

THE LAYOUT OF ARTASHAT AND ITS HISTORICAL DEVELOPMENT

A. The political situation in Armenia from the second century B.C. to the fourth century A.D., and the development of Artashat

The period of three hundred years following the conquests of Alexander the Great was characterized by the spread of Hellenistic culture and by the fruitful interaction between this culture and the ancient Oriental civilizations. The result of this process, as is well known, was the creation of a new Hellenistic culture comprising both eastern and western components. This age was marked by an unprecedented flourishing of urban life; alongside the old towns, or more often on the very same sites as them, new ones arose, bearing the names of the kings who founded them.

After the collapse of the Achaemenid empire, Lesser Armenia became a part of the empire of Alexander the Great. However, Armenia proper, or Greater Armenia, remained outside the boundaries of Alexander's empire and reaffirmed its independence. The ruling Ervanduni dynasty was able to strengthen the position of Armenia within the new Hellenistic states. The Ervanduni kingdom, which occupied the central area of the plateau, was the same centre around which the united Armenian state would later be formed.

At the beginning of the second century B.C. a pronounced tendency towards political unity and cultural consolidation emerged in the historical development of the Armenian state. The implementation of this historic mission was linked with the name of Artashes I (Artaxias I, 189-160 B.C.), the founder of the Artaxiad dynasty, who united the provincial regions of the country and began the formation of a single extensive centralized state. His reforms on the land and in the administration had a significant effect on economic and cultural life. The foundation of a new capital, Artashat, was a political step in this direction. The position of the borders and the nature of the commercial and economic interests of the state had a strong influence on the decision as to where to locate the capital: the Ararat valley was a natural choice, in that it was the central point of the political, economic and cultural life of the country. Almost all the capitals of Ancient Armenia — Armavir, Ervandashat, Vagarshapat, and Dvin — were situated here (Fig. A). The trade routes, one running from south to north and the other from west to east along

the valley of the Araxes river, crossed here, and this was a very important factor in the choice of site.

There are a considerable number of extremely valuable testimonies by ancient and medieval authors on the foundation of Artashat. Moses Chorensis (fifth century A.D.) gives a detailed account seven centuries after the fact: «Artashes went to the place where the Eraskh and the Metsamor merge together; here he took a fancy to a hill, where he erected a town, which he named after himself, Artashat. The Eraskh enabled him to attain pinewood. Therefore, after building a town quickly and without any effort, he built a temple there, and transferred to it all the images of his ancestors from Bagaran; and he set up a statue of Apollo in the country, near the great road. He took all the captive Jews, who had been deported from Armavir to Eruanda town, and settled them in Artashat. Then he brought all the adornments of Armavir first to Eruanda and later to Artashat; finally, and most important, he adopted Artashat as his royal residence» (2, Chapter 49).

Strabo, in the course of his description of Armenia, reports as follows: «Artaxata is situated not far from the Araxene plain. It is a well-equipped town and is the capital of the country. It stands on a promontory resembling a peninsular. A river flows all round its walls, except at the isthmus, which is fenced off by a moat and palisade» (XI, 14, 6).

Plutarch writes: «A large and very beautiful town arose, which the king named after himself and made the capital of Armenia». With regard to the site of the town, he says that it is remarkable for its favourable position and its beauty, but that now it has fallen into neglect (Plut., *Lucullus*, XXXI).

Systematic archaeological excavations which have been going on in Artashat since 1970 confirm the reports of the written sources that the site for the new capital was well chosen. We know that this territory had been occupied since very ancient times, because traces of settlements have been found there dating from the fifth and the fourth millennia B.C. These hills were also inhabited during the reign of Van (Urartu). The remains of an Urartian fortress were found at the top of hill II, the highest of the hills, during the first year of the expedition. It is likely that this fortress ceased to exist at the fall of the kingdom of Urartu. What happened to the fortress between that date and the beginning of the second century B.C. (the time of the foundation of Artashat) is unknown. It is possible that it underwent some restoration and was used again from the sixth to the third centuries B.C.

Having founded his new capital in 180 B.C., Artashes first of all tidied up and restored the above-mentioned Urartian fortress on hill II. Evidence of this is to be found firstly in a change in the type of masonry used in certain places, secondly in the addition of an entrance sluice on the northern slope of the hill, thirdly in the introduction of round towers at angular points in the defensive

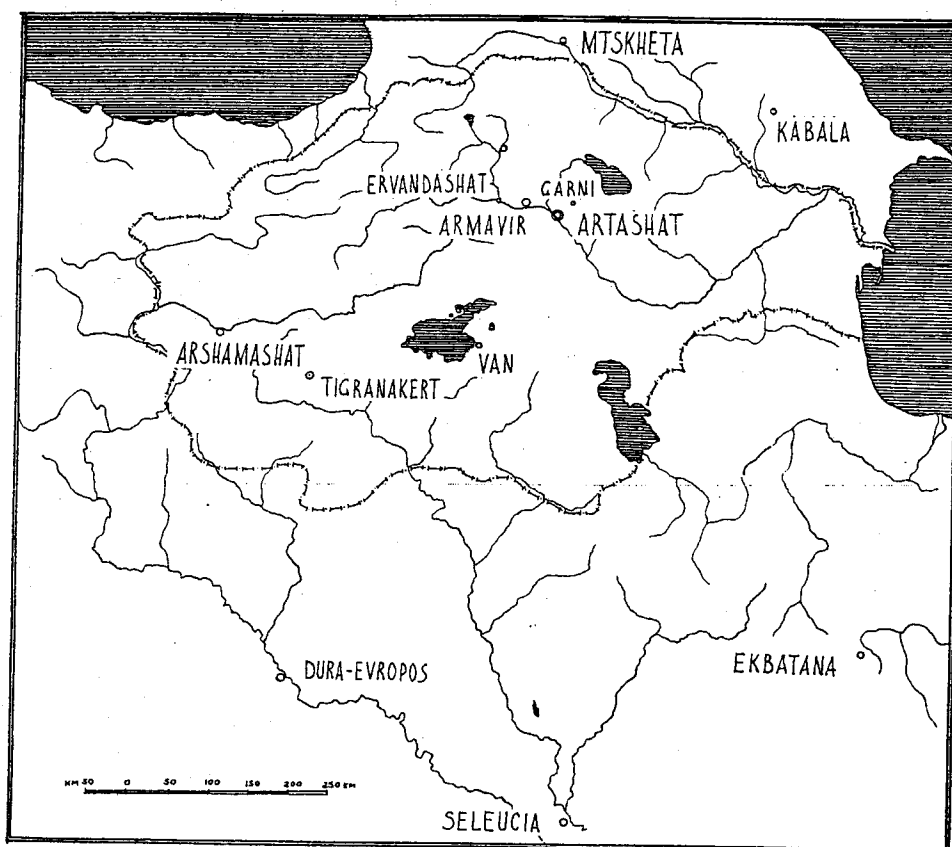


Fig. A - Armenia.

works. Only now, after establishing secure fortifications for the new site, did Artashes begin to erect a lower line of fortified walls and buildings on the territory of the central hills. In this period the area of the town was approximately 100 hectares, of which 30-35 hectares were enclosed within the lower ring of fortifications. Situated in a fertile, densely populated valley, at the crossroads of the international trade routes, the city began to grow quickly and became the largest centre of handicraft production and commerce, and at the same time one of the most important and most famous towns in the Hellenistic East. Other towns, such as Zarekhavan in Noshirakan, and Bagrevand and Zarishat in Vanand, were founded during the reign of Artashes I. But the foundation of Artashat was the culmination of his building programme. Describing the life of this outstanding politician, Moses Chorenensis writes: «It is said that in the time of Artashes there was not a single plot of uncultivated land in Armenia, either on the mountains or in the valleys. Such

was the prosperity of our land» (II, 56).

The first decades of the first century B.C. have a special place in the history of Armenia. In this period Tigranes II the Great (95-55 B.C.), the new king of Armenia, founded a large state which became one of the greatest powers of the time. It occupied a considerable part of the Near East, extending from the Mediterranean to the Caspian Sea and from the river Kura to Mesopotamia. Moreover, many neighbouring countries and peoples came within its sphere of influence, such as Iberia and Albania to the north and a number of Arab tribes to the south.

During this period Armenia was undergoing a Hellenistic development in its urban culture and economic welfare. Artashat was rapidly spreading to the areas adjoining the valley. In 80 B.C. a new capital of the state, Tigranokert, was founded in the region of Akhdznik. Two other towns of the same name are known in the regions of Utik and Artsakh.

To accomplish his political and economic plans Tigranes II resettled the inhabitants of the towns of Cilicia, Cappadocia and Mesopotamia; from Cilicia he took the population of 12 Hellenistic policies, including Sola, Adana, and Epiphania, and from Cappadocia part of the population of its capital, Mazaca. As the Academician A. Manandian writes, «The foreign merchants, craftsmen and labourers must have laid the foundations of a Hellenistic urban culture and formed the basis of the economic and cultural development of the country».

The most important and most highly developed, both economically and culturally, of all the countries that had been conquered by Tigranes II, was Syria, formerly the centre of the Seleucid state. This state had contained several large, wealthy city-states, among them Antioch on the Orontes, which became the centre of Tigranes's state in the south. The economic, and especially the cultural links with Armenia that had grown up at that time became increasingly strong, and played a significant part in the history of the Armenian people. In particular, scholars have noted the great importance of architectural parallels with Syria.

From c. 70 B.C. Armenia had a new enemy, namely Rome. According to Flavius Josephus, in the spring of 69 B.C. Tigranes received news of a sudden incursion into Armenia by the legions of Lucullus. Having captured and sacked Tigranokert, Lucullus moved on to Artashat, but was unable to take it. Tigranes wore down the enemy forces and drove them out of the country.

In 66 B.C. Armenia and, in particular, Artashat were subjected to a new invasion, this time by the Parthians, led by Phraates III and Tigranes the Younger, Tigranes II's son, who had rebelled against his father.

Soon after the death of Tigranes II, a hard period began in Armenia. For a long time the country's main problem was the defence of the territorial

integrity that had been achieved with such difficulty. The Artaxiad dynasty gradually died out. Soon after 50 A.D. Tiridates I, a brother of the Parthian king Vologases I, became the king of Armenia. This event led to a new conflict between Rome and the Partho-Armenian coalition. In autumn 58 A.D. the Roman troops, under the command of Domitius Corbulo, advanced on Artashat and occupied it, without meeting any resistance. Cornelius Tacitus writes that «the inhabitants of the town, opening their gates voluntarily, surrendered themselves and their property to the discretion of the conquerors, and this action saved them from extermination; but as for Artaxata, we set it on fire and razed it to the ground, because the extent of its fortifications made it impossible to defend without leaving a strong garrison, and we had too few troops to be able to leave such a garrison, and still continue the war. And if we had left the town whole and intact, and unprotected by any guard, we would have been unable to derive either advantage or glory from its capture» (Tacitus, *Ann.*, 243). Soon afterwards the Roman legionaries were defeated by the army of Vologases I and Armenian detachments on the south bank of the river Arazani, near Randeya.

After the Romans left the country, Tiridates I, the founder of the Arsacid dynasty, became king. According to Dio Cassius, Tiridates I went with a large retinue to Rome, where the emperor Nero himself crowned him. When Tiridates I returned to his homeland he received a «gift» of 50 million sesterces as compensation for the devastation caused by Corbulo's legions. It is also reported that Tiridates I brought back with him a great number of skilled workmen, whom he later used in the restoration of Artashat and other towns.

Precisely this date (58 A.D.) has been singled out as the end of the first period of construction (180 B.C.-58 A.D.) in the town (Khachatrian, Kane-tsian 1974, 92), on the basis of an analysis of the structural remains of hill VIII. In the course of further research it was discovered that on hill I the first period falls into two stages: the first (IA) from 180 to 66 B.C., and the second (IB) from 66 B.C. to 58 A.D. (Khachatrian 1978, 56). Similar evidence was found on hill VIII. Moreover, we believe it is possible to distinguish a third subperiod (IC), which is represented by a number of carelessly constructed one-room buildings scattered all over the area of hill VIII. The remains of walls of the same period and the same structural type also occur on hill I. We think that these buildings belong to the same period in the history of the town, when Artashat had been destroyed by Corbulo's legions and the inhabitants built for themselves temporary huts, which thus preceded the buildings of the second period, erected by Tiridates I during his reconstruction of the town.

The second period of construction (60-160 A.D.) marks the most flourish-

ing phase of the town of Artashat (Khachatrian, Kanetsian 1974, 92). The structural remains of this layer show a high standard of planning both in the town as a whole and in individual buildings, and a high standard, too, in building techniques and decoration¹. The area of the town has greatly increased. The western and south-western boundaries of the town have reached the river Araxes. It is also possible that the town extended on to the right bank of the river, where there must have been fortifications to protect the approaches to the bridge. The exact position of the northern and eastern boundaries of Artashat is not known, but judging from the material found and from the results of exploratory research we may assume that they extended to a radius of approximately 1200-1500 m from the central group of hills. Thus, on the most modest calculation the area of the town was more than 600 hectares at this period (Khachatrian, Tonikian 1985, 287). It is interesting to note that a Latin inscription of the emperor Trajan was found 2 km from the hills and that some large ancient cemeteries discovered to the east of the villages of Nor-Kyank and Shiraz are situated only 2.5 km away from the hills. The whole territory bordered by these landmarks has yielded rich material in the course of our excavations.

During Trajan's eastern campaign (114-116 A.D.) Armenia, and especially its capital Artashat, was again invaded by Roman troops. Soon afterwards, however, there was a popular uprising and the Romans were forced to leave Armenia (117 A.D.).

In spite of the short duration of their stay in the country, the Romans did a considerable amount of building there. We know this in particular from the above-mentioned Latin inscription in the name of the emperor Trajan, which measures 8.5 m long and 0.8 m wide and was set up in 116 A.D. It states that the IVth Scythian legion had erected a building there. What kind of building it was is unknown at present. On the same spot an epitaph of a soldier of the 1st Italian legion was found.

In 163 A.D. Roman troops again appeared under the walls of Artashat and in a short time took the town. Artashat was partly destroyed. In 164 A.D. the capital was moved to Vagarshapat, which was given a new Greek name, Caineapolis. The Romans remained in the country for 23 years, until 186 A.D.

During the third period of construction (from the late second century to the 330s A.D.) the erection of new buildings and the rebuilding of old ones was carried out on a large scale. The Romans have left a considerable number of traces of their building work from this period. In particular, there have been many finds of tiles and burnt bricks bearing the stamps of Roman legions. It is

¹ The building of the temple at Garni dates from precisely this period.

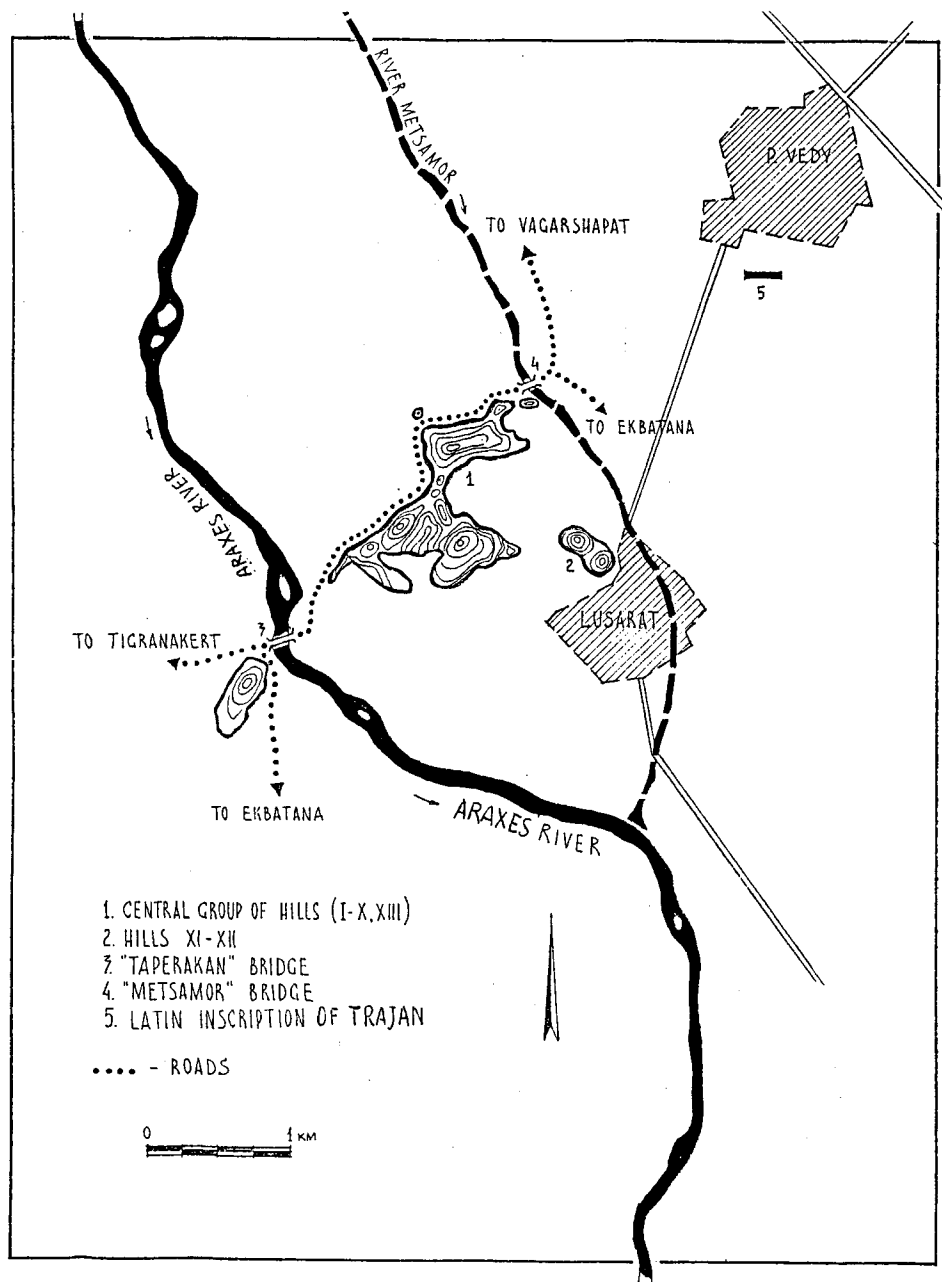


Fig. B - Topographical setting of Artashat.

also noteworthy that it is during this period that bath-houses with a hypocaust system first appear. This system continued to be used here until the eleventh or twelfth century (Amberd, Loriberd, Ani, etc.).

At the beginning of the third century A.D., after the fall of the Parthian kingdom and the rise to power of the Sasanids in Iran (226-227), Armenia acquired a menacing new enemy and its capital was subjected to new trials. According to Moses Chorenensis a change in the course of the river Metsamor led to the formation of swamps around the town. The air became unhealthy and, because of this, diseases began to spread. Consequently, in 332-338 Khrosrow I moved his court away from Artashat. But in spite of this, according to the written sources, Artashat remained the largest town in the country.

In 368 A.D. the troops of the Sasanid king Shapur II invaded Armenia and sacked and destroyed Artashat along with many other towns, after which Artashat lost its status as the most important town in the country. But in the seventh century there was still a fortress and a small settlement here. Baladhuri, the Arab historian, calls it «the settlement al karmiz» («red cochineal», a purple Armenian dye, obtained from snails). Later Artashat disappears from the historical scene.

The fourth period of construction, from the 330s to the 360s A.D., is marked by a massive decline in the standard of urban life, handicrafts, and building techniques. Archaeological excavations have shown that some areas of the town fell into neglect, and the strength of the buildings greatly diminished.

The stormy political life of Armenia during the period under investigation is known to us not only from the written testimonies of ancient and medieval authors but also from the documentary evidence arising from our archaeological excavations in the Artashat area. The stratigraphy of the area provides an objective reflection of the periods of building activity, the wars, the destruction of the town by enemies, and also the decay of urban life. There are four periods of construction which reflect four stages in the life of the town: the first period falls into three phases; IA, from 180 to 66 B.C.; IB, from 66 B.C. to 58 A.D.; and IC, from 58 to 66 A.D.; the second runs from 60 to 160 A.D.; the third from the end of the second century to the 330s A.D.; and the fourth from the 330s to the 360s A.D.

B. The local topographical conditions

Artashat was situated on twelve hills, some small, some large (Fig. B), and also on the territory of the adjacent plain. We have constructed a very interest-

ing picture by recording all the archaeological material obtained from systematic excavations, and also during exploratory work and chance finds. The archaeological finds are spread uniformly over an extensive area surrounding the Khorvirap hills to a radius of 3-4 kilometres, and in some places even further, except for the area to the north of the hills, where only ancient material has been recorded. Here the subsoil water-level is very high, and consequently in autumn water comes to the surface in places.

The first ten of the Khorvirap hills form a single system, whereas hills XI and XII are separate and lie on the northern outskirts of the modern village of Lusarat (Khachatryan-Tonikian, 1985). These two hills were badly damaged by blasting in the period between 1950 and 1960. As a result, it is impossible to determine their true extent or their height. The first ten hills (Fig. C) cover an area of about 100 hectares, and their height varies from 20 to 70 m.

Hills I-II, VII and VIII extend along the north-east and south-west axes, their total length being 1400 m. From hill IV, hills V, VI and X stretch out in a south-easterly direction; their total length is 700 m. To the south of hill VIII is hill IX, whose elongated form lies along the north-south axis. The two separate hills, XI and XII, are 500-600 m to the east of the main group of hills, and lie along the south-east and north-west axes; their total length is 350 m. Hill II has the central, dominant position in the main group of hills ($S=20$ ha, $H=70$ m). The northern and western slopes of the hill are very steep ($28-30^\circ$), in contrast to the southern and eastern ones ($20-23^\circ$). About 80-100 m from the north-western corner of hill II there is a small, free-standing rock ($S=0.25-0.3$ ha, $H=7.8$ m). Two narrow and rather low saddles ($H=18-20$ m) link hill II with the first one to the north-east and with the third to the south-west. Hill I, which is situated further to the north than the main group of hills, is triangular in shape, small in size ($S=3.0-3.5$ ha, $H=30$ m), and has a slope of $18-22^\circ$. Hills III and IV, which extend further, have an area of 2.0 and 1.3 ha respectively, and connect the southern group of hills with hill II. The height of hill III is 29 m and the neighbouring hill IV is 9 m lower. Hill VII adjoins hill IV to the south-west and hill V adjoins hill IV to the south-east. In the south there is a saddle between them, with a $4-5^\circ$ slope. Hill VII, the second highest ($H=60$ m), is the most important in the main group of hills ($S=8.5-9$ ha). The gradient of the northern sides of hill VII is $40-50^\circ$, and they are practically unscalable. The above-mentioned hill V ($S=3.5-4.0$ ha, $H=30$) adjoins hill VI, on the eastern slope of which the medieval monastery Khorvirap now stands². The hill has an area of 6.5-7.0 ha and a height of

² Khorvirap (deep pit) is a casemate where prisoners sentenced to death were kept. In the Church of Grigor Lusarovich in this monastery two deep pits are still preserved; in one of them, according to legend, Grigor Lusarovich, the founder of Christianity in Armenia, languished in



Fig. C - Artashat: the central group of hills.

captivity. The church was built in the period of Early Christianity, and the monastery in the 13th century. What remains today is the monastery complex of the seventeenth century.

53-55 m. Hills VIII and IX, situated to the south-west, complete the main group of hills ($S=9.1-1.0$ ha, $H=20-23$ m). Hills II-V have a conformation resembling an amphitheatre, which is open on the eastern side and has a maximum width of 400 m along the east-west axis, and 300 m along the north-south axis. Between these hills there is an expanse of land covered with small raised areas and terraces, which are suitable for building ($S=11.0-12.0$ ha). The territory between hills VI, VII and IX is of great interest for us, but unfortunately its topographical features have been completely distorted as a result of intensive blasting which was carried out here during the quarrying of marble. As was mentioned above, the same fate has befallen hill X, which directly adjoined hill VI to the south-east. On the southern bank of the river Araxes, opposite the western end of hill VIII, which slopes gradually down towards the river, lie some hills which are apparently linked with the Khorvirap system.

According to the accounts of the local inhabitants, and the evidence of old topographical maps and aerial photos, there used to be a large number of small hills and raised areas on the territory surrounding the central group of Khorvirap hills; but most of them have been destroyed in the course of land improvement works. One of the few remaining pieces of higher ground is a small hillock 50-60 m away from hill I, to the east of hill I.

C. Town-planning

It is difficult to overestimate the importance that Artashat has for the study of ancient Armenian architecture. In comparison to the amount of research that has been done on the historical development of the art of town-planning in the Armenian highlands between antiquity and the sixth century A.D., very little work has been done on the period of antiquity itself. Systematic excavations of Armavir, the ancient capital of Armenia, have, as is well known, revealed a general utilization of the Urartian structures of the town of Argishtikhinili, on whose ruins Armavir was founded.

The fortress of Garni (Sainian, 1985, 31-48) is an example of powerful fortifications built in the period of antiquity on the territory of Armenia. Its fortification system, which dates from the first century A.D., consists of a number of alternating square towers and straight curtain sections, built entirely of basalt blocks fastened together by means of metallic clamps. But we know virtually nothing about the town-planning criteria followed here at this time.

There are some very interesting fortresses in the region to the west of Lake Urmia. However, though plans of them have been published, thanks to W.

Kleiss's surveys, no systematic excavations have yet taken place there (Kleiss 1976 and 1978).

Tigranokert has a special place in the history of Armenian town-planning (Sarkisian 1960), but it, too, still awaits a detailed study.

Our knowledge of town-planning in such cities as Ervandashat and Vagarpashat is very general and insignificant, being based entirely on the evidence of written sources and on exploratory data.

Work on the study of town-planning development is also being carried out in neighbouring republics. Very interesting excavations have been done on Vani and Esher settlements in the territory of ancient Colchis; on Samadlo, Baginetti and Mtskheta in Iberia; and in Kabaly and Shemakhi, large towns in Caucasian Albania.

The layout of Artashat will be discussed here in the light of the results of systematic excavations. It should be pointed out that the site chosen for the town on the Khorvirap hills is a very favourable one both from the point of view of town-planning and from that of fortification. The position of the main group of hills, which dominated all the surrounding parts of the plain, provides definite strategic advantages. It should also be noted that the town occupies an advantageous position at the confluence of the rivers Araxes and Metsamor, which form natural defensive boundaries.

According to ancient written sources, in the building of towns or settlements the choice of site was of great importance for residential areas, for it provided them with the necessary orientation, insulation, aeration and protection from cold winds. All the excavations in Artashat show that the residential areas and individual houses were built with these requirements in mind. For instance, the residential areas of hill VIII are on the southern slope, and individual dwellings of hill I not only face the south but are positioned under the north wall of the fortress, which shields them from the harsh north winds. The streets are oriented towards the cardinal points.

A complete excavation has been made of the remains of the fortified walls on hills I and V, on the top of hill VII, and on the northern slopes of hills V and VIII. Similar excavations have also been made of the walls of the Urartian fortress on the northern and north-eastern slopes of hill II. As a result of these excavations, which were carried out in 1985 on all the central hills and on the immediately adjoining parts of the plain, we have been able to measure and to draw on a topographical map a significant part of the defensive walls and to reveal the planning structure of Artashat at different stages in its historical development.

It will be convenient to carry out our analysis of the town plan in chronological sequence. The configuration of the Urartian fortress on the top of hill II is an irregular polygon, 2.5-2.6 ha in area, which is elongated along the

east-west axis; its defensive walls are 40-50 m high. As we have already noted, this fortress is comparable in size with such Urartian fortresses as Karmir-blur, Hasanlu III, Kale-Gyavur, etc. Towering above the surrounding settlement, the citadel has a dominant position in relation to the neighbouring hills, and from its height there is a good view of the Ararat valley and road. All the Urartian fortresses, settlements and citadels that are known to us are built in complex relief on high, inaccessible hilltops. This is the main difference between them and the ancient Mesopotamian fortifications, which were built in low-lying areas on artificially created platforms. Deep-rooted traditions led Mesopotamian architects to reject hilltop sites, even in cases where the lie of the land offered a very favourable position (Oganesian 1980, 36). All the above-mentioned positional advantages, added to the thickness and original layout of the fortifications, made Urartian fortresses powerful defensive structures capable of resisting a long siege. In the annals of the Assyrian king Sargon II we come across descriptions of many Urartian fortresses whose powerful defensive capacity is noted. A large number of artistic representations of Urartian fortresses have come down to us on Assyrian, Hittite and Urartian bas-reliefs, which testify to their power and splendour (Kleiss 1985).

Thus it was no accident that Artashes I chose the Khorvirap hills as the site for his future capital. First of all he made good use of the partially ruined Urartian fortress: he repaired it and carried out some improvements, fortifying an entrance on the north-eastern slope of the hill and building on round towers at the angular points in the fortress walls. The fortress had probably not been seriously damaged, otherwise there would have been no point in restoring it, or rather rebuilding it, according to old Urartian methods of fortification, which by that time were obsolete. This fact was confirmed by the results of excavations carried out in autumn 1985, which uncovered Urartian defensive walls 4-5 m high on the northern slope of the hill.

Having fortified the citadel on hill II Artashes I had secured himself a safe position on the new site, and he now set about putting into effect his grandiose plans for the foundation of a new capital, which was destined to become one of the most beautiful towns and the greatest commercial centres in the region.

Having decided to include in his building project the territory of the whole group of Khorvirap hills from I to X, Artashes I completely surrounded them with a line of defensive walls. He used an original system of highly intricate and extremely well thought-out fortifications linking all the hills together. No other Hellenistic fortification of this kind is known.

There were three citadels in the centre of the town, on hills II, VI and VII, the dominant position being occupied by that on hill II (the Main Citadel),

which was encircled by two lines of walls. These three citadels were connected by a system of walls, fortified passageways and transit gates on hills III-V, which made it possible to move troops swiftly to the most crucial points in the defences. If the enemy managed to take one of the central areas of the town, the gates in the fortified passageways were closed and each citadel defended itself independently. Traces of this system, though slightly different and still in a rudimentary form, can be observed on the territory of the Armenian highlands, in the fortifications of Bronze Age sites (Orom, Gusanagiukh, Sarnakhpiur) and in Urartu (Anzav, Kevkalesi, Argishtikhinili, Tushpa) (Kafadarian 1984, 33-54). In Artashat, as compared with these towns, there is an important step forward in the creation of the system of fortified passages and gates, which greatly increased the town's defence capacity.

Hill I, situated to the north-east of hill II, was also taken into consideration. Triangular in plan and surrounded by a line of fortified walls 20 m high, it was linked to the first row of defensive walls of hill II by means of fortified passages and transit gates. Hill I was a small fortress, capable, when necessary, of defending itself independently and protecting the approaches to the gates of the Main Citadel to the north-east. Hill I had one entrance in common with hill II in a fortified passage on the north-western slope of the isthmus, and another independent one at the northern extremity of the system of defensive walls.

As we have already mentioned, to the south of the central group of hills, towards the left bank of the river Araxes, there was a flat area of land, possibly assigned to living quarters (Fig. B). Evidence of this is provided by material that has been extracted and by surface reconnaissance. All this territory was undoubtedly encircled by fortified walls, which linked up with the walls of the central living blocks to form a single defensive system. We have no exact data to enable us to reconstruct the original situation in the area to the south of the hills, as no excavations have been carried out here.

Opposite the Khorvirap hills, on the other side of the river Araxes, lies another group of hills, which must also have been taken into consideration, as it presented the most suitable site for an advanced post on the other bank. Somewhere in this area the Taperakan bridge must have stood, for it would thus have been well protected on both sides.

It is unknown to us whether hills XI and XII were also included in the first line of defensive works. The traces of fortified walls that remain on these hills do not give us a complete picture.

«Artaxata stands on a promontory resembling a peninsula. A river flows all round its walls, except at the isthmus, which is fenced off by a moat and palisade». This report by Strabo essentially tallies with the data accumulated over the last fifteen years through the systematic study of the site. Artashat

was indeed on «a promontory resembling a peninsula», since the course of the river Araxes has not significantly changed, but merely deviated a little to the west. As far as the river Metsamor is concerned, its old course has not been determined exactly, but it is known that in antiquity it had a high water-level, flowed along the Ararat Valley, and ran parallel to the river Araxes for a considerable stretch. The waters of the rivers Kasakh, Razdan and Azat flowed into it. This information is confirmed by the data from Ashkharatsujts (seventh century) (Eremian 1982, 112). Further on, the Metsamor bent round the north-eastern side of Artashat and joined the river Araxes. This is the only reconstruction of the course of the Metsamor according to which Artashat is on «a promontory resembling a peninsula». According to Strabo, all approaches to the town from the north were cut off by ramparts and moats. It is known that besides the Taperakan bridge across the river Araxes, there was also the Metsamor bridge on the river of the same name; over this bridge passed a road leading to the town of Vagarshapat. Both bridges were probably at opposite ends of the road, which ran near the northern foot of the central group of hills.

Strabo speaks of «a moat and palisade» only «on the isthmus». But a study of the site has revealed the remains of defensive ramparts at the foot of the central hills on the eastern side, as well. The excavations that have been carried out here show that this section of defensive rampart was built some time around the beginning of the first century B.C. Remains of buildings dating from the three periods of construction have been also found there. The building of the rampart was apparently connected with the rapid expansion of Artashat towards the south and east. By this time the town boundary had moved further east. As for the defensive rampart across the northern approaches to the town, it remained where it was, since the town could not develop northwards owing to an area of marshland between the two rivers. Thus, Strabo's report, which dates from the first century B.C., mentions only the northern rampart as being in use at that time; the eastern one had not yet been built.

The development of the town-plan of Artashat fell into four stages:

- a) the restoration of the eighth or seventh-century fortress on the top of hill II (the building area within the walls is 2.5-2.6 ha; this stage covers the first years after the foundation of the town;
- b) the inclusion of the Khorvirap hills (the building area within the boundaries of the walls is now approximately 40 ha); this stage covers the second century and the beginning of the first century B.C.;
- c) the expansion of the town on to new land adjoining the hills to the south and east (the area of the town is now about 600 ha); this stage covers the period between the first and the third centuries A.D.;

d) the gradual decline and abandonment of the town; this stage covers the period between the end of the third century and the beginning of the fourth century A.D.

D. The layout of the individual districts

During the first three building periods (from 180 B.C. to the beginning of the fourth century A.D.) the territory inside the fortified walls was rendered completely habitable in as rational a manner as possible. But in the last period (from the 330s to the 360s A.D.), owing to the sharp fall in its importance and the decrease in the size of the population, the areas on which building was done grew much smaller. In the process of building great care was taken from the very beginning to exploit the particular contours of the land, and the advantages of every rock formation was taken into account. As has already been mentioned, the town was rebuilt several times, and at each successive stage of construction all the defects in the previous layout were eliminated, a fact which has been confirmed by excavations on hills I, VII, and VIII.

The basis of the plan of hill I was formed by two streets perpendicular to each other, along which were erected both individual buildings (armouries, ammunition stores and guardrooms) and living quarters (housing blocks and barracks) (Fig. D). The dominant feature is the triangular central square on the top of the hill. During the first phase of building the main street, beginning at the west gate and running parallel to the north wall, was 3.4-3.6 m wide and 90 m long. The gates were positioned slightly north of the axis of the street, so as to make it more difficult for an enemy to penetrate straight into the fortress. Just by the gate, under the northern wall, we have excavated a number of buildings which may have been used as guardrooms and stores. The second street, which is 70-75 m long and 3.6-3.8 m wide, narrowing to 3 m at the end, begins 23-24 m away from the gate and runs at right-angles to the main street; this second street leads to the fortified passageway on hill II. Along the entire length of the main street, there were passageways 1.25-1.5 m wide, designed to give the guards swift access to the outer walls. These passageways, spaced at intervals of 26-28 m, ran between the buildings, which stood very close to the outer wall. The remains of four such passageways have been found on hill I. A similar arrangement, also dating from the first period of construction, has been traced on hills VII and VIII. Two armouries, each consisting of three rooms, were built at the junction of these streets, near the outer wall. These buildings differ only in size (91 and 72 m²). The door from the street led to the first room, which was of slightly elongated shape and 10-12 m² in area; from here further doors opened on to neighbouring rooms, a

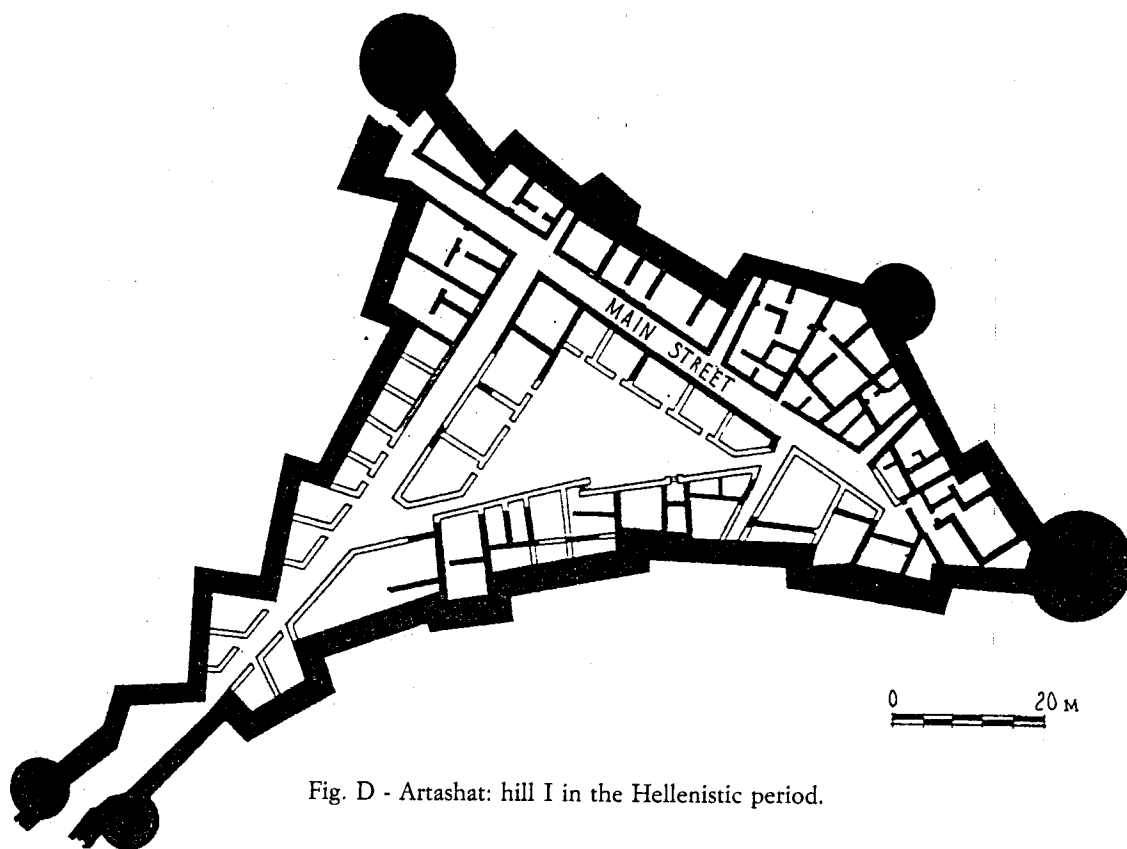


Fig. D - Artashat: hill I in the Hellenistic period.

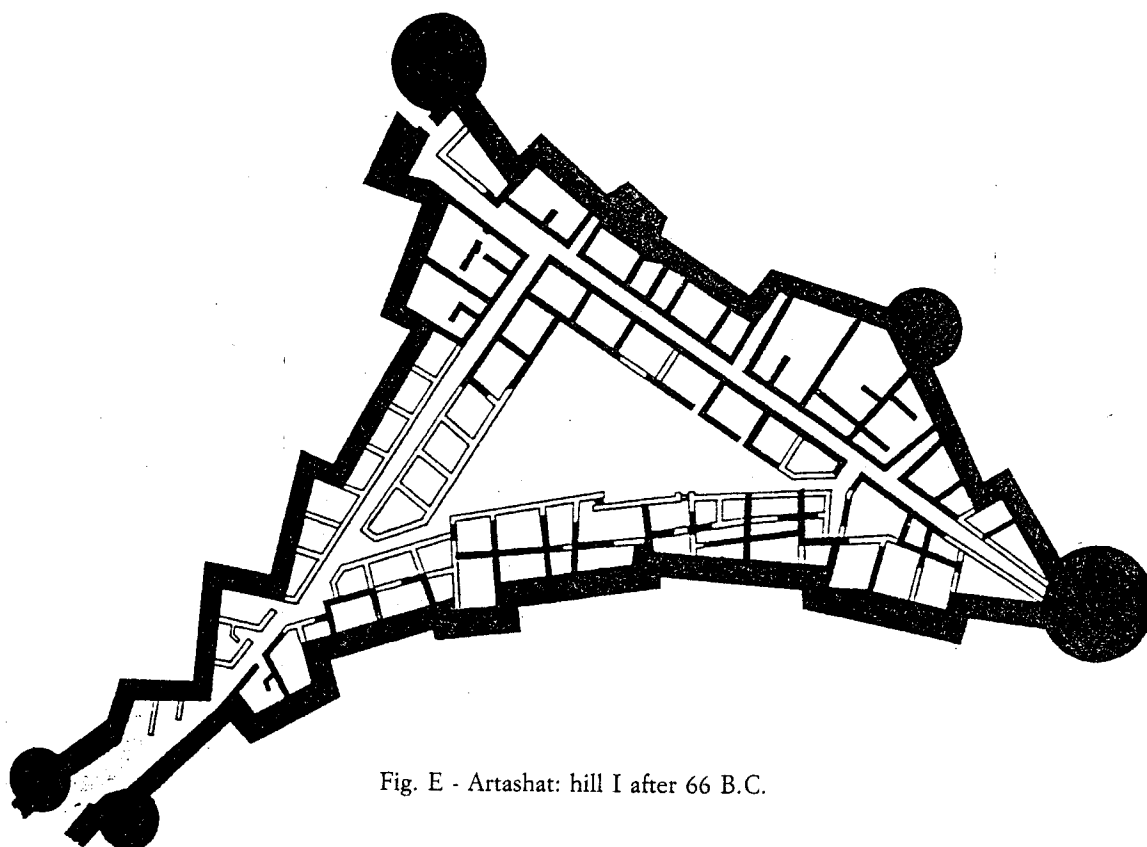


Fig. E - Artashat: hill I after 66 B.C.

forge and a room with an oven (Arakelian 1982, 24). In the same row the remains of neighbouring rooms of the same type have been preserved. These buildings were usually intended for guards and warriors, or for the storing of the ammunition (balls for catapults, arrows, supplies of bitumen, etc.). Buildings of the same type have been found at Panticapeum (Tolstikov 1984), Mirmeki (Gaidukevich 1952), Vani (Lordkipanidze 1970) and the settlement of Eshera (Shamba 1980). Philo of Byzantium also describes curtain walls with auxiliary buildings adjoining them. In Armenia the same method was used in other sites.

In 66 B.C. the damaged buildings of hill I were rebuilt according to the old plan but with some changes (Fig. E). These changes consisted of:

- a) the narrowing of the streets to little more than half their former width and a slight displacement of their axes;
- b) an increase in the size of the central triangular area to almost twice its former size (800 m²) by reducing the width of the adjoining barrack-like buildings and also by shifting them to the north and west by 2-2.2 m;
- c) an increase in the number of the rooms in the various barracks facing on to the square;
- d) an increase in the size of the area near the fortress gates by 7-8 m², achieved by narrowing the streets;
- e) the width of the main street remained the same only at the junction with the second street (9-10 m); this was probably necessary for the proper functioning of this communications centre.

The fairly good state of preservation of structural remains all round the contour of the outer walls makes it possible to ascertain that the same planning criteria were used here as in the period of construction IA. Having analyzed the remains of the buildings on hill I, we have come to the conclusion that they constitute one great architectural complex constructed according to a single plan whose function was primarily defensive. One piece of evidence in support of this last statement is the fact that by far the greatest area (85-90%) was used for buildings of military and defensive importance (barracks, armouries and ammunition stores), and only 10-15% of the ground was allotted to dwellings, possibly belonging to the families of senior officers.

The excavated section of hill VIII, owing to the poor state of preservation of the buildings, does not, unfortunately, give a very accurate picture of the mode of construction. There are, however, some interesting remains of one or two passageways leading to the northern part of the defensive walls. It is our belief that this hill was the location of residential areas, where the more prosperous strata of the population lived.

Equally interesting is the layout of the first period of construction on hill

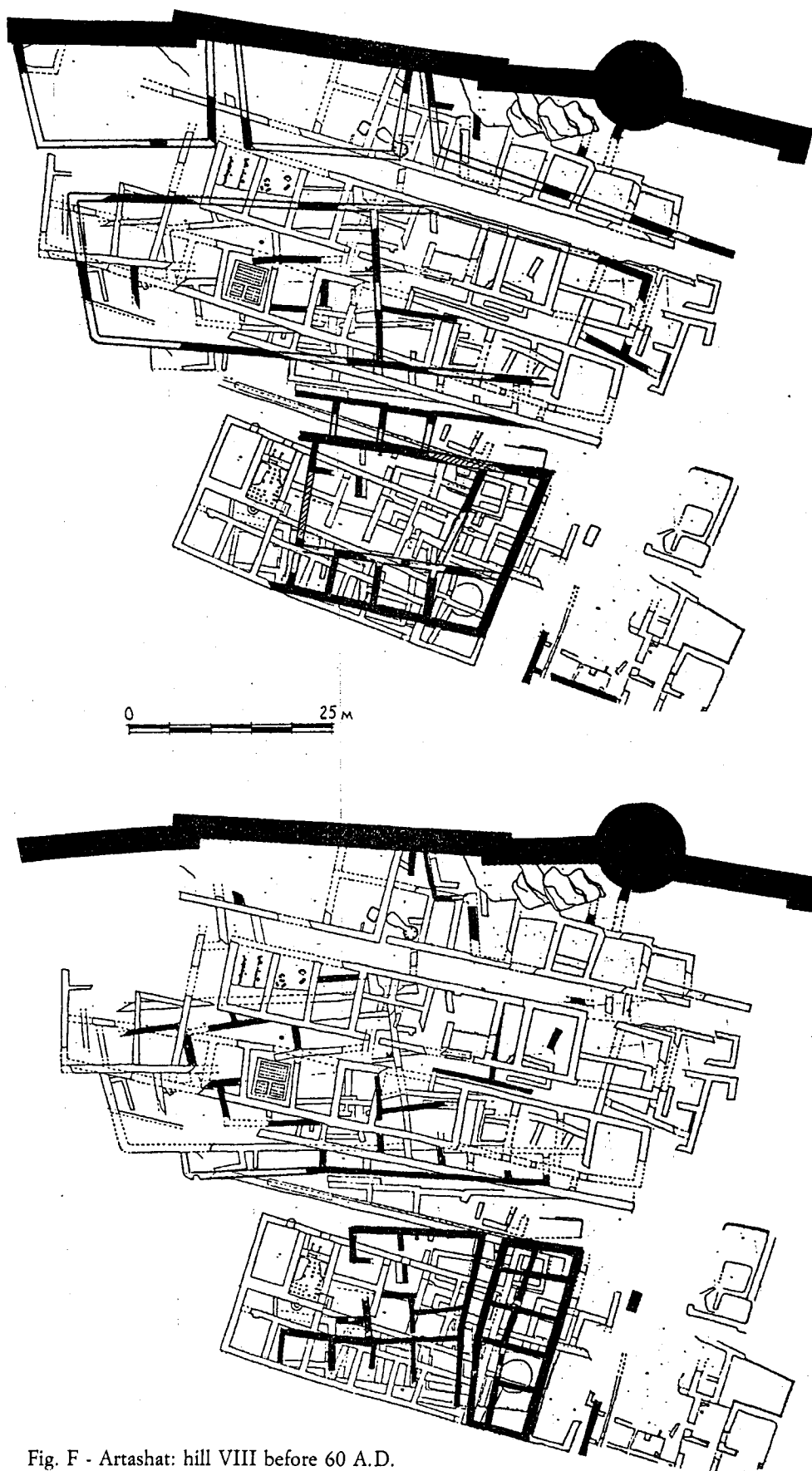


Fig. F - Artashat: hill VIII before 60 A.D.

VIII, where the buildings spread out in a radial pattern, which blends in harmoniously with the amphitheatre-like slopes of the hill (Fig. F). The poor state of preservation of the building remains again makes an exact reconstruction of the layout difficult. The width of the housing blocks between streets Nos. 1 and 2 varies 18 to 20 m and their length from 65 to 70 m. Three or four passageways leading to the fortress wall have been preserved. A radical change in the layout of hill VIII was made in 60 A.D., as a result of the wholesale reconstruction carried out by Tiridates I.

A first glance at the plan of this period (60-160 A.D.) assures us of the regular nature of the building on hill VIII (Fig. G, top). The clearly-defined, rectilinear arrangement of the blocks, separated by streets and alleys, shows that this complex was undoubtedly built to a single plan. One is struck by the uniformity of the building technique used in the construction of the dwelling houses. This uniformity is fully in keeping with the character of the building, which was carried out simultaneously all over the territory of the hill, and which was evidently completed in a comparatively short time. A characteristic of this period of construction which significantly distinguishes it from the preceding one is the amount of engineering work done to prepare the terrain. On a single small excavated area of hill VIII (approximately 1 ha. in area) the remains of three or four terraces have been preserved. In order to create them, breast-walls were built perpendicular to the slope of the hill along the whole length of the building areas. In one of these breast-walls we have found traces of a reinforcing antiseismic girdle made of beams. The space behind the wall was filled with rubble, and as a result the remains of the ground floor pavements of the earlier building periods have been preserved. On the basis of the height of those pavements it is possible to determine the level of the terrace pavements. The foundations of the walls of the buildings were for the most part laid horizontally, and within the boundaries of one terrace they were all at the same level. In the earlier building period, as we have already mentioned, the walls were erected directly on the subsoil or on levelled-off outcrops of rock, and also on flattened areas on top of the damaged walls of earlier constructions, a practice which led to considerable variations in level within the limits of one complex.

In the replanning of the built up area, the axes of the building walls diverge considerably (30°), in comparison with the walls of the previous periods of construction, and are oriented precisely according to the cardinal points of the compass — lengthwise east-west, and crosswise north-south. In the later direction the cross-section of the hill slope with the remains of buildings consists of a series of groups of adjacent rooms measuring 6-9 m in width, alternating with long streets or alleys, which lie along the east-west axis.

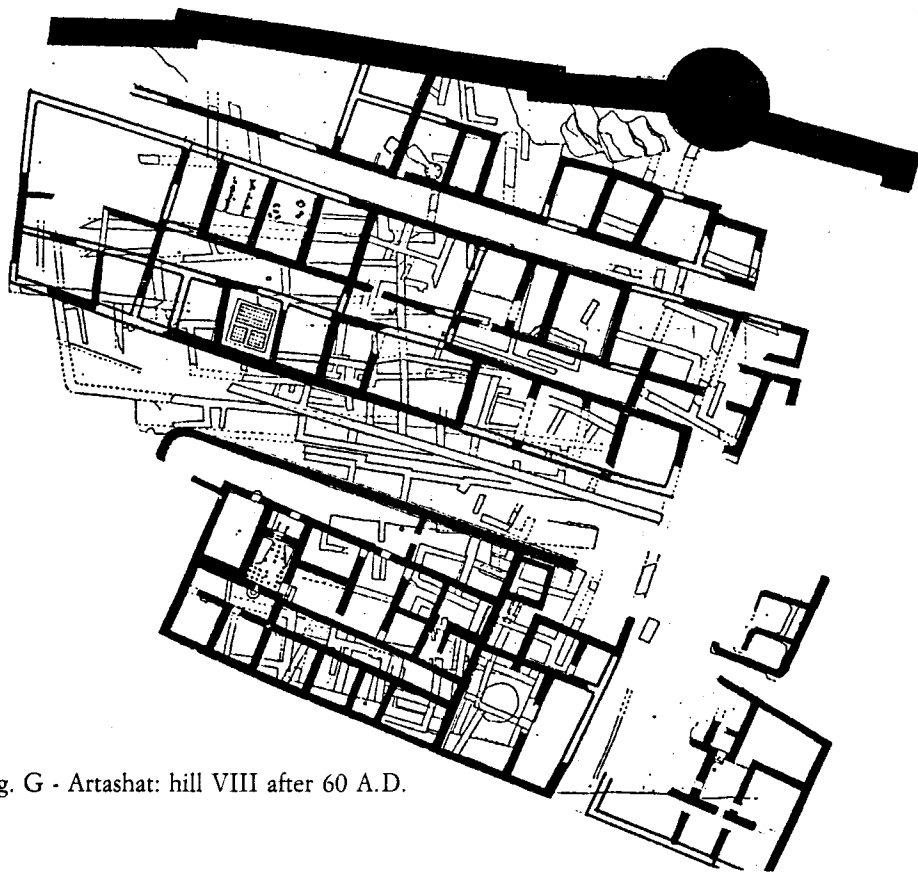
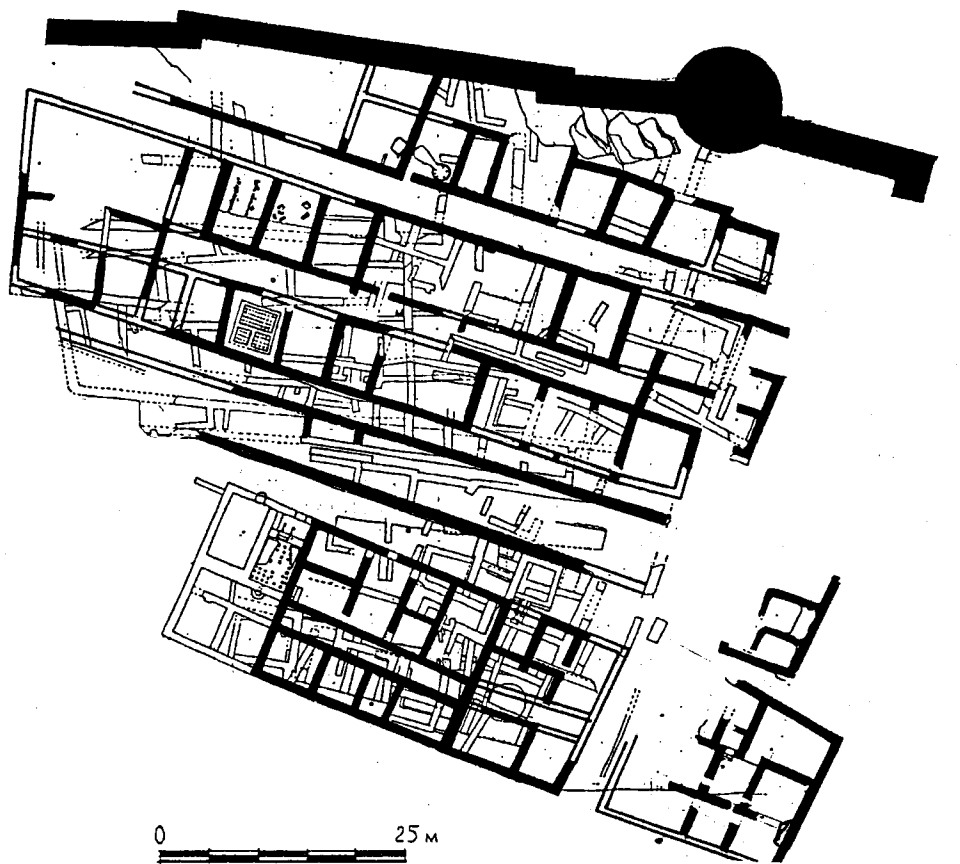


Fig. G - Artashat: hill VIII after 60 A.D.

The section of hill V which has been excavated so far is relatively small and occupies an area of little more than 25 ha., but the structural remains found there, dating from the first and second centuries A.D. (Fig. H), provide some very interesting material. Judging from the surviving fragments, a regular system of building was followed here, too. Unlike the buildings on hill I and VIII, those on hill V were not built against the fortified wall; a passageway 1.3-1.6 m wide was left along the inner side of the wall. We think that these passageways were created for defensive purposes, to allow rapid, unhindered communication between the upper quarters of hill V, the fortress walls and the communications centre on hill IV, which was the most important link between all the vital arteries of the town.

Judging from our excavations of hills V and VIII, there were no significant planning changes during the building and rebuilding works carried out in the third period of construction. On the whole, the layout of the buildings was the same as that of the previous period, with the exception of a few changes in a portion of street No. 3 on hill VIII (Fig. G, bottom). Mention should also be made of some bath-houses which appeared in two residential blocks, Nos. 2 and 6, also on hill VIII.

As far as the fourth and last period of construction is concerned, no satisfactory analysis has been possible, owing to the absence of a sufficient amount of material. All we can do is note a sharp decrease in the building area, the restoration of some individual rooms from the previous period, and the existence of large paved areas in front of the houses.

As has already been mentioned, the excavations on hill IV uncovered the remains of a gate, which had a purely defensive purpose.

None of the remaining hills (II, III, VI, IX-XII) has yet been excavated, and it is therefore impossible to say anything about their layout.

It is interesting to note that the average density of building on the excavated section of hill VIII is 65-70% in the first period of construction and 70-75% in the second period. This may be compared with the density of the central area in Argishtikhinili, which was 35-40% (Kafadarian 1984, 38).

Artashat had a well-arranged system of communal and social buildings: in a small area on hill VIII we have found two baths with a hypocaust system at a distance of 30 m from one another, which suggests that they were evenly distributed throughout the town. We have also discovered seven different types of hypocaust. The town had a system for draining away rainwater; gutters with outlets have been found in the fortress walls; and a drainage system has been found on hill VIII. In addition to water-pipes, there were also wells, dug through the rock. The streets were paved in some places. The improvement of facilities which had their roots in the ancient traditions of the Orient was characteristic of the Hellenistic age, especially in Asia Minor,

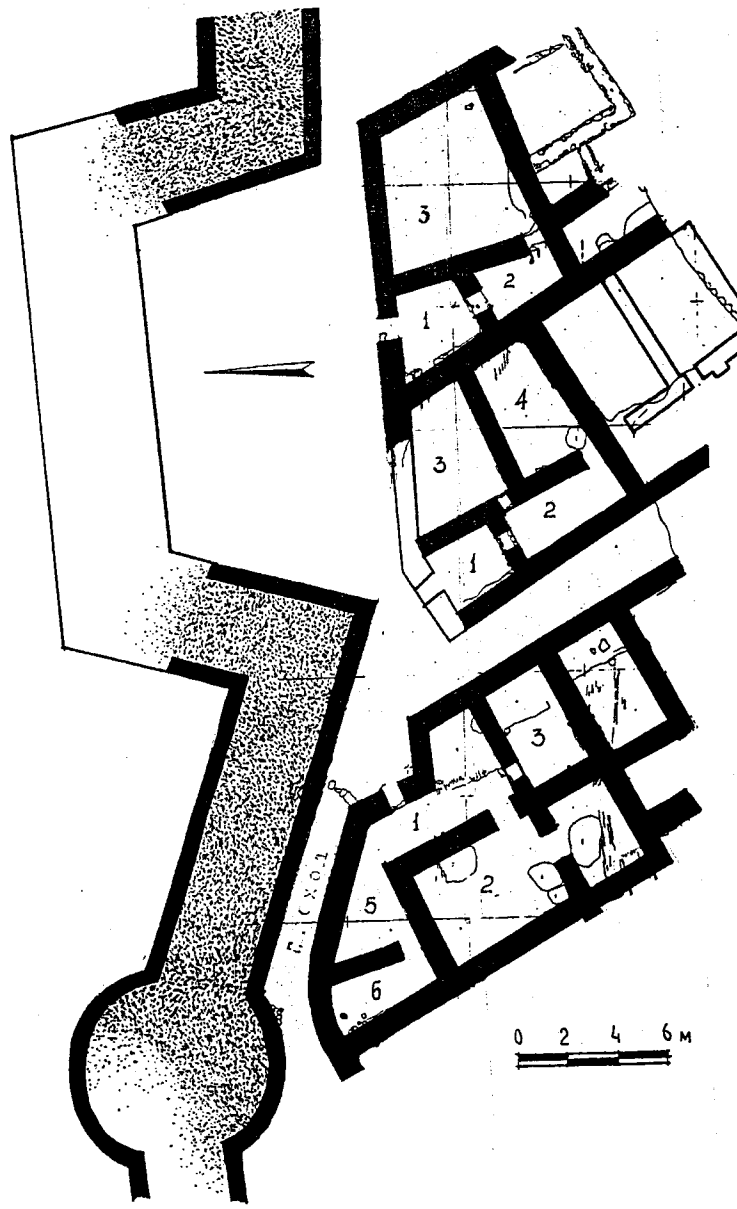


Fig. H - Artashat: hill V in the first-second centuries A.D.

Central Asia, Syria and Transcaucasia.

Thus, the first period of construction in Artashat is characterized by the following planning peculiarities:

- a) the use of a single building plan;

- b) the adoption of regular, rectangular and radial building plans;
- c) the favourable orientation and the good insulation and aeration of residential areas;
- d) dense building within the limits of the fortress walls;
- e) an average building density of 65-70% (judging from the evidence of hill VIII);
- f) the building of houses in blocks;
- g) the presence of passageways leading to the fortress walls;
- h) a street width varying from 3.5 to 5.0 m.

The second period of construction has the following features:

- a) the existence of a single building plan;
- b) the use of a rectangular network of blocks;
- c) the favourable orientation and the good insulation and aeration of residential areas;
- d) the building of blocks of houses of the same type;
- e) an average building density of 70-75%;
- f) in some places, the existence of passageways running along the inside of the fortress walls (hill V);
- g) a narrowing of the street width to about 2.0-2.5 m.

The planning peculiarities of the period of construction are as follows:

- a) the repetition of the plan of the previous period of construction (with the exception of part of street No. 3, hill VIII);
- b) the violation of the layouts of some typical blocks;
- c) the improvement of facilities, and in particular an increase in social amenities (for instance, baths).

The characteristics of the fourth period of construction are as follows:

- a) a general decrease in building activity;
- b) a sharp decrease in the building area;
- c) the existence of large paved areas.

E. *The functions of the various districts*

As has already been noted, hill II (Fig. C), the largest in area and the highest, occupied the dominant position in the whole system of the Khorvirap hills (Khachatrian Tonikian, 1985, 287). The buildings on this hill were intended for the palace and administration centre. This is indicated in the first place by the advantageous, central position of this hill in the system as a whole. It is further indicated by the presence of vital links with the neighbouring hills through a system of transit gates on the isthmuses. Even more important evidence can be seen in the existence of a complex system of

fortified buildings on the hill and on the approaches to it. Finally, we have the results of earlier excavations and the first-rate material which they produced: fragments of painted gypsum-lime plaster and cornices, limestone elements of a very high artistic quality, imported pottery, coins, etc.

Nor is it a coincidence that the choice of the site for the above-mentioned fortress fell precisely on this hill, which, apart from being the most inaccessible of them all, was also suitable for building. The area now occupied by the palace complex had probably been the former location of the theatre of Artashat, a record of which has come down to us in the writings of ancient authors.

It should be noted that such isolated positioning of the citadel on the outer extremity of the town was a typically eastern method of town-planning, resulting from the rulers' desire for isolation from the mass of town-dwellers (compare, for example, Dur-Sharrukin and Dura-Europos).

The position of hill I near the north-eastern extremity of hill II, at the end of a passageway leading to its summit, and also the structure of the internal layout and the type of finds (arrow-heads, spears, catapult shot, vessels for the storage of fuel oil) on the territory of the fortress, give grounds for the assertion that the buildings on hill I had a chiefly defensive function, namely that of defending the north-eastern approaches to the citadel on hill II.

Hills III and IV, which lie near the south-western extremity of hill II, were also of considerable defensive importance. Their function was to defend the links between hill I and the southern areas of the town. No excavations have yet been carried out on hill III, but on the basis of the material that we have at our disposal on the fortified passageway between hills I and II, we may assume that on the inner side of the fortress wall there were store-rooms for ammunition and other military equipment, as well as living-quarters for garrison warriors and town guards.

The excavations carried out in 1976 on hill IV revealed the existence here of a very important defensive point, a special communications gate, intended to reinforce the defensive capacity of hill II. The existence of significant material between hills IV and VII, the presence of the remains of two round flanking towers at the eastern end of hill IV and at the north-eastern part of hill VII, and also the crucial position of this part of territory, equally conveniently located with relation to all parts of the town, give us grounds for asserting that this was the site of the town gates.

On the territory of hill VI no systematic excavations have yet been carried out. On its south-eastern slope, as was mentioned above, the medieval monastery of Khorvirap stands. Even on a first glance at the church of the Mother of God, which stands in the centre of the monastery, one can see that the first layer of socle brickwork differs sharply from the rest both in material and in

technique of production. This leads one to suspect that, before the adoption of christianity as the state religion of Armenia (301 B.C.), a pagan temple had stood here, and it is conceivable that the hill as a whole was the site of a group of religious buildings. As is well known, places of religious worship often remained unchanged even after the replacement of one religion by another. The proponents of the new faith, destroying old pagan temples, built new churches on their foundations. Evidence of this process is provided by a great number of written sources, as well as by the results of excavations that have been carried out in the cathedral church and on the site of the seventh-century temple of Ripsim in the town of Echmiadzin.

The excavations of 1973-1975 revealed the structural remains of dwelling-houses on the summit of hill VII, which, it appears, was completely built over with living quarters. Unfortunately, the steepness of the slope of this hill has led to the almost total wash-out of the cultural strata over a sizeable area. There is no doubt, however, that hill VII, together with hill VI, also had a crucial position in the planning layout of Artashat.

The excavations carried out on the south-western slope of hill VIII in summer 1973 are of great interest for the study of the site, and of the material culture of ancient Armenia as a whole. Here the structural remains of buildings — mainly dwelling-houses and handicraft workshops — have been found, dating from the fourth and fifth periods of construction in the town, from the second century B.C. to the fourth century A.D.

Judging from the contours of the land, the excavation data, and the presence of excavation material, similar residential districts spread over the whole area of the neighbouring hill IX, and extended to the territory of the adjacent plain; and there can be no doubt that they also occupied the comparatively flat and low-lying part of the southern saddle between hills V, VI and VII. All this territory had a favourable, south-facing orientation.

The layout of the town was based on a division into zones with clearly distinct functions, a system which was one of the most characteristic features of Hellenistic town-planning. A similar division into zones is also found in such Hellenistic centres as Seleucia on the Tigris and Antioch on the Orontes. A particularly clear example is Alexandria, which had a separate administrative and social district called Brucheion, which included an isolated palace complex, important social, cultural and educational buildings, commercial centres, and residential areas, differentiated according to social and ethnic criteria (e.g. Macedonian Greeks and native Egyptians inside, and Hebrews outside the town walls). We do not yet know if there were similar social and ethnic divisions in Artashat, but judging from our written sources, who speak, in particular, of the moving to Artashat of several thousand Jewish families under Tigranes the Great, a division into districts according to ethnic traits

undoubtedly took place. As far as the functional zoning of the town is concerned, our analysis of the results of our excavations and exploratory work has made it possible to determine the role played by most of the hills in the general town-planning structure.

ARMEN TONIKIAN

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