

PROBLEMS OF GARDEN ARCHAEOLOGY IN THE USSR

REPORT BY MRS. NICOULINA AND MRS. TOCHTAHOJAEVA

Garden archaeology is a relatively new field of research in the USSR, and this is true both of the work of accumulating the facts and findings and of the development of the actual research methods. Its main basis is a combination of two branches of science - archaeology itself and the history of landscape design.

Specialized works on landscape design based on the results of archaeological research are few in number; among them might be mentioned those of G.A. Pugachenkova and M.A. Orlov. On the horticultural aspect of gardening, treatises with an archaeological basis are rather more frequent, and here we may cite the works of S.F. Strzheletsky, F.L. Osmanoff, E.V. Weimarn, and M.K. Gegeshidze. Some information on garden design may be derived from archaeological studies of architectural monuments - palaces, villas, or private houses - of given periods (See S.O. Khan-Magomedoff, V.T. Chakvetadze, G.D. Beloff and others). And lastly there is the information to be found in studies primarily concerned with town-planning (M.E. Masson, L.A. Chilashvili, D.E. Shelov; the Rosnoran Archaeological Expedition of 1946-1953), or with history or ethnography (South Turkmenistan Expedition of 1958-1962; K.D. Antadze, S.A. Meschia, and others).

One obvious conclusion may be drawn from this very incomplete picture, and this is that nearly all studies connected in any way with garden archaeology have been carried out by archaeologists who, with rare exceptions, had no particular intention of embarking on this line of research. The landscape architects themselves have so far paid practically no attention to the problems of garden archaeology and have not concerned themselves with archaeological findings in their field. And yet, owing to the specific problems arising out of the development of the profession as a whole which require to be recognized and studied at the present moment, the progress of this branch of archaeology is in reality of vital importance for them.

The study of any historic landscape presupposes an all-embracing approach not limited to any given moment in its development - be it the culminating point in that development - but taking in the whole of its career; this applies equally to modern historical methods of study and - whether the landscape be natural or manmade - to the method based on the application of ecological criteria. It follows that there must be profounder knowledge of the history of individual landscapes, as well as of the general history of landscape design from age to age; and here archaeological methods may be effective.

In the USSR as in other countries, modern theory of landscape architecture is deeply concerned with the search for new aesthetic criteria based on the expression, in any manmade

landscape, of an ecological balance between the different elements composing the whole. This is a very different aim from that of reproducing nature herself by artificial means, which is still being pursued in some cases. As a means of evolving an ideal present-day solution, the study of ancient garden designs based on rural landscapes may prove extremely useful.

In practice modern landscape architects are also now very often faced with the task of restoring historic grounds, whether belonging to palaces or monasteries or - as in the case of certain country parks - possessing a value of their own. In this connection a good working knowledge of landscaping ways and means at a given period, such as archaeological research can provide, may be most helpful.

All of these reasons go some way towards explaining the growing interest with which landscape architects are beginning to regard the history of landscape design; they also explain the need to evolve new research methods and seek new sources of information to supplement the historical records which used to be the only sources available.

As is perhaps natural in so large a country, the intensity with which studies in garden archaeology are pursued varies greatly in degree from one part of the USSR to another, and it is in Central Asia that this type of research has produced the best results. The most important examples of garden design in this part of the world belong to the periods when strong centralized states existed and wide-scale irrigation was possible; the increase in the amount of land irrigated encouraged the development of an agrarian civilization which reached a very high level, and of this gardens naturally formed a part.

Many of these agricultural regions later disappeared under the influence of such natural factors as changes in climate or the deviation of the courses of the Amu-Darya, Zeraushan and Surhan rivers, or of historical events including wars and the destruction attendant on them.

Thus of the many gardens that once existed in and around the city of Horezm nothing remains but ruined buildings and walls, with traces of the irrigation network. The sites of the gardens of Jenda, Dev Kesken and Shah-Senem were discovered by the Horezm archaeological and ethnographical expedition of 1941 to 1947, and the incomplete remains of the 13th-century garden near the town of Jenda, in the oasis which owed its existence to the presence of a tributary of the Amu-Darya, may serve as an example of a garden of its period. The present-day condition of the site of course makes any conclusions as to any above-ground garden features quite impossible, and nothing is known of the planting; however, the traces of raised paths and of irrigation channels, and the ruins of buildings and walls, are well enough preserved for a reconstruction of the ground-plan to be possible. The garden was in three parts, a small garden, a square courtyard surrounded by palace rooms and domestic quarters, and a large garden whose walls diverged. Except in the case of some of the buildings round the courtyard, the plan was symmetrical.

In the 14th and 15th centuries, when Central Asia had become part of a powerful feudal empire, garden design and building techniques reached a high level of perfection. The concentration of power and riches in the hands of Timur and the Timurids was one of the factors which led to the creation or reconstruction of irrigation systems, and these gradually increased the amount of available arable land. This was the age of the famous "bagi" or gardens of Samarkand and Herat, on which a certain amount of information is available from historical records. The Samarkand archaeological expedition of 1941 succeeded in locating the "bagi" of Samarkand, which had been laid out along the banks of an important irrigation canal, the Can-i-Gil, as well as on the Hill of Cuhak and along the road to Kesh (Shahrishiabs) - in the most picturesque suburbs of the city, in short. The major gardens numbered no less than 13; some more recent sources lead us to believe that there were as many as 16.

According to Babur and Sherefeddin Ali Yesdi, the larger palace gardens were laid out to specially-prepared plans designed to suit the specific character of the site. The 15th-century agricultural treatise "Irshad-az-Zera", written in Herat to serve as a gardening handbook, describes the plan and the design of the vertical features of a typical suburban garden (The reconstruction proposed by G.A. Pugachenkova is based on this description).

Archaeological research on the sites of the 14th-century Samarkand gardens of Bagcha and Davletabad proves that the gardens of this period had an axial plan. The palace building, on a raised platform, dominated the garden, atanding, as it did, on a central axis which secondary axes sometimes served to enhance. There was always a canal along this main axis. 15th-century miniatures depicting garden scenes show an open space laid out in front of the palace, with a basin or fountain, handsome paving, and sometimes a pavilion, and this evidence is supported by contemporary descriptions. For instance, Ruiz Gonzalez de Clavijo, a Spanish nobleman who travelled to Samarkand with the embassy of Henry I of Castile, writes of the Shahrishiabs: "In front of (the palace) was a large garden with many different shade and fruit trees. It contained basins and skilfully laid-out lawns, and there was so wide a space by the garden entrance that many people could take delight in sitting here in summertime, by the water and under the trees".

This open space, or "peshogh", was separated from the garden itself by lattices or fences. Thus the main vista was along the central axis; elsewhere the view was shut in by planting. The garden as a whole was oriented inwards, towards the crossings or other important points along the main axis.

In the choice of plants and trees a major consideration was shade, though decorative qualities and usefulness were also prized. Flowers played a special part in the design in that they affected the colour-scheme of the garden, in which pavings and architectural decoration were also important elements. When describing the Bagi-Maidan in Herat, Babur mentions the "wondrous flower-beds, with yellow and red flower blooming in clusters, while others are of red only, and in some both are mixed together, as though scattered".

Some of the gardens were on river or canal banks, so that there developed a type of terrace garden, likewise having a regular layout but divided into flat rectangular terraces linked one to the other by steps or ramps. An archaeological study of the Bagcha garden has proved the existence of walls serving to support the terraces. In this type of garden the water features sometimes included cascades.

This geometrical type of plan survived until later periods, the Timurid gardening tradition influencing the 16th-century gardens of Khorezm-Vazira and Shah-Senem, remains of which are still in existence.

Between the 17th and 19th centuries the feudal states of Central Asia went through a long period of decline, and this hindered the development of garden design and led to deterioration both of design principles and of gardening skills, though certain traits survived in the gardens of traditional dwelling-houses.

Studies of historic gardens based on archaeological research have, we would say once again, been more general in Central Asia than in other parts of the USSR. However in other regions too there exists a starting-point for archaeological research in the form of historical records. The Crimean Peninsula, for example, is an area of ancient civilization, especially along its southern seaboard. Thus as far back as the 6th century B.C. Chersonesus is described as being a well-ordered city, with handsome buildings and statues, and possessing a water-supply and a sewage system. It was surrounded by gardens and vineyards. Excavations have been going on there since the 19th century, but almost no information has been forthcoming on the art of gardening, either in this city or at nearby Olbia or Panticapaeum.

More traces exist of a later period when the Romans occupied the Tauric Chersonese. The military camp of Charax, on the promontory of Ai-Todor, near Yalta, dates from the 1st century B.C., and here archaeologists found, besides the ruins of a temple, other buildings, and a water-supply system, the remains of a large pool. This was paved with handsome mosaics and lay at the foot of a stone stairway. The remains of a "Pompeian" courtyard were also discovered. But all of these fragmentary works have remained overgrown by the oak, juniper and cypress trees which cover the western slope of Ai-Todor.

The Middle Ages were a time of intensive settlement along the Crimean coastline. The traveller Rubriquis described forty towns existing in 1253 between Sudak and Chersonesus, one of them being the important town and fortress of Mangup-Calay, dating from that same century. This was situated on a series of headlands, with its citadel on the promontory of Tashkli-Burun, the most inaccessible of all. Here there was a large palace, richly ornamented, if we are to judge by the fragments which have survived. The Turks turned it into a prison, and it was here that the captive ambassadors of Ivan the Terrible were confined, as we know from their own testimony to their plight. In 1592 the palace was burned down during a siege and became a ruin, as did the town itself. But a description of it was made as late as 1578 by M. Bronevsky, and later ones still were made by P. Keppen and Dubois de Monroëux.

From the 13th century onwards the Crimea was dominated by the Tartars. The Crimean Khanate at first owed allegiance to the Golden Horde; its capital during this period was Solkhat, now the town of Old Crimea. In 1886, in "An Archaeological Excursion to the Crimea", this town was described as "practically standing on antiques, some of them at surface-level, and some still hidden underneath". Here, since 1252, had stood the magnificent palace of Khan Baty, which by the end of the 16th century had begun slowly to fall into ruins. The palace itself, and the gardens which certainly existed here, have been practically untouched by research. Yet throughout these periods of conflict gardening and vine-growing had developed in the Crimea with consistent success, the mild climate of the southern part of the Peninsula permitting the introduction of a wide range of trees and plants. The ancient trees are there to testify to this - gigantic nut-trees, or the 600-year-old olive-tree in the Nikita Botanical Gardens; while even older olive-trees were still standing a few years ago. There also exist 18th-century records mentioning cultivated plants and trees of ancient times which had run wild and were growing on the sites where towns had once stood - laurels, grape-vines, and pomegranate trees. According to M.P. Voloshin, there were also fig, olive, peach, quince and apricot trees, as well as Italian poplars, lilacs, jasmine and mulberry bushes.

From 1457 onwards, the Crimean Khanate became a dependency of the Sultan of Turkey, and remained so until its collapse in 1783. The intervening years were to be the Islamic period, when the Khans of the Gherai Dynasty ruled in their new capital, Bakhchisaray.

Their palace stood in the centre of the town, a town which still retains something of the character of an oriental Islamic city. It was built in 1519, but all that now remains intact is a part of the original water-supply installations and an ironwork portal dating from 1503 which had been brought there from the summer palace at nearby Salachik. The 15th-century winter palace of the Khans was also near Bakhchisaray, in the village of Ulakly.

In 1736 the Bakhchisaray palace was burned down by the Russian army under Count Münich; it was rebuilt, but was ravaged again in 1738 and 1771. According to a description written by order of Münich himself, the palace had marble floors and ceilings, with woodwork, mosaics, while the walls in the "hall of judges" were faced with coloured porcelain. All of this leads us to conclude that both the interior decoration and the gardens which formed part of the palace were absolutely in accordance with the Islamic tradition.

When the last Khan, Shagin-Gherai, left the palace in 1783, he took with him everything that

had contained. In 1787 the building was renovated by order of Prince Potemkin for the use of Catherine the Great, and was much changed in the process. It was further renovated in the middle of the 19th century.

The original decoration of the rooms and gardens has thus been irretrievably lost. But the little courtyard-gardens still exist, with their inward-loading vertical features and their shut-in appearance (they are walled in), characteristic of the time and place. From the summer pavilion, or kiosk, doors provide access to the small pond garden in which there lies, surrounded by boxwood hedges, the pool once used by the Khan's wives, and adjoining it is the harem garden. One of these courtyards contains the decorative ironwork portal mentioned earlier on. In the centre of the palace lies the Fountain Courtyard, containing the two celebrated Bakhchisaray fountains, the Golden Fountain, built by Kaplan-Gherai in 1733, and the Spring of Heaven ("Selsebiyl"), or Fountain of Tears, made famous by the poems of Pushkin and Mickiewicz. This second fountain, built by Khan Crym-Gherai in 1756 near the mausoleum of his wife Dilara-Bekech, was moved to the courtyard a few years later. Both of these miniature fountains, with their trickle of water and the drops which spill from bowl to bowl, are most appropriate to so arid a region, where water is so precious.

An important feature of the Khans' gardens were the flowers, with their bright contrasting colour schemes. Again according to P.P. Voloshin, in the 18th century the Bakhchisaray gardens contained cornflowers, tagetes, calendulas, amaranthus, lilies and other flowers, while trees and bushes included black and Italian poplars, lilacs, yellow roses, mulberries and nut trees.

All of this suggests that at every stage in its development the Crimean Peninsula, and especially its seaboard, invariably possessed gardens embodying the main principles of contemporary garden-design; however these principles were adapted to suit the climate and the natural resources, and also to some extent local tradition. For a complete picture of these specific examples it would be necessary to undertake archaeological research to supplement the information the historical records have to offer.

In the Republics of Georgia, Armenia and Azerbaijan the situation is very similar; archaeological research provides us with only disconnected and fragmentary information on given periods, for specialized studies are non-existent.

In the more northerly parts of the USSR - the Moscow area for instance - garden archaeology could produce some extremely worthwhile results. Thus, at a distance of 100 kilometres from Moscow there existed a 13th-century residence of the Pereyaslav princes which was to become the official residence of the Czars in the 16th century and to take the name of Alexandrova Sloboda. The well-known historian of Russian garden design, T.B. Dubiago, notes: "There is no doubt that Alexandrova Sloboda had well-planned gardens, and regrettably enough nothing at all is known about them".

Of the gardens of Borisov Gorodok, near the town of Mozhaïsk, only a few traces remain; they had a large pond and an artificial island, with garden pavilions ("poteschni cherdaki"). Dubiago suggests that the Borisov Gorodok "water gardens" might have been influenced by gardens in India and China; but archaeological research would provide the only means of proving this.

Of 16th- and 17th-century gardening in Russia, full enough descriptions can be given, since detailed inventories of town houses and country seats exist, sometimes with sufficiently accurate drawings of the sites; there are also numerous descriptions by travellers to Moscow. But most of these places were obliterated with the growth of the towns (or as their owners abandoned them) and sometimes, despite the records, their exact location is doubtful.

An interesting example is provided by the Izmailov Gardens, unique for their treatment of Oriental trends in design. A royal residence near Moscow, Izmailovo was at the height of its glory in the 17th century. The main building, with its orchard and lawn, stood on an island encircled by two ponds, the Vinogradny or "Grape" Pond on the one side and the Serebriany or "Silver" Pond on the other, both of them fed by a small river, the Serebrianka. In the surrounding forest several small gardens were laid out, each of them completely separate from the others; the choice of site for each seems to have been determined by considerations of soil and microclimate.

Drawings of the Vinogradny, Prosiansky and Krugly gardens exist, as well as a drawing of a "pleasure house with garden", thought to belong likewise to Izmailovo.

Each of these gardens has its own specific type of plan and appearance. The Vinogradny Garden, so named because of apparently successful experiments in grapevine acclimatization, has a central open space with concentric squares planted mainly with grasses and garden plants, while at each corner a circular area contained concentric rings of fruit-trees - cherry, pear and plum.

The Prosiansky Garden had a central pavilion built in the middle of a small square lawn bordered by a "parterre" divided into twelve squares or rectangles. On the lawn, spaced out around the pavilion, there stood four fountains, carved to represent winged animals. The "parterre" was bounded by rows of fruit-trees, and beyond these was a border planted with flax, rye, wheat, hemp and similar crops, which must have produced a curious but pleasant colour effect. The forest provided a natural boundary for the garden.

The garden shown on the "pleasure house with garden" drawing has a more intricate plan. Its centre is occupied by a maze, and there is also a zoo and a botanical garden. But it may never have been more than a project.

There also exists a drawing of the Krugly Ogorod, or Round Garden, a large place with a diameter of about 300 metres surrounded by rows of sweetbriar, mulberry and birch trees. The central area was filled with plants for medicinal use, which explains why the place was sometimes known as the "apothecary garden". There were more gardens still at Izmailovo - Tutovy and Malinovy, the Satrawberry Grove, and others, all of them irretrievably lost.

Historical research on these gardens - by S.N. Palentreer and others - has been fairly complete, although the problem of possible oriental influence has not been studied. But no work has been done on the site itself, despite the fact that a large part of the original estate is still a park - one of the biggest in Moscow.

Of the wide range of existent historical records on the art of gardening only a small part can be mentioned here; but as a whole they constitute an excellent basis for the planning of a series of archaeological studies. The fact that they exist, together with the success of the experiments carried out by the archaeologists of Central Asia, lead us to believe that in the USSR, especially if it were coordinated with other forms of archaeological research. The main difficulty lies in the absence of a fully-developed method of archaeological study which could be applied to all types of gardens and historic sites.

Existing archaeological studies of gardens mainly consist of an analysis of the incomplete remains of the garden's "skeleton", or in other words its earthworks and architectural structure. The image of the garden finally arrived-at by this method is based on a reconstruction of the plan and on such information on the plants it contained as has been derived from the miscellaneous historical records. This, indeed, is the method which has been the most highly developed so far and on which are based the reconstructions of Central Asian gardens mentioned above.

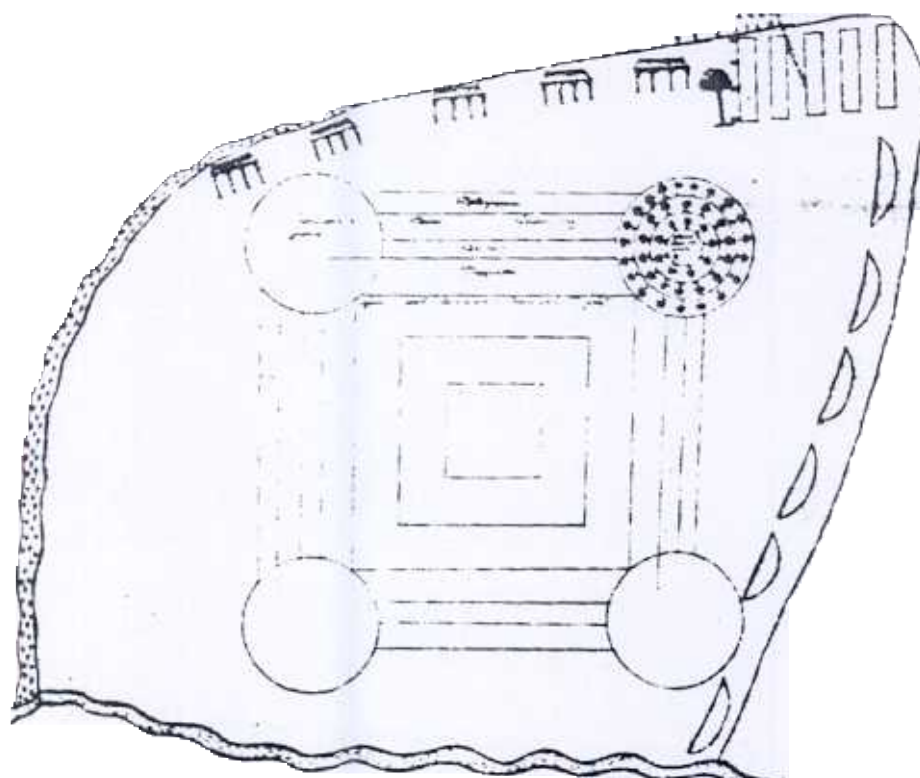
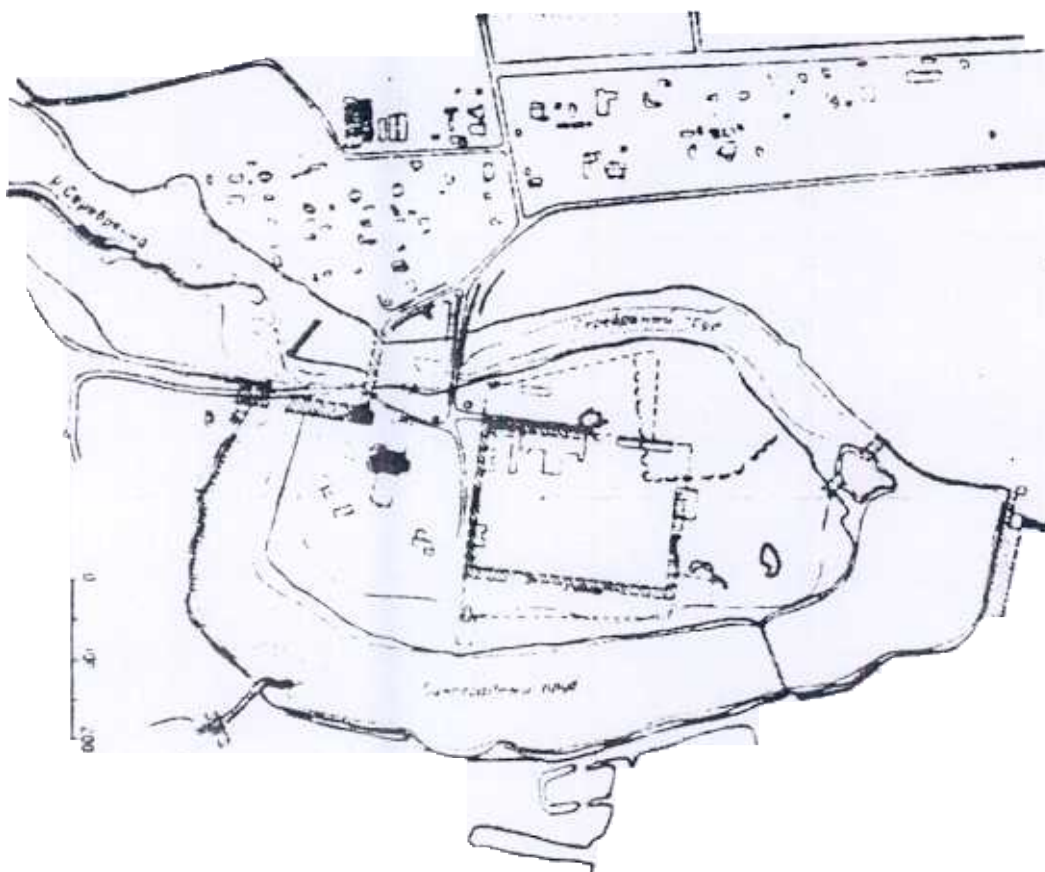


Fig.

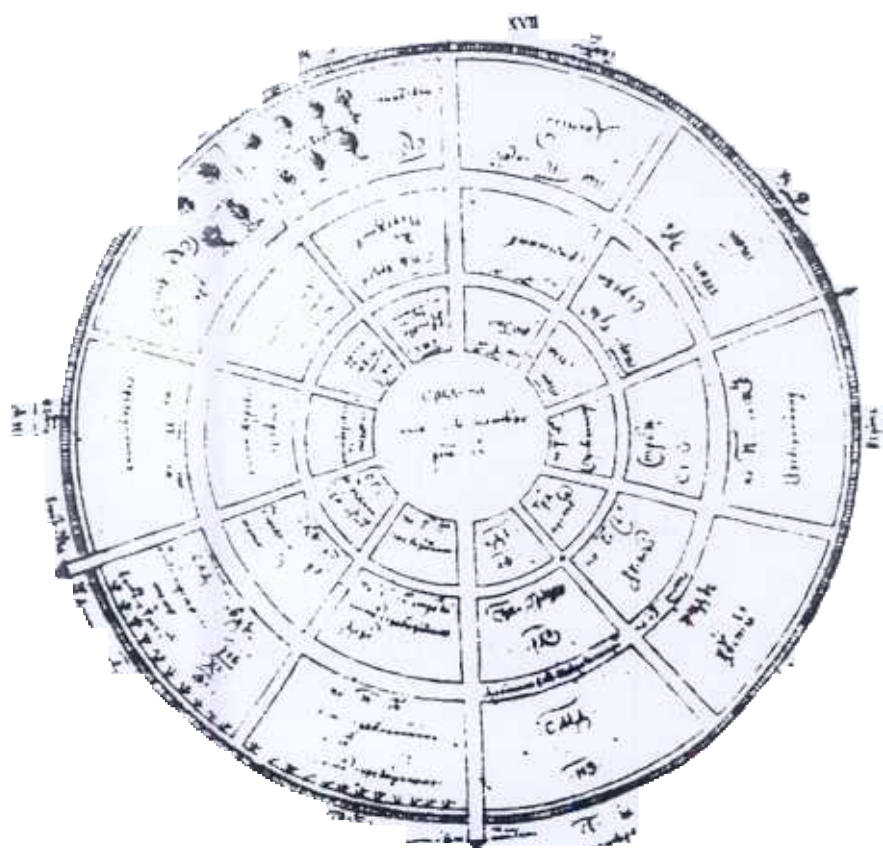
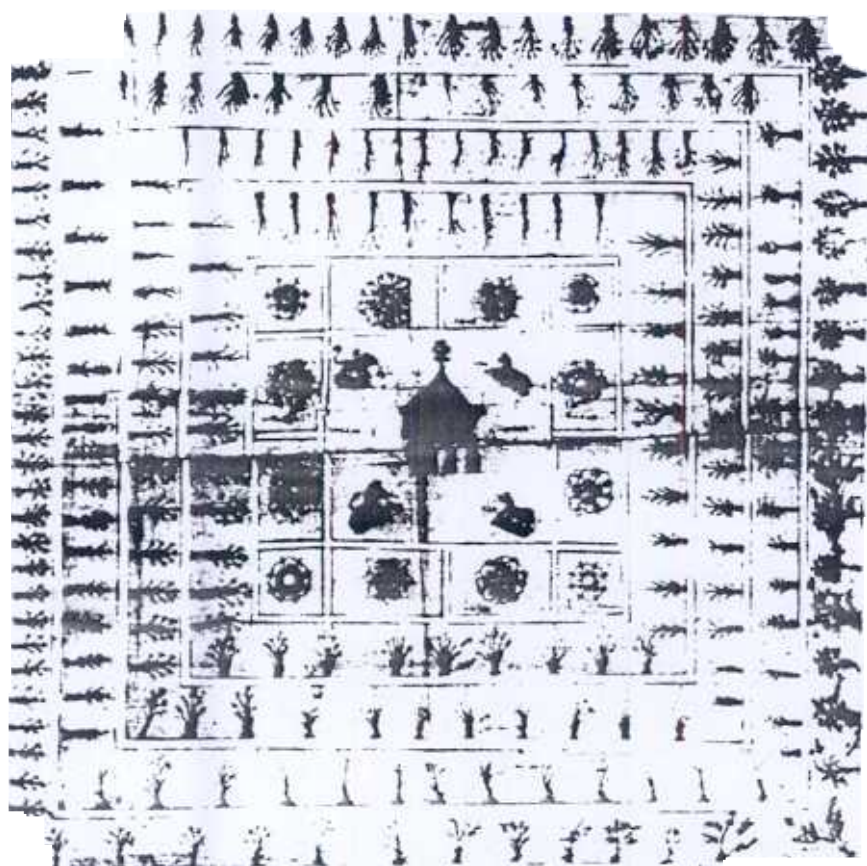


Fig. 10. Restes des bâtiments à Davlet-Abad, montrant la levée principale, les tours et les remparts (par M.E. Masson).
remains of the buildings in Davlet-Abad showing the main mound, towers and walls (by M.E. Masson)

Fig. 11. Fouilles du jardin de Timour à "Davlet-Abad" par Soukharev en 1941
1. Palais 2. Rempart et levées de terre 3. Bassins 4. Route vers Samarkande
Excavation of Timur's garden at "Davlet Abad" done by Sukharev in 1941: 1. Palace 2. Walls and embankments 3. Basins 4. Road to Samarkand

Fig. 12. Samarkande au XIVème et XVème siècles, plan dressé par E. MASSON en 1942
Samarkand in the XIV-XV century, plan made by M.E. Masson in 1942

Fig. 13. Plan du palais de Sitora-i-Mohi-Hosa, près de Boukhara
A Palais B = mosquée C Bâtiments de service D = bassin E Parterres de fleurs F Quartier des femmes G Boutiques H = Entrée I Boutiques et réserves K Petit palais L Pavillon de jardin
Plan of Sitora-i-Mohi-Hosa palace near bukhara
A palace B = Mosque C Household buildings D Basin E Flower beds F Ladies' quarters, G = Shops H = Entrance I Shops and stores K Small palace L Garden pavilion

Fig. 14. Plan des fouilles de Chersonèse, dressé par Loubetov-Skoubentov
Excavation plan of Chersonese, made by Skubetov-Skubentov

Fig. 15. Dessin du 19ème siècle des fouilles d'Harax (cap d'Ai-Todor en Crimée)
XIX century drawing of excavations in Kharax (cape of Ai-Todor in Crimea)

Fig. 16. Plan du 18ème siècle de Mangoup-Kalay (d'après Dubois de Montpereux)
XVIII century plan of Mangup-Kalay (Dubois de Montpereux)

Fig. 17. Les jardins de Djenda, restitution de Mme Tochtahojaeva, basée sur les fouilles de M.A. Orlov
1. Palais, 2. Bâtiments de service, 3. Pavillon de jardin; 4. Bassin 5. Murs.
The gardens of Djenda: a reconstruction by Mrs Tochtahojaeva based on excavation by M.A. Orlov
1. Palace, 2. Household building 3. Garden pavilion, 4. Basins, 5. Walls

Fig. 18. Bakhchisarai, plan du palais et des jardins (état actuel)
1. Cour de la fontaine, 2. Salle des juges 3. Pavillon d'été 4. Bassin du jardin 5. Jardins du Harem
6. Petite mosquée 7. Escalier montant au premier étage 8. Portail de fer 9. Fontaine de larmes
10. Harem
Bakhchisarai, recent plan of house and gardens
1. Fountain courtyard, 2. Hall of Judges (divan), 3. Summer pavilion 4. Water garden 5. Harem gardens 6. Small mosque 7. Stairway to the second floor 8. Iron portal 9. Fountain of tears
10. Harem

In the case of any site which used to feature irrigation systems or distinctive earthworks it may well produce impressive results. But it might also be quite useless if applied to gardens basically involving the features of a "natural" landscape designed to melt as it were into their surroundings.

This latter type of site, as well as the relatively "young" landscapes dating back three or four centuries, can be studied with the aid of a method just coming into use and employed, for example, by I.V. Barsova for the analysis of country parks in the Leningrad region. This is based on aerial photography and takes into account the specific geographical conditions, the physical features, and the plant distribution characteristic of the area.

A landscape analysis of this kind can, in principle, provide a very complete picture. And the method may be expected to give even better results with the introduction of simultaneous aerial photography involving a wide range of films of differing degrees of sensitivity.

Generally speaking, garden archaeology can have far greater potentialities if it takes advantage of the development of modern scientific techniques than if it is dependent on traditional methods alone. This is specially to be borne in mind in the case of historic sites which, however much they may have been altered with the passing of time, have a value of their own for the modern visitor - as have, for example, the gardens of Bakhchisaray or the park at Smolovo - and could suffer if conventional excavations were carried out on them.

If garden archaeology is to progress, the first stage must consist in the preparation of a documentary basis from which to determine the most promising regions for planned research. At the same time, some thought must be given to the coordination of efforts among the professions most concerned. The initiative must obviously be taken by the landscape architects, as theirs is the profession most likely to benefit from the development of this form of archaeology.

The organization of "landscape-archaeological" research parties if they may be so called presents a problem which will require serious attention.

Lastly, there must be theoretical studies of new research methods, based on new scientific techniques. This work need not be dependent on the amount of practical results and the speed of their accumulation, and may well be constantly ahead of field work.

The success of any work on any of these problems will depend on the combined efforts and enthusiasm of scientists in all countries. The development of garden archaeology in each separate country can be greatly influenced by coordination of research, the exchange of information, and joint study projects of all kinds. It is to be hoped that this kind of cooperation can be established and that the necessary conditions for growth and development will thus be provided for this important new branch of science, which will enable numerous aspects of art and history to be viewed from a fresh angle.

RESUME DU RAPPORT DE MADAME MICOULINA ET MADAME TOCHTAHOJAEVA

Il y a en URSS plusieurs régions où les jardins ont subi l'influence de l'Islam, la plus connue étant peut-être l'Asie Centrale, où se trouvent les grandes cités telles que Samarcande, Khorezm et Boukhara. D'importantes recherches archéologiques effectuées dans cette région ont révélé l'influence presque certaine de l'Inde sur les "bagi" de Timour qui datent du XVe siècle (Bagi-Maidan, Bagi-Dilkoucha, Davlet-Abad et d'autres).

Très peu de recherches ont été entreprises, par contre, sur les jardins historiques de la Crimée, où l'influence islamique était très forte du XVe au XVIIIe siècle. Si certains de ces jardins ont disparu, ceux du palais de Baktchi-Sarai, bien qu'ayant subi d'importantes modifications, existent toujours.

Même les jardins créés beaucoup plus au nord, dans la région de Moscou, reflétaient peut-être, par leur disposition et la manière même de leur exécution, une influence orientale; c'est là la conclusion qui semble devoir s'imposer après l'étude d'un certain nombre de plans datant du 16e siècle.

Presque tous ces jardins ont disparu et seules des fouilles archéologiques pourraient éventuellement nous apporter des données essentielles à leur sujet. L'auteur souligne à ce propos l'intérêt d'une "archéologie des jardins" plus développée.

E.M

DISCUSSION APRES LE RAPPORT DE MADAME MICOULINA

Madame Micoulina ajoute qu'elle a diffusé en URSS les documents de travail et les recommandations du colloque de Fontainebleau. On note, à l'heure actuelle en Russie, un réel intérêt pour les jardins historiques. Plusieurs étudiants en architecture ont pris ce thème pour leur thèse de fin d'étude. L'organisation d'un symposium national sur les jardins d'URSS est envisagée pour 1974.

Messieurs Pechère et Alomar expriment leurs plus vifs remerciements à Madame Micoulina et la prient de les transmettre à Mesdames Pougatchenkova et Tochtahojæva (architecte spécialisée dans l'histoire des jardins qui assiste maintenant Madame Pougatchenkova dans certains de ses travaux archéologiques).

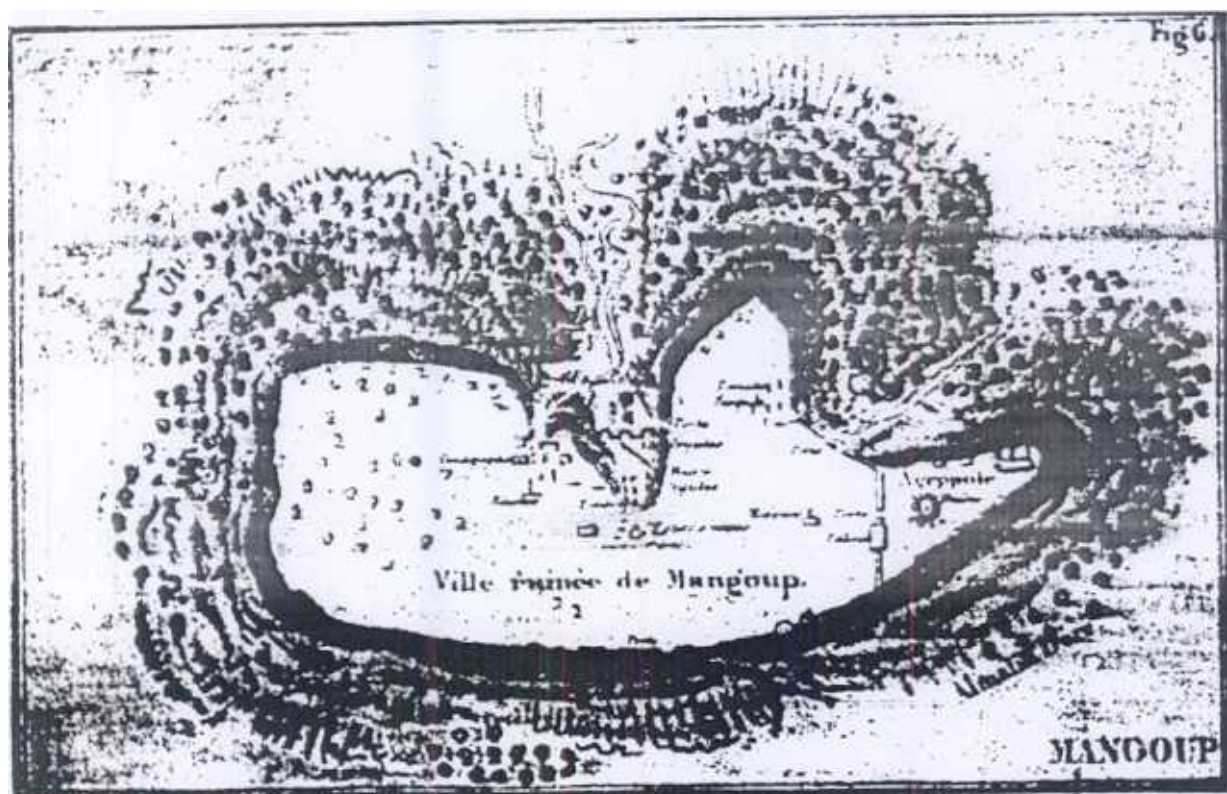
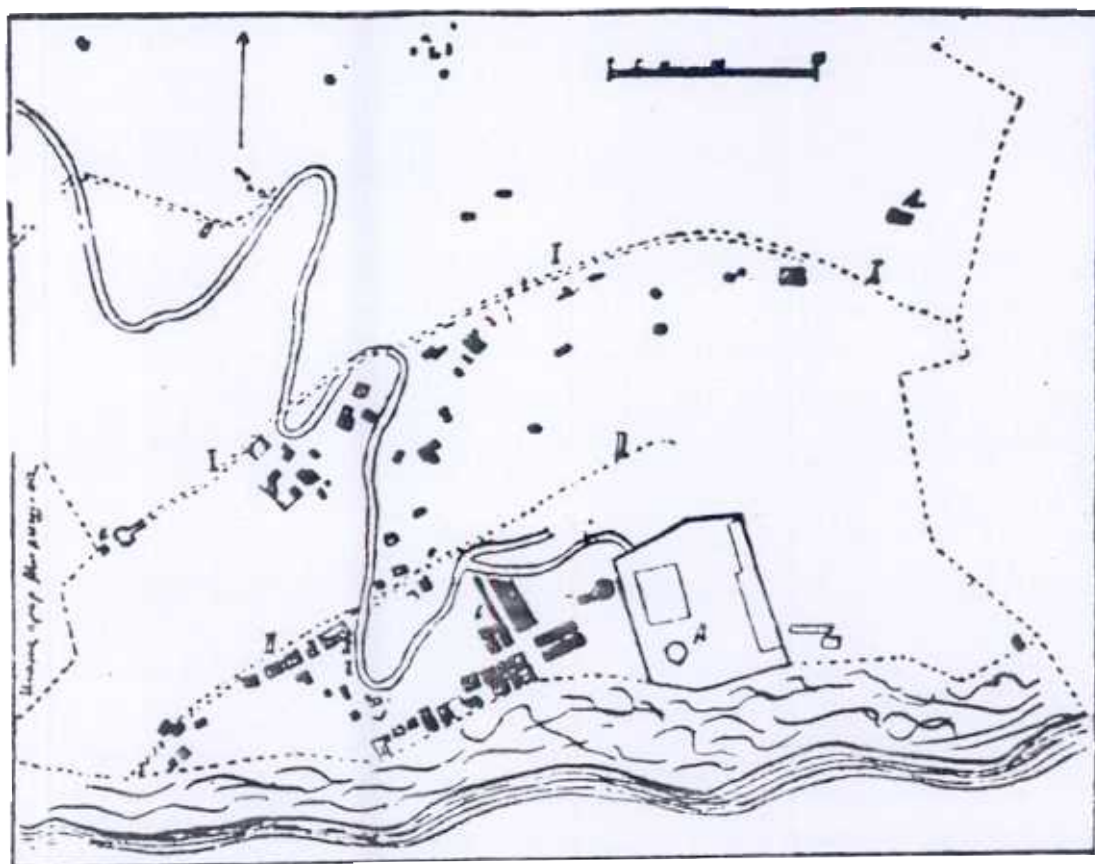
Monsieur Alomar présente ensuite aux participants un schéma synoptique des jardins de l'Islam, instrument de travail qui pourra être perfectionné. Il prie les spécialistes qui l'auront sous les yeux de lui faire part de leurs remarques, afin de l'aider à le mettre au point. Il souhaite, d'autre part, que puisse être fait un inventaire systématique des jardins islamiques connus.

DISCUSSION FOLLOWING MRS. MICOULINA'S REPORT

Mrs. Micoulina added that she had circulated the Fontainebleau working documents and recommendations in the U.S.S.R. At the present time genuine interest was visibly being shown in that country in historic gardens, and several architecture students had chosen them as the subject of their final thesis. The holding of a national symposium on the gardens of the U.S.S.R. was envisaged for 1974.

Messrs. Pechère and Alomar expressed their sincerest thanks to Mrs. Micoulina and begged her to thank Mrs. Pugachenkova on their behalf, and also Mrs. Toshtahojæva, the architect specializing in the history of gardens who was now assisting the latter with some of her archaeological work.

At this point Mr. Alomar presented a chart giving a rapid overall picture of the gardens of Islam, explaining that it was intended as no more than a working document in which improvements could be made, and requesting all those specialists who would be examining it to let him have their comments for the purpose. He added that at the same time a systematic inventory of known Islamic gardens could be prepared.



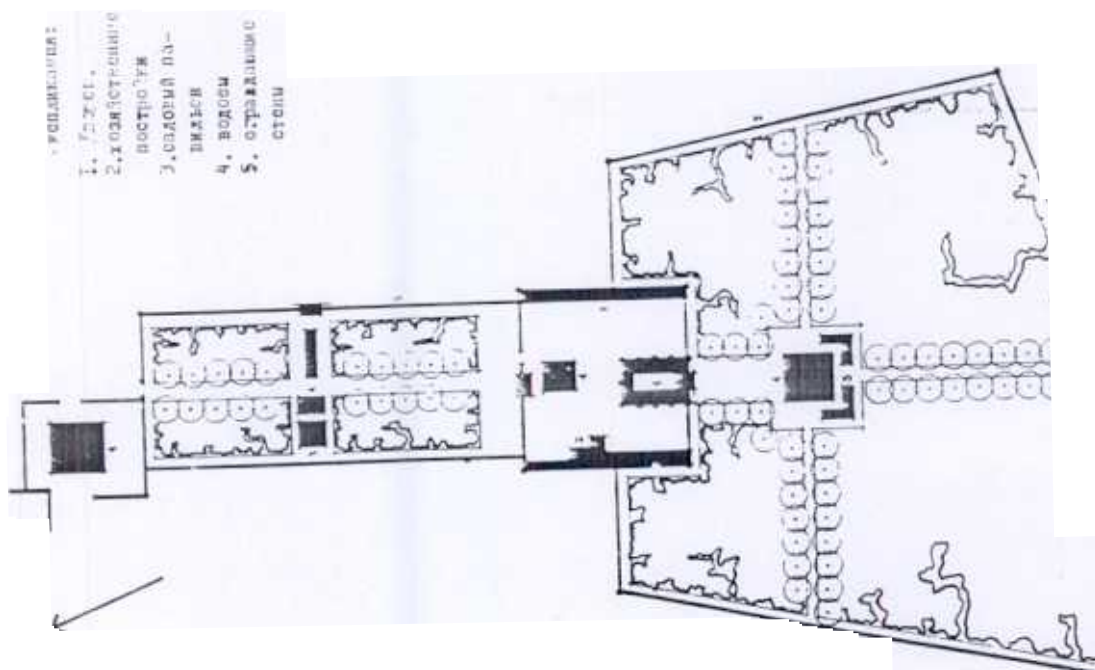


Fig. 17

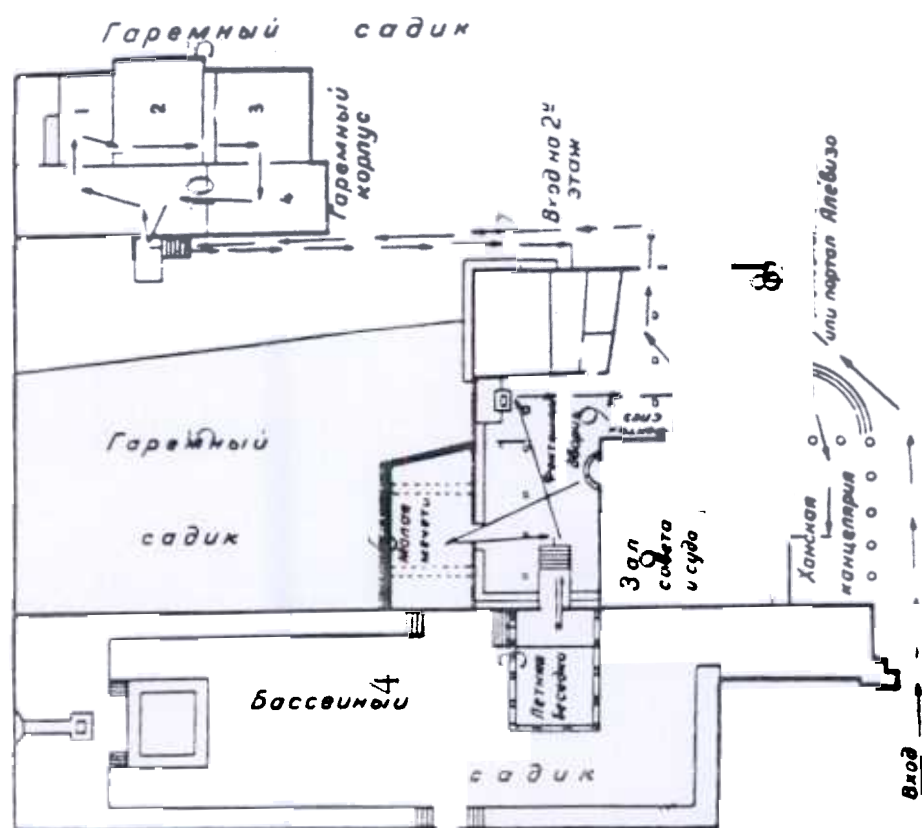


Fig. 18

LEGENDES DES FIGURES

Izmailovo. résidence royale du XVIème siècle. près de Moscou partie centrale du parc.
Izmailovo. a XVI century royal residence near Moscow-central part of park

Izmailovo-drawing of "Vinogrady" garden
Dessin du XVIème siècle, du jardin "Vinogrady" à Izmailovo

Izmailovo. drawing of "Prosiansky" garden (XVI century)
Izmailovo. dessin du XVIème siècle. jardin "Prosiansky"

Fig. 4. Izmailovo. drawing of "Krugly Ogorod" garden (XVI century)
Dessin du XVIème siècle du "Jardin rond" à Izmailovo (Krugly Ogorod)

Fig. 5. Dessin du XVIème siècle. "Poteszny palaty S Sodom", jardins appartenant peut être à la résidence d'Izmailovo
XVI Century drawing "Poteszny palaty S Sodom", believed to portray the gardens at Izmailovo

Fig. 6. Jardin typique d'une maison suburbaine au XVème siècle. restitué par Mme Pougatchenkova d'après le traité "Irshad-az-Zera"

1. Imorat. bâtiment principal. 2. Taht. pavillon de repos. 3. Tchotchaman. parterres de fleurs. "éternellement fleuris"

A vigne, et en partie basse. violettes. crocus. roses. narcisses

B cognassiers. et en partie basse. tulipes. variétés cultivées et sauvages "Dourdikush" = antirrhinum, cannas. iris. anémones. jasmins. violettes

B pêcheurs. et en partie basse huit variétés de roses. pavots sur un gazon de trèfle

Г poiriers. et en partie basse. jasmin jaune. poivrier. lys. iris. tulipes de chine, jasmin blanc. soucis. giroflées. "Jaman-afrouz"

4. églantiers 5. Muriers 6. Platanes 7. Pêchers et abricotiers 8. Cerisiers et pruniers 9. peupliers d'Italie

a typical XV century suburban garden reconstructed by G.A. Pugachenkova from the Irshad-az-zera

1. Imorat. the main building. 2. Taht. a rest house 3. Chorchaman-flower beds. "eternally blooming"

A above-grapevines. below violets. crocus. rose narcissus

B above. quince. below tulips. garden and field varieties. durdikush = antirrhinum, canna, irises. anemones. jasmine. yellow violets. tulips

B peaches. below eight varieties of roses. poppies on a lawn of clover

Г above. pears. below. yellow jasmine. peppers, lilies. iris. chinese tulips, white jasmine. marigolds, gilly flowers, "Jaman-afrouz"

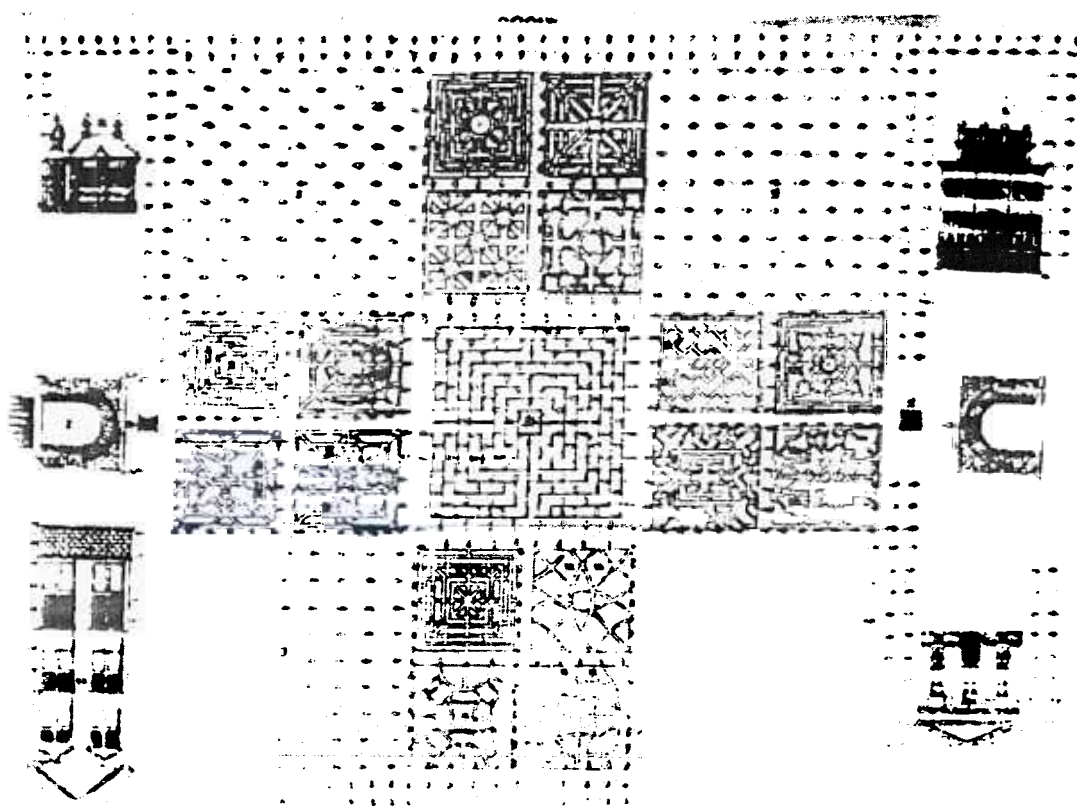
4. Sweet briar 5. Mulberries 6. Plane trees 7. Peaches and apricots 8. Cherries and plums 9. Italian poplars

Fig. 7. Jardin traditionnel d'une maison de campagne près de Samarkande relevé par le professeur L. Zalesskaya

A traditional country garden in Samarkand (measured by professor L. Zalesskaya)

Fig. 8. Jardin traditionnel d'une maison de campagne près de Boukhara (relevé par Mme Tochtahojajeva)
a traditional country garden in Bokhara (measured by Mrs Tochtahojajeva)

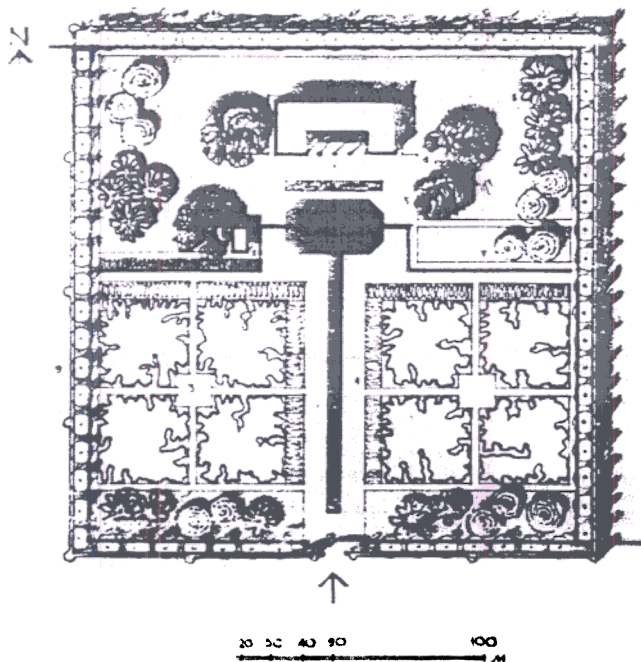
Fig. 9. Jardins de Shah-Senem à Khorezm. XVIème siècle (dessin d'après les vestiges)
gardens of Shah-Senem in Khorezm. XVI century, (measured from remains)



1. "Мирот" - главное сооружение сада; 2. "Тайт" - беседка для отдыха; 3. "Чорчама" - четырехчастные цветники, подбор растительности для которых рекомендован по принципу непрерывности цветения: А. верхний ярус - виноградники, нижний ярус - синие и фиолетовые фиалки, крокусы, розы сортовые и красные обыкновенные, нарциссы; Б. верхний ярус - айва, нижний ярус - тюльпаны садовые и горные, "дурдикуш"/лимонный зев/, ханьис, ирисы садовые и степные, звекосы, голубой хасмин, желтые фиалки, махровые тюльпаны; В. верхний ярус - персик-никторин, нижний ярус - восемь сортов роз и мак на клеверном газоне; Г. верхний ярус - груша, нижний ярус - желтый хасмин, цветущий перен, лимон, лимонный ирис, китайский тюльпан, белый хасмин бархатный, "джаман-афруз"/левкой/. 4. Кусты шиповника; 5. Шелковица белая; 6. Платан; 7. Персики и абрикосы; 8. Черешни и сливы; 9. Пирамидальные тополя.

Fig. 5

Экспликация



1. "Мирот" - главное сооружение сада;
2. "Тайт" - беседка для отдыха;
3. "Чорчама" - четырехчастные цветники, подбор растительности для которых рекомендован по принципу непрерывности цветения: А. верхний ярус - виноградники, нижний ярус - синие и фиолетовые фиалки, крокусы, розы сортовые и красные обыкновенные, нарциссы; Б. верхний ярус - айва, нижний ярус - тюльпаны садовые и горные, "дурдикуш"/лимонный зев/, ханьис, ирисы садовые и степные, звекосы, голубой хасмин, желтые фиалки, махровые тюльпаны; В. верхний ярус - персик-никторин, нижний ярус - восемь сортов роз и мак на клеверном газоне; Г. верхний ярус - груша, нижний ярус - желтый хасмин, цветущий перен, лимон, лимонный ирис, китайский тюльпан, белый хасмин бархатный, "джаман-афруз"/левкой/.
4. Кусты шиповника;
5. Шелковица белая;
6. Платан;
7. Персики и абрикосы;
8. Черешни и сливы;
9. Пирамидальные тополя.

Fig. 6

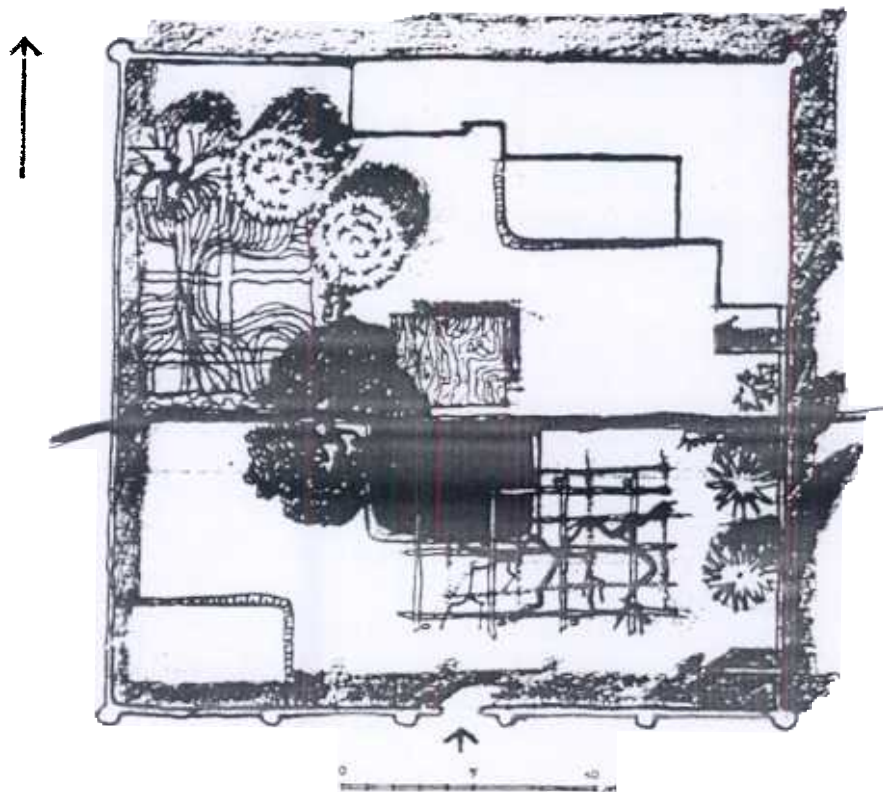


Fig.

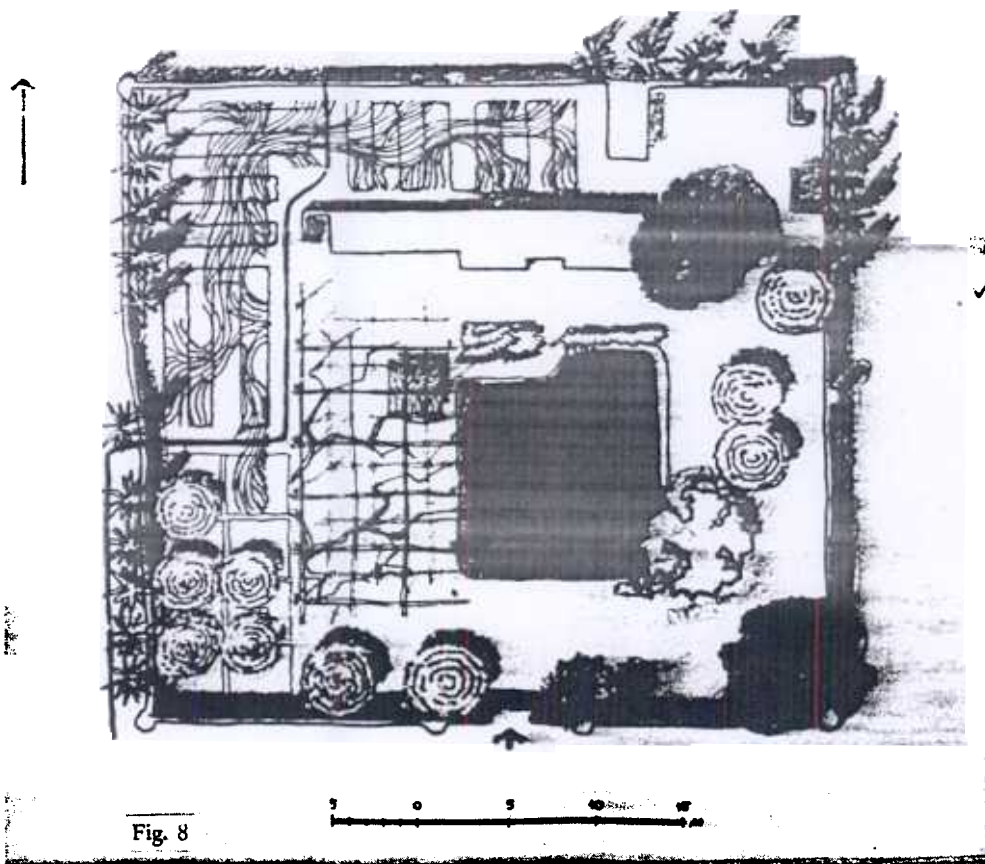


Fig. 8

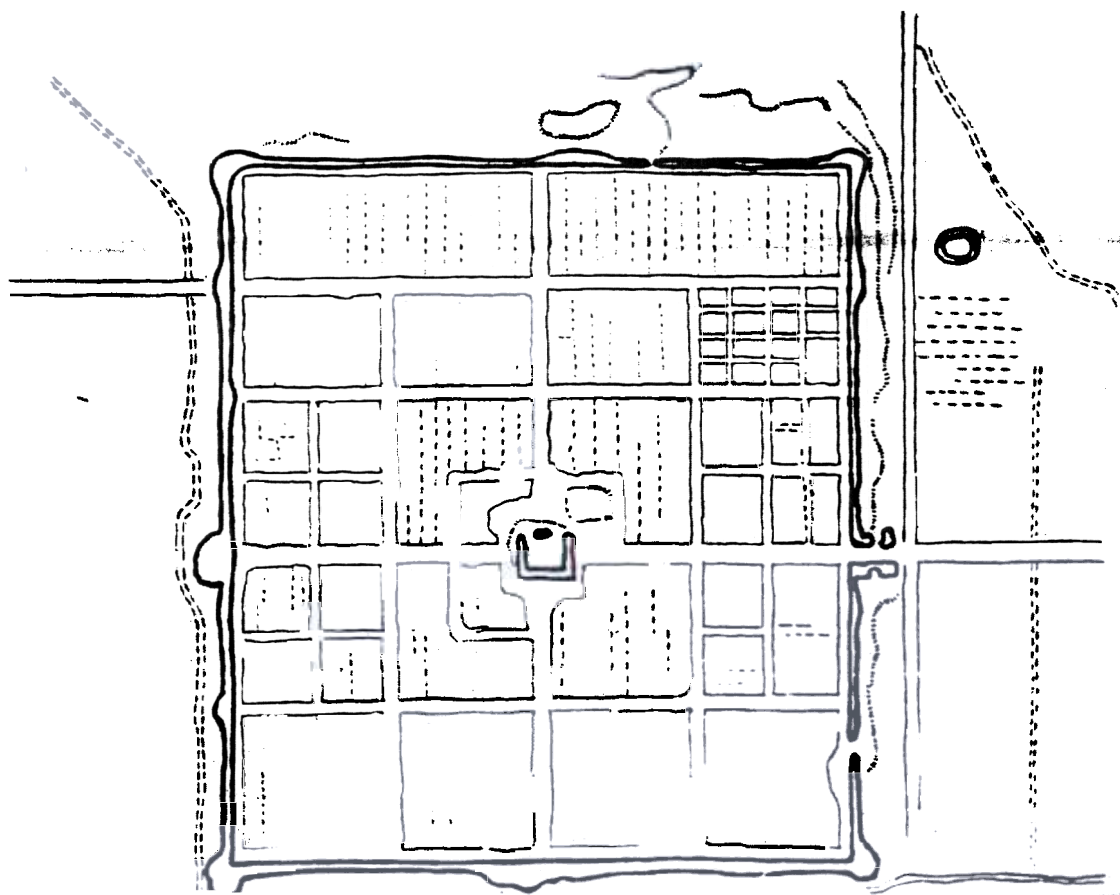


Fig. 9

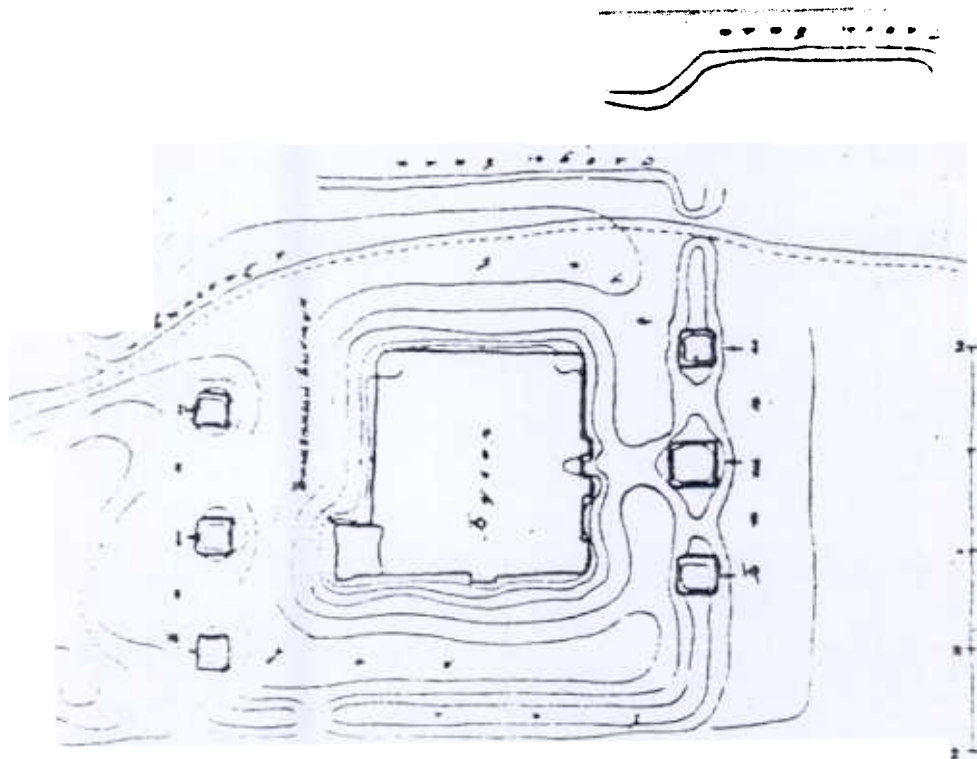
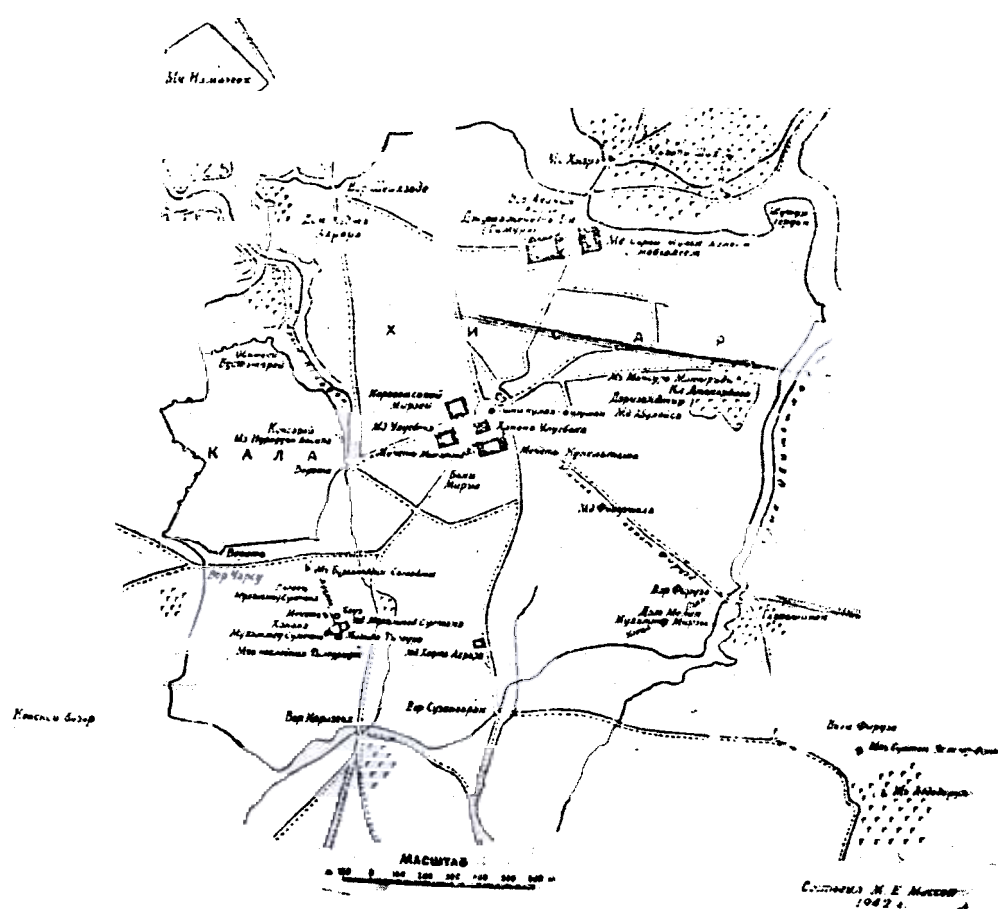
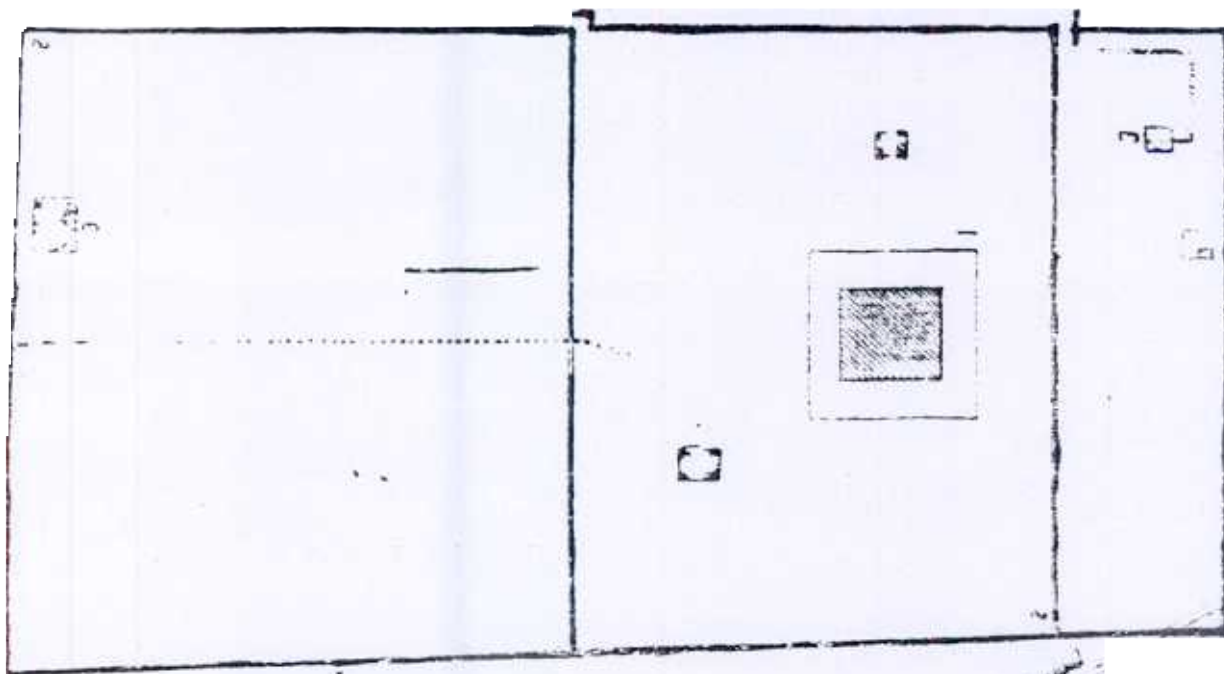


Fig. 10

(64)
 of the new American
 University at the University of



house and garden of King Aknaton's time (Figs. 4 & 5). On the right hand we see three heaps of corn, placed in front of the house. Then we see the cage of lions in front of the garden, which is planted with palm-trees (*Phoenix Dactylifera*) and some kind of *Ficus Sycomorus* or *Acacia Arabica*. I believe that this is the first representation of a zoological garden to be found in Egyptian history.

Beside the zoological garden we see the plan of a small house which is known as the "Madi-fa" or place of visitors, and which is always next to the entrance.

Next to this we see the drawing of the house itself, surrounded by a garden of palm-trees, tom trees (*Hyphaene Thebaica*) and *Ficus Sycomorus* trees. Vine pergolas are also seen in this garden, with lotus-shaped supports. In the corner we see a pool of water surrounded by trees for privacy.

Next to the main garden of this house is another type of garden for gazelles or deer-breeding. This garden also had *Acacia Arabica* trees. The last section shows a shed for cattle-breeding, at the entrance to which stands a tree which has dropped its leaves, like a mulberry-tree in winter, to let the rays of the sun enter.

Because of the ease of irrigation and the ready supply of mud, many gardens were laid out around the houses near the Nile. This type of garden is always an orchard (Fig. 6), in which we see, beside the outer wall, rows of palm-trees (*Phoenix Dactylifera*), *Hyphaene Thebaica*, *Ficus Sycomorus* and others. We also find four pools with water plants such as papyrus and lotus, as well as a big vineyard in the middle.

Pleasure-gardens were also known, with a pool in the middle on which it was possible to pass the time enjoyably in a boat, between the various trees in the garden (Fig. 7).

The Egyptian used to raise water from the Nile by means of the "shaduf", as we see in (Fig. 8); he also kept water in an artificial pool in order to have it at his disposal throughout the year (Fig. 9).

The Coptic era forms a natural continuation of the Pharaonic. The most famous garden known from that time is the Garden of St. Mary Trec at Mataria, where the Virgin reposed when she came to Heliopolis. It is said that there were big gardens at that place, and the *Ficus Sycomorus* tree under which she sat is still to be seen there, though it has been dead for about the last twenty years.

When, in the Islamic age, Cairo was founded (969), many gardens were planted there. The growth of Cairo through the ages (Fig. 10) provided space for more public gardens, the best we now have there being:

1. The Zohria Garden in Gezira, now a botanical research centre.
2. The Andalos Garden in Giza, which is a good example of an Arabian garden.
3. The Paraon Garden in Gezira, built in the old Egyptian style.
4. The Nile Garden in Gezira, designed with large lawns, a mosque and a theatre.
5. The Liberty Garden in Gezira. This has an artificial pool, a collection of old trees, and the museum housing the works of the Egyptian sculptor Moktar.
6. The Gezira Gardens, consisting of the exhibition garden, National Club Garden and Gezira Club Gardens.
7. The Tower Garden at Gezira, lying round the Cairo tower.
8. The Fish Garden at Gezira.