two curled-up dolphins, and the quillons adorned with lions point towards Mediterranean areas and suggest an earlier date than the Sarmate swords.

On the European side of the Black Sea the guards of these akinaces swords sometimes take a shape different to the guards of the Asiatic types. In Hungary we find a local development, the particular group of single edged blades provided with a sloping or slightly bent grip, absolutely a cutting weapon with a certain similarity to the Bosnian or Picene footman's single edged swords or knives. The oldest akinaces-swords seem to belong to the time about 600 B. C. and the 6th century, but the greater part of them chronologically belongs to the period 5th—3rd renturies B. C. The local specimens of Hungary are rather difficult to date, because the many currents (Late Hallstattic, Germanic, Oriental etc.) from various places were crossing the Danubian areas, and the swords mostly have been found without accompanying datable objects. A certain group of akinaces from South Russia has a pommel or button similar to the antennae-swords of the Hallstatt areas, having for instance a pair of beak-heads curled like volutes towards each other, simple scrolls of leaves or simple volutes. Though they have much likeness to the European antennae-swords, the make of them is different, and they may be of an Eastern origin.[23]) Related types — but differing from the Hallstatt specimens in their details — have been found in Siberia and even in China. These antennae-akinaces at least seem to have more Eastern expansion than the typical akinaces with the usual flat-ogival pommel.

In pictorial art the Scythians are represented using their akinaces as a thrusting sword. They are almost always fighting on foot. Though this Scythian thrusting sword — the piece of resistance for light cavalry — meant little or possibly nothing to the development of the European cavalry sword, the spatha, it certainly seems to have been of some importance to the development of the Late Hallstatt swords with their short and pointed blades. That evident change in tactics. which is indicated by the tendency to shorten the long double edged swordblades in the earlier centuries of the first millenium B. C. and the introduction of a short stabbing sword among the Celts may be due to some Eastern influence, perhaps from the Black Sea areas. Possibly it suggests a transition from the charioteers or horsemen with their long slashing swords to a light cavalry or a kind of mounted infantry with stabbing swords for hand-to-hand struggles on foot like the Scythians.

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The particular cavalry sword, which gave rise to the European spatha, came from another Asiatic tribe, the *Sarmates* and their kinsmen the *Alanes*. The Sarmates were tribes from Northern Iran, more homogeneous than the Scythians, though even they may have absorbed other tribes. They were related to the Medians and the Persians, and they came from the mountainous plateaus, in contrast to the Scythians, who came from the plains. From these circumstances we may get an explanation of the difference in the armament and tactics of the two peoples. Contemporaneous Chinese sources tell, that the Sarmates moved westwards pressed by the Huns, Turks and Mongols. In the year 179 B. C. they fought against the Scythians in Crimea, so tells us Polybius. And a Sarmate tribe, the Yazyges, had reached the Danube in the first century B. C.

While in the course of time the Scythians had become a settled agricultural people, the Sarmates were still nomads on horseback. They were a people of heavy cavalry, protected by scale or chain a long coat in contrast to the short mail chemise worn by the Scythians. Both man and horse carried body protection. Their heads were protected by conical helmets, the type of which later on was adopted by the Late Roman and the Byzantine armies. It was in use among the Ostrogoths and the Lombards of Northern Italy and became the basic shape for European medieval types of helmets. Bow and arrows were in use among the Sarmates, but only as secondary weapons. In regard to their equipment they were an early counterpart to European medieval heavy armed and mounted knighthood. Sarmate armoured knights, cataphractarii, — used as auxiliary troops in the Roman forces — are represented for instance on the columns of Trajanus and Marcus Aurelius and on the triumphal arch of Galerius in Saloniki. They are well-known from the wall paintings in the catacombs, tomstones and other monuments in Kertch. The Greek population of Panticapeion had adopted these Sarmate innovations in order to defend themselves against their enemies the Scythians, Taurians and Sarmates on Crimea.[24])

Pictorial art and literary sources inform us that the Sarmates usually carried the long double edged cut-and-thrust sword at their left, suspended in a special porte-épée, while they at their right thigh had a dagger, corresponding in type and decoration to the sword. The porte-épée, which attached the scabbard to the girdle and kept it in a rather horizontal position, possibly originated among the Iranians. It spread from them to Central Asia and even reached China, from where it returned via the Mongol tribes to Iran and the Black-Sea areas.[25]) Jade is often used for such porte-épées. Tacitus in his Annals (VI, 35) describes the Sarmate (and

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Parthian) tactics, mentioning the Sarmate participation as auxiliary troops in the Roman armies. They rush into the battle with their heavy coats of mail, their cavalry lances and their long (praelongos) swords, he says. In his Hist. I, 79, he mentions how they use their swords with both hands. This is important when considering some of the representations of military persons in stone reliefs, paintings and toreutic work in the Near East from the 2nd—3rd centuries A. D., where the sword-grips are extraordinary long. When on horseback the Sarmates were irresistible, we understand, but on foot they were worth almost nothing. Pomponius Mela (III, 4) compares the Sarmate equipment with that of the Parthians. Dio of Prusa, Orat XXXVI, calls attention to the Sarmate swords, which he definitely says are cavalryswords. The representations of the Sarmate cavalry sword with the almost flat button on the top of the hilt, and the horizontal quillons correspond with the archaeological objects. South Russian and Crimean tombs have brought into light more or less fragmentary swords. Most of them have a length of about 100 cm or even more. The pommels as a rule are circular, of button-shape. The material is jade or nephrite, or they are made of wood with a cover of gold, silver or copper, inlaid with garnets, semi-precious stones, and coloured glass. The wooden grip is often covered with plates of gold or silver, and the quillons are horizontal.[26]) Their porte-épées are often of jade, particularly in the 2nd and 3rd centuries A. D. The ornamentation of the porte-épées sometimes shows decorative elements in a style reminding of ornaments from contemporary Chinese porte-épées. Specimens probably of Chinese workmanship have been found, which is no wonder considering the material and cultural interchanges between the Iranian and the Chinese world passing through Central Asia during the time of the Han-Dynasty. Chinese cavalry during this period seems strongly influenced by the Sarmates, particularly in regard to its armament (special types of bows and arrows, armour, swords and daggers.) The long Chinese sword — one meter or more — and its accompanying dagger have much in common with the Sarmate and particularly with the Parthian swords of this period.[27]) Originally the Sarmates seem to have got their equipment from Central Asia, where they had been entertaining communications between China and the Mongol tribes. Under Chinese pressure the Huns pressed the Sarmates westwards to South Russia and the Black Sea areas, bringing with them their characteristic cavalry tactics and long swords. The Sarmate sword certainly has no relation to the Late Assyrian cavalry sword with its long, slender blade and the scabbard with winged chape. (This type of winged chape is found on

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the long early Hallstatt-swords, which were influenced from the East). But it has no relation either to the long Celtic sword, La Tène III type. Josephus mentions the kinsmen of the Sarmates, the *Alanes,* in the year 35 A. D., when this people is living in North Caucasus. Shortly afterwards they have moved to the banks of Djnepr. Arrianus throws light upon their military organization. Their military equipment has much in common with that of the Sarmates. They followed the Sarmates in their movements to the West. The Germanic tribes — the Goths and Lombards — who later on came to the Black Sea, to Crimea and South Russia, learned warfare and cavalry technic from these Asiatic peoples and adopted their equipment, particularly their swords, lances and helmets. The Goths had fought at the side of the Sarmates and Alanes already on their way to the East, when the Romans under Hadrianus drew the Asiates back from the Danubian Valley to South Russia. When the Goths and their followers during the Great Migrations turned their steps from South Russia to the Balkans, where they defeated the Roman armies under Valerianus at Adrianople in the year 378 A. D., they used their new cavalry technic. In the year 395 they entered Italy, in the year 410 they conquered Rome. But soon afterwards they turned their steps towards South France and the Iberian peninsula, where they founded the Visigothic kingdom. All the time they were accompanied by numerous Sarmates and Alanes. They had adopted the armament and the warfare of these Asiatic peoples, but they too had adopted a good deal of their particular style of ornamentation and the particular verrotérie cloisonné with enamel, garnets and semi-precious stones, a decoration and technic originally rooted in Iran and possibly in ancient Mesopotamia.

It is of importance to notice the contrast between the Scythian and Sarmate cavalry, one mainly using light cavalry, the other using heavy cavalry. The light cavalry wears the short thrusting sword at the right thigh; the heavy cavalry has the long cut-and-thrust sword at their left. The light cavalry wears no or little protective armour, maybe a cap, only rarely a metal helmet and a short mail or scale shirt. The heavy cavalry is protected by solid scale armour for man and horse, helmet, greeves, shields etc. The main weapon for the light cavalry is the bow and arrows, the short thrusting sword being a piece of resistance; the heavy cavalry has as its main weapon the cavalry lance and the long cut-and-thrust sword. Both peoples played an important role to the development of warfare in the Near East, to the Byzantine empire and among the Germanic tribes moving from East to the South European peninsulas, to Italy and Spain. There is a difference between

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the Sarmate cavalry and the Parthian, later the Sassanian cavalry. The armies of the Parthian Arsacids were based upon a heavy armed feudal cavalry of knights and nobles with their vassals of swift and light, mounted bowmen. This Parthian composition of heavy and light cavalry was an irresistible instrument of war, necessary as a defence against the hostile cavalry nomads of the steppes and deserts, and necessary too as a defence against the heavy infantry armies of the Romans (and the Hellenistic Seleucids before them). They represented something quite new in the history of the art of war. Their equipment and tactics later on became of importance to the development of warfare and cavalry-equipment in medieval Europe, and not least to the development of the cavalry sword.

Did the *Sarmate* influence go to Europe by way of the Gothic movements along the Northern shores of the Mediterranean, through the Balkans, North and Central Italy to South France and to Spain, the *Sassanian* influence went across the Mediterranean by means of the Byzantines to Aegean islands, to South Italy, Sicily, and the Eastern coasts of Spain, and particularly with the Moslims along the coasts of North Africa to Southern and Eastern Spain. After the Moslim conquest of the Visigothic kingdom of Spain it penetrated most of the Iberian peninsula. From the encounter between the Visigothic, ultimately the Sarmate sword, and the Arab, ultimately the Sassanian-Persian sword resulted that particular renewal of the cavalry sword, which after the course of some few centuries gave birth to the Spanish sword with finger guards and later on to the rapier, just as the same Sassanian-Persian sword gave birth to the East European pallasch, the last one taking another route from the East to Midland Europe.

Thanks to the Sassanian swords and the manner of grasping them, the »Italian« method first came to Spain and in all probability soon afterwards to Italy.

Byzantium a Lenk between two Worlds

Byzantium was an important factor, — a lenk between two worlds, the Greco-Roman and the Oriental world. Two hostile civilizations joined in a kind of synthesis out of which a civilization rose with an individual stamp. In spite of this synthesis, which never became absolutely perfect, a dualism in spiritual and material culture is more or less perceptible through the centuries: the logical Greek spirit and the lively Oriental fantasy with its brilliancy of colours. We find this dualism not only in art, architecture and spiritual life, but even in the military organization, the military equipment as a whole and in the various categories of weapons.

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Greco-Roman and Persian features characterize both organization and armament. We may find Frankish, possibly even faint Scandinavian, traces in some of the weapons, though to a rather small degree. It is hardly possible to establish one or the other type of sword as the characteristic Byzantine sword. Nor are we able to point out a type characteristic to the various categories af Byzantine soldiers, whether heavy or light cavalry, heavy or light infantry, imperial body-guards, foederati or rhomaioi, before a systematical examination of the pictorial art and a comparison with the literary sources from Byzantium and the Near East has been undertaken. In accordance to the organization of the Byzantine armies it must be supposed that for instance the soldiers from Germanic tribes carried a type of sword which was characteristic to their respective homelands, and the Asiatic soldiers used swords familiar to them and their homelands.

Byzantine emperors had created a superb military organization, well-known to us from the handbooks of the emperors Maurikios and Leo, Nicephorus Phocas, Constantine Porphyrogenitus and others. Procopius, Agathius, Anna Komnena and other authors supply our knowledge.[28]) Though the military organization to some extent was based upon Roman warfare, it had recieved strong impulses from the Orient and had gained experiences from various battles. The emperor Theodosius had learned quite a lot from the battle at Adrianople in the year 378 A. D. He made his experiences useful to the East Roman organization, while the West Roman part of the empire learned almost nothing from their bad experiences. There was one obvious difference between Roman and Byzantine warfare: the Romans still attached importance to the infantry and kept the auxiliaries mostly as a cavalry used as resources and support to the infantry. The Byzantines on the contrary attached their main importance to the light and heavy cavalry, the infantry — light or heavy too — only playing a secondary role. Theodosius had made the cavalry the most important part of his armies. The Byzantine army, composed of mercenaries serving as foederati, from various European tribes and nations, particularly various Germanic tribes, and of mercenaries from Asia, for instance Huns, various Caucasian tribes, Isaurians, Armenians (since the days of Zeno, 474—491) contributed to that mixture of weapons, out of which certain types arose. Literary documents testify that Frankish swords of 9th and 10th centuries were appreciated in Byzantium and among the Arabs and Persians, — reputed for their beautiful blades. Still more reputed were the Oriental blades from Yemen (pointed swords), Khorassan and Ceylon. As to quality the Frankish »vurm-

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bunt« false damascening could not by far compete with the true, Oriental damast. Arab scientists and authors from 9th—10th centuries and later on give detailed information about the Oriental blades and their material, and they give recipes for forging and tempering the blades.

The Byzantine military organization had adopted much from the Asiatic neighbours, for instance the armament and organization of the cavalry. The heavy cavalry, which in the 6th and 7th centuries was equipped almost like European knights in the Middle Ages, had much in common with the Sarmate, the Parthian and the Sassanian one. From Maurikios and Leo we are taught that footlong scale armour of chain mail with coif, collar, sleeves and gauntlets, crested helmet, greeves, round shields, surcoat and woolen mantle, all of it with regimental colours, constituted a kind of regulation equipment. Saddles formed an important detail of the equipment. As a main weapon served the heavy cavalry lance, about 3,60 m long, with pennon and throwing thong. As secondary weapons the cavalry carried swords and daggers. The light cavalry almost like that of the Scythians and the Parthians had bow and arrows, short sword or dagger. The axe played an important role among the various categories of soldiers.

An examination of Byzantine pictorial art gives as a preliminary result that several types of swords were known and in use. Still the main impression is that the usual Byzantine sword in the pre-Justinian and the Justinian periods (4th—7th centuries) is long, double edged, for cut and thrust, much ressembling the Sarmate or rather the Greco-Sarmate or Gothic cavalry sword, known for instance from Kertch and Dura- Europos.

We may find Hellenistic or Roman traditions now and then, particularly in the short-swords. In the consular diptychs, for instance that of Stilichus in the Cathedral of Monza from about 400 A. D., and in that of Honorius in Aosta, from 406 A. D., the swords represented show much likeness to the Gothic swords. This agrees rather well with the Strategicon of Maurikios which tells us that the Byzantines had taken up the sword of the Herules, who had accompanied the Goths to Crimea and Byzantium, the Balkans, Italy and Spain. The silver-gilt Concesti-amphora in the Hermitagemuseum in Leningrad, possibly from the 5th century or a little later, representing combats between Greeks and Amazones, shows the cut-and-thrust sword of Gothic type used by the Greeks, while the Amazones wield their axes. The style and subject represented reminds of earlier works from the Greco-Sarmate areas at the Black Sea.[29]) The iconoclastic period of Byzantine art (about 8th—9th centuries) is

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influenced by the Orient, by Syrian and Persian art. We find swords of Persian type or true Persian swords. Even in the 10th century Greek manuscripts swords of Oriental types are represented. The psalter of Basil II, from 10th century, now in Biblioteca Marciana in Venice, or the menologion of the same emperor, now in Biblioteca Apostolica Vaticana, (Vat. Gr. 1613) from about 979—084, contain numerous representations of swords, the shape of which is the long cut-and-thrust sword with short grip, curved or straight quillons, bud-shaped or globular pommel. Frequent is the flat disc-pommel with a little strap or thong ending in a tassel. This type of sword is well-known from line drawings on temple walls in Dura-Europos and in Sassanian art at an earlier date.

Turning our steps to the areas outside the metropolis, to Northern Syria and the frontiers between Greco-Roman and Oriental districts, the phenomena from Byzantine art are met with during Late Roman time.

Dura-Europos, this strongly fortified frontier city and meeting place for military forces and for trading caravans, has yielded a rich material, archaeological as well as pictorial.[30]) The weapons of Roman soldiers form an important and interesting group of objects from the excavations undertaken in the thirties. Almost all kinds of Roman armament have been discovered. Besides the particular types of wooden shields with their paintings in a technic much like the encaustic technic used on Roman time, portraits from Fajum, a lot of Roman swords, daggers, spears, arrow-heads and arrows for artillery-engines have been excavated. Pieces of armour, for man and horse in bronce and in iron: mail, scale and plate, have come into light. Of particular interest was the discovery of a Sarmate warrior with his equipment of armour, conical helmet and long sword of Persian workmanship. The sword hilt was adorned with Chinese jade in a Sarmato-Parthian manner. Another sword, found in a private house, had its hilt adorned with semi-precious stones. These swords are related to sword-types known from excavations in Kertch and to the swords represented in early Byzantine art. The frescoes from the walls of the synagoge have some sword-representations from shortly after the middle of the 3rd century. A. D. Most of them have a rather general look with pointed blade, broad, cross-bar quillons, short grip and hemispherical pommels. There may be Hellenistic, Roman and Oriental traditions. An exact determination of the type doesn't seem possible. Other representations with horsemen carrying lances and swords show an almost spatha-like type of sword, possibly a Sarmate-Parthian sword. The line drawings on some of the temple walls in Dura have rendered a type of sword

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of a definitely Oriental type, known from Parthian and Sassanian art. It is the previously mentioned sword with the flat disc on the top of the grip and with a strap ending in a tassel attached to the disc, the same type of sword, known from the Byzantine illuminations.

The military equipment represented on Palmyreen reliefs from Dura and from Palmyra from the 2nd century and later includes a double edged sword sometimes of Sarmate type, sometimes of a more Eastern type.[31]) This sword has a long double edged blade and a cross-hilt. Of particular interest is the extraordinary long grip. The hilts of these swords correspond to swords from Sassanian silver bowls, particularly from East Iran. A close parallel is to be found on the silver bowl in the Brit. Mus. from about 400 A. D., surely of East Iranian workmanship. The close, but hostile contact between the Byzantines and the Persians, for instance under Justinianus, reinforced the Oriental influence upon Byzantine warfare and equipment. In the period after Justinianus it is quite natural to find Oriental types of weapons.

The curved quillons known from various Byzantine sword-representations were adopted from the Persians. When the empire under the Macedonian dynasty — particularly in the 10th century — entered a glorious epoch of a high political, military and artistical standart, the Byzantine influence spread all over the Mediterranean world to the Balkans, Crete, Italy, Sicily and Spain. Still the art had preserved some Hellenic traditions, but the Oriental traditions from Syria, Mesopotamia, Persia were still alive. Though military equipment in the representations of pictorial art had preserved antique traditions, the details often show Oriental elements. Such are the representations of military persons on the ivory triptychs from the 10th—12th centuries, for instance the triptych in Palazzo Venezia in Rome, the Harbaville triptych in the Louvre and the triptych from almost the same time in the British Museum in London. It is the same type of hilt and the same shape of quillons which the Arabs took over from Byzantium and from Persia. It became the basic type of the South European medieval sword, the sword of the Latin line, such as we find it for instance in 12th century pictorial art in Sicily and South Italy, in France and in Christian Spain.

At the same time the trilobate pommel takes its way from the Orient to Europe. Via Byzantium it comes to the Balkans, where it is to be found in Greek church frescoes and it follows the Byzantine expansion. The Arabs adopted it from Byzantium and from Persia, and with the expansion of Islam it was brought south of the Mediterranean to Europe.

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The Cavalry Sword in Persia

The cavalry sword, used by the Sassanian cavalry in Persia became a most important factor to the development of the sword among the Byzantines, from where the Arabs adopted the type, though they have been influenced even directly from Persia too. The scale armoured Sassanian heavy cavalry carried the cavalry-lance and the long cut-and-thrust sword. Just as the Sarmates and Parthians before them, they had their long sword at their left, and the corresponding dagger at their right. Though contemporary archaeological objects are almost missing from Persia, pictorial art gives us a rather good information of the Sassanian sword in spite of the curious mixture of elements, such as revival of ancient traditions, foreign influence, nationalistic renaissance etc. in the style of ornamentation and in the subjects treated in art. The magnificent series of silver bowls with embossed figure scenes of kings and princes hunting wild animals, or enthroned, receiving investiture and the like, are instructive.[32])

Fig. 11. Silver plate with applied repoussé and engraved details, partially gilt. Bahram I (271–276 A. D.) hunting boars. Index finger across the fore-quillon of the sword. Diam. 28 cm. (Hermitage Mus., Leningrad).

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In these representations from about the 3rd—7th centuries A. D. we see the horseman using his sword frequently as a thrusting sword, but more often as a pure cutting weapon. The Sassanian sword is different from the swords rooted in ancient Assyria, and from the swords used by the Scythians and the Median Persians. Nor has it much in common with the true Sarmate sword, though they may have a common source. Most frequently the guard is a cross-guard with straight, rarely curved quillons, the grip as a rule is longer than the Sarmate grip, and now and then it is a little bent, sloping towards the cutting edge (fig. 11—12). This sloping grip is remarkable, because it forms the prototype of the Arab swords with sloping hilts from the 9th century and later. At the same time we here find the prototype of the heavy cavalry pallasch, known from Polish, Hungarian and Midland European regulation swords of a far later time. The top of the hilt mostly differs from the hilt-pommels of the Mediterranean and the Sarmate pommels. Sometimes it has a disc. More frequent are the rings or the spherical pommels. But rather often we find it without a pommel at all. The top may be flat or rounded, pistol-shaped like the later Turkish kilij guards, or have a »bird's head« like later time Persian swords and scimitars. The grip itself sometimes has a concave outline in order to be more suitable to the hand which grasps it; a shape of grip, which is met with on later time Polish and Hungarian sabres and pallasches. Even one or two little horned thorns, one near the top, the other near the base of the grip, are seen on some of the swords. The Sassanian sword has more similarity to a pallasch than to an ordinary cut-and-thrust sword. Sometimes the grip is extraordinary long, such as for instance the swords on the East Iranian silver bowl from about 400 A. D. in Brit. Mus. or in the bowl of Khusram II (590—628) in Bibl. Nat. Paris. The swords represented here have long double edged blades, horizontal quillons and an unusual long grip, almost like the late medieval European two-handed swords. Possibly this type has come to Iran from Central Asia. In the wall paintings from the caves at Qumtura and Quyzil, possibly from about 6th—7th century A. D. we find almost the same type of swords, even combined with Persian daggers.[33]) This type of sword with long grip was unknown to the Persians of the Achemenide time. With the Sarmates and particularly with the Parthians as intermediaries the type may have come to the Iranian world from Central Asia at a rather early point of time. We find it already in the 3rd century A. D. on stone reliefs representing military persons in Dura and even in Palmyra, brought to Syria by the Parthians.

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Fig. 12. Silver plate partially gilt. Shapur III (383–388 A. D.) dispatching a lion. The king is using a long sword. Right index finger across the fore-quillon. In girdle the sword-sheath and accompanying dagger. Diam. 21,7 cm. (Hermitage Mus., Leningrad).

The blade of the Sassanian sword is more or less pointed, sometimes even almost blunt. Particularly remarkable is the manner of grasping it. In most instance we see the index-finger bent across the fore-quillon in the manner known to us from 16th century Spanish and Italian representations of fencing with the rapier. We can follow this manner from the Sassanian bowls, on Persian rock-reliefs, Ghandara-sculptures, to Byzantine art and in Frankish book-illuminations from 9th and 10th centuries, particularly in such illuminations, the style of which are more or less free treatments of Byzantine prototypes. Even in Greek, Bulgarian and Serbian pictorial art, for instance in church-frescoes from the end of the first and the beginning of the second millenium, it is to be seen. Its routes are moreover to be followed to Italy (Venice, Tuscany) and above all to the Iberian peninsula, where it occurs at a rather early point of time. A good instance from the church Santa Lucia del Mar, Barcelona, from the 13th century is now in Museo de arte antiguo in Barcelona.

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Leo in his Tactica states, that the Arabs took over every detail of the Byzantine military warfare, the organization as well as the armament. With the expansion of Islam it followed the routes of this expansion along the coasts of North Africa from where it was brought to the Iberian peninsula.

Sassanian manner of grasping the grip is known in Central Asia, as stated by the 7th century wall paintings in Chinese Turkestan, Chinese water colour drawings from the 13th century show obvious examples. Here we too find the quillons — not in the usual shape of quillons — but in the shape of two finger-rings below the grip. The curved quillons and the ring-shaped finger protections below the quillons serve as protection mainly against cutting. The Chinese drawing clearly testifies this, one of the weapons in this drawing being a curved sabre used for cutting. The prolonged grip on the Parthian, Sassanian and Turkestan swords forms the counter-balance of the long and heavy blade, and at the same time it serves as a support to the hand and lower arm, as seen in the pictures.

In the Spanish and Italian paintings from the 13th and 14th centuries we find the finger protections on long, pointed swords used for both cut and thrust. The index-finger crosses the fore-quillon just as on the Sassanian swords. The Berber tribes of Benu Marin moving to the Iberian peninsula during the 12th and the 13th centuries, introduce a cavalry sword with an extraordinarily short grip. This type of cavalry sword is taken over by the Spanish jinetes. The so-called Boabdil-swords adopt this short grip.

The illustrations of the Italian fencing book by Achille Marozzo show the same manner of handing the sword, but the art of fencing at that time still is more cutting than thrusting. In the book of Camillo Agrippa the thrusting manner has come to play a more important role, the master having founded his system of fencing mainly upon the thrusting technic. The masters of fencing from the middle of the 16th century combine the methods of Oriental cavalry technic, where the index finger crosses the foremost quillon, with the Mediterranean infantryman's thrusting sword with short grip, the importance of which is obviously testified from literary sources at least from 13th century. The rapiers and estocs first appear in Spain, but soon after they are in use in Italy. From these countries they are brought to France. During the 16th century the art of fencing together with the Latin rapier crossed the Alps and was expanded over most parts of Central- and Western Europe. It influenced the development of the sword in the Germanic countries, but still during the 16th century a dividing line separates the Latin and the Germanic evolution of swords and rapiers.

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Different Mentalities

Though the *Germanic* line had its outspring in the Sarmate cavalry cut-and-thrust sword, it developed quite differently to the swords of the *Latin* line, because the peoples north of the Alps had simply another mentality and another way of understanding. The manner of cutting with the single edged scramasax was felt more natural to these peoples, who were from olden time a people of infantry. By degrees they turned into a cavalry people already during the 9th and 10th century. About the middle of the 9th century the Franks for instance had become a people of cavalry. The literary sources have it, and the archaeological material agrees with the literature. The double edged broad-sword has come to play a rather important role all over Europe. But the evolution takes a way different to the Latin sword. Particularly from the end of the 13th century the Germanic sword grows still longer, heavier, with a long grip for two hands, long and as a rule straight quillons and a heavy pommel. The medieval one-and-a-half and two-handed swords are creations of the Germanic line. They are not unknown in the Latin countries but they never got such an importance as in the countries north of the Alps. To the South they were mostly introduced by Swiss and German mercenaries.

The evolution of the complex rapier guard with its numerous protective branches and bows differs from the Germanic evolution in spite of interacting influences during the 16th and 17th centuries. It bears witness to a fundamental difference in mentality between the Latin and Germanic peoples, a difference which roots as far back as in prehistoric times. Through the ages it is reflected in their warfare and weapons.

The outline of the evolution of the sword, presented in these pages, shows that the history of the sword contains a multitude of problems, still unsolved.

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