

SURVEYS, ATTEMPTS AT RESTORATION, AND INVESTIGATIONS OF THE ARCHITECTURE OF THE CATHEDRAL OF ST. SOPHIA

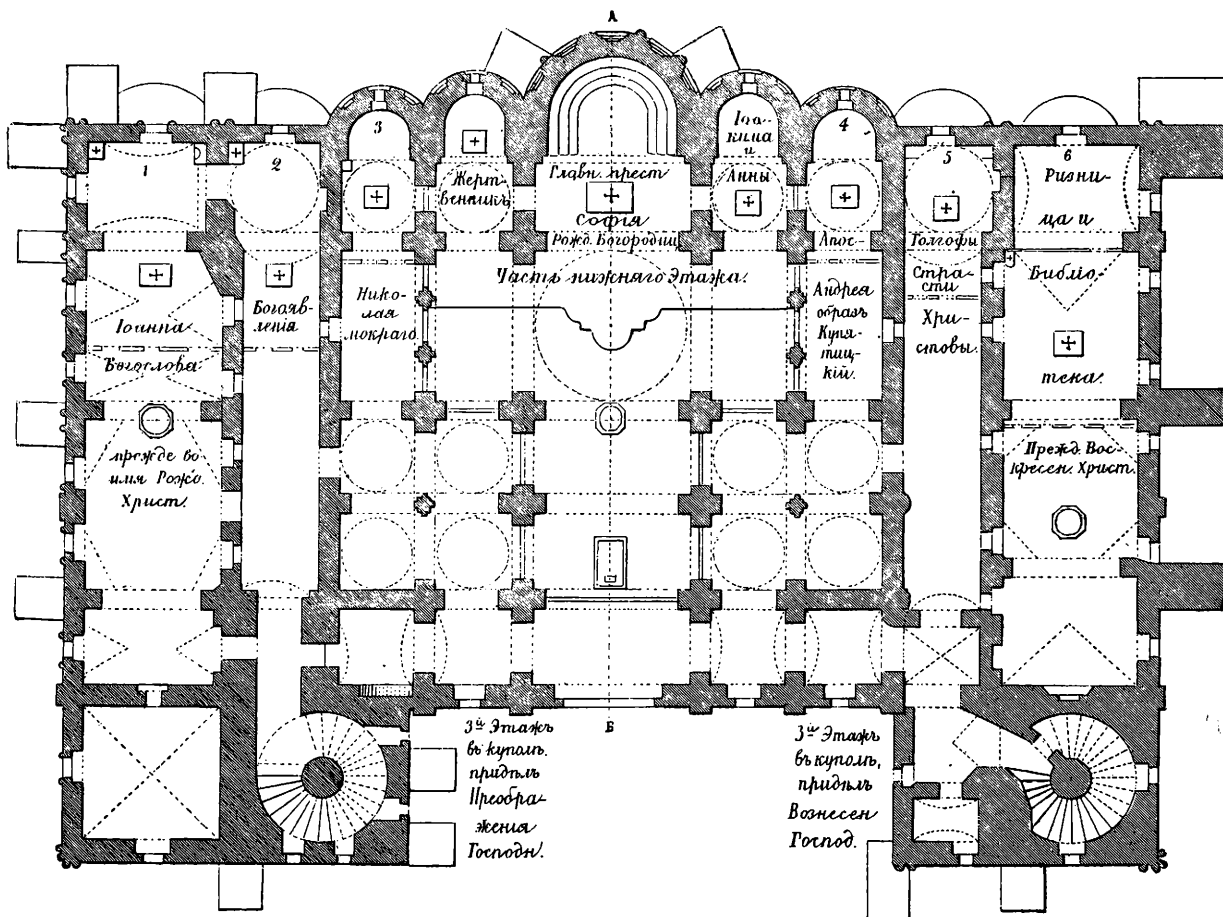
Beginning with the first quarter of the 19th century, Kiev's early history was clarified by a number of valuable investigations and archeological discoveries. Kievan scholars of this period, such as Metropolitan Eugene Bolkhovitinov, M. Berlinski, the archeologist K. Lokhvyts'ky and others, actively participated in this work. In 1835 the Temporary Committee for the Investigation of Kievan Antiquities was founded in connection with some of these discoveries. At the same time an extensive survey of Kievan religious architectural monuments was undertaken which was to provide the references for drawings of sections and elevations.

The exact measurements for St. Sophia were made by the artist-architect D. Ivanov and the archeologist A. Ermolaev in 1810, long before the foundation in 1843 of the Committee for the Investigation of Antiquities. On the basis of these surveys, drawings of the plans, sections, and elevations of the cathedral were made. These valuable documents, as well as nineteen other drawings of Kievan monuments, were deposited in the Imperial Public Library of St. Petersburg. They were found there by N. Zakrevsky (1847) who used them in his publications.⁶⁰ Even more valuable than the latter was the monumental work of Academician F. Solntsev published in two luxurious large format atlases divided into four parts. They contain detailed measurements, careful drawings of frescoes and mosaics, diagrams of plans and sections, elevations and architectural details, as well as reconstructions of the original appearance of the cathedral.⁶¹

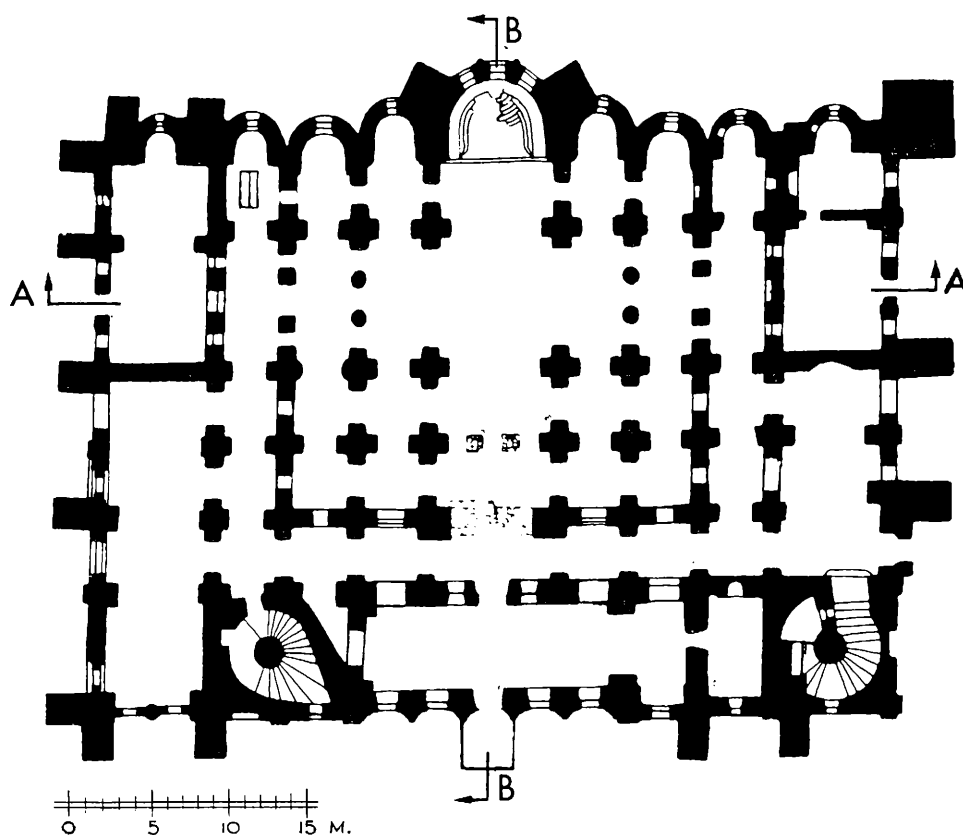
An imperial *ukase* of 1843 inaugurated "the complete restoration of St. Sophia Cathedral," which was to take ten years. In 1864 all the floors of the church except those of the main sanctuary were lowered 0.25 meters and covered with cast iron panels. The western part of the cathedral was altered in 1882. This alteration, or rather addition, of the narthex done in pseudo-Byzantine style, is still extant. About the same time, the chambers of the heating system were installed which not only damaged the ancient mosaic floor but also cut through all the transverse foundations of the church. Little care was given to the preservation of architectural details, the fragments of the lower parts of the frescoes, and the mosaic floor, which was disclosed during the works undertaken inside and outside. Valuable fragments of marble columns, cornices and other pieces, which are kept at present in the narthex and baptistry, were discovered during these works. Their preservation is due only to the intervention of

⁶⁰ N. Zakrevski, *Letopis' i opisanie goroda Kieva*, I (Revel, 1850), p. 213-214.

⁶¹ Russkoe Arkheologicheskoe Obshchestvo (ed.), *Drevnosti Rossiiskago gosudarstva, Kievo-Sofiiski Sobor*, (St. Petersburg, 1871-1887).

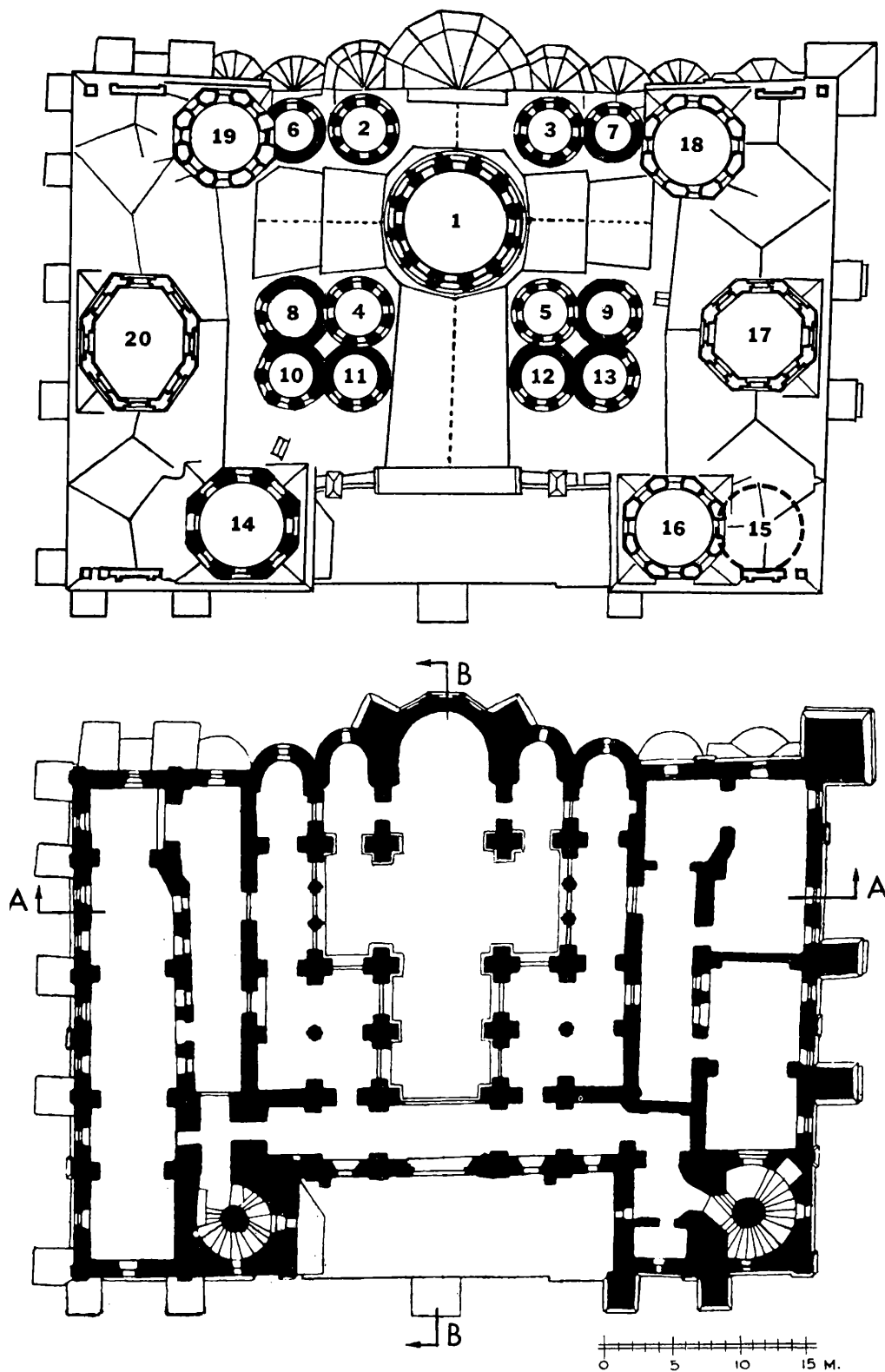


Cross-section and plan of second floor by D. Ivanov (19 c.).
Розріз і план другого поверху за Д. Івановим (19 ст.).



Section at A—A and first floor plan.
(Measurements of Ukrainian Academy of Architecture).

Перекрій по А—А та план першого поверху.
(За вимірами Української Академії Архітектури).



Roof and cupolas plan (above) showing: Nos. 1-13, 11th c. cupolas; 14, 11th c. tower; 15, top of tower (11-12th c.) was moved to present location; 16-20, cupolas of the end of 17th c. Second floor plan (below).

Зверху: план бань і даху: 1-13 — бані 11 ст.; 14 — вежа 11 ст.; 15 — верх вежі 11-12 ст., яка в кінці 17 ст. була пересунута на теперішнє місце; 16-20 — баня кінця 17 ст. Внизу: план другого поверху катедрі.

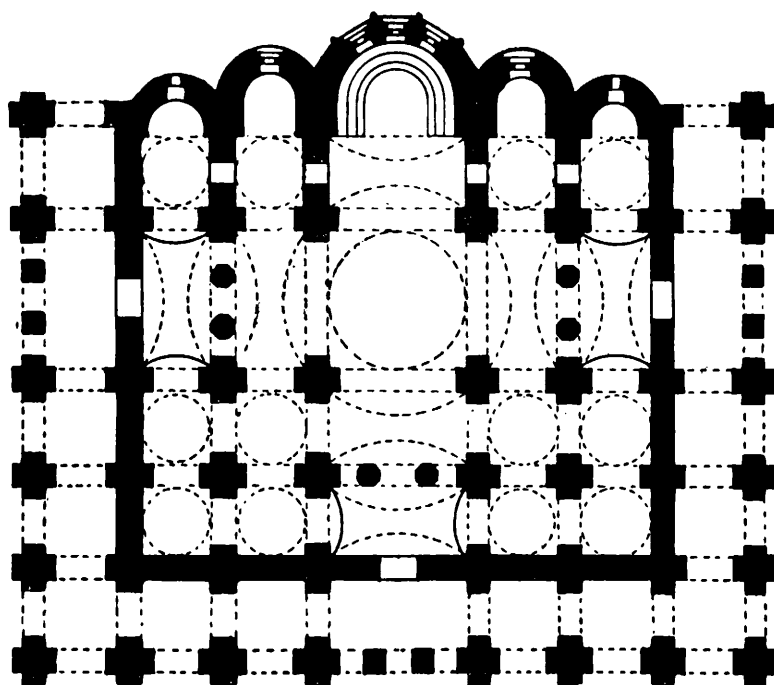
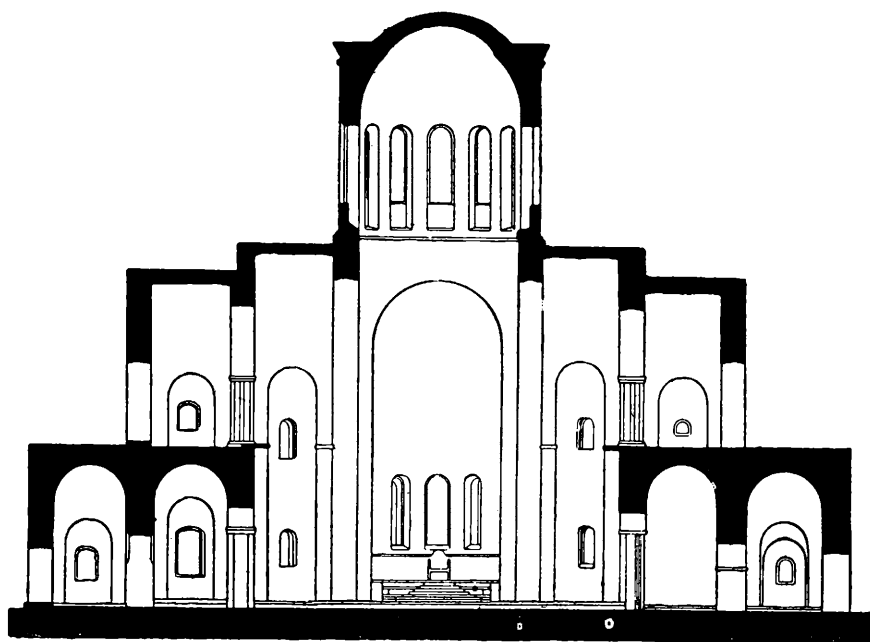


Section through main nave at B—B (see pp. 50, 51).

For source of plans (pp. 50, 51) and this section, see: S. Ya. Hrabovs'ky and Yu. S. Aseyev, "Doslidzhennya Sofiyi Kyivskoyi," „Arkhytekturni pam'yatnyky", zbirnyk nauk. prats', ed. S. Ya. Hrabovs'ky, (A.A. URSR, Kiev, 1950), pp. 32-41.

Перекрій вздовж головної нави катедри по В—В (див. ст. ст. 50 і 51).

Джерелом для планів на сторінках 50 і 51 та для цього перекрою була праця С. Я. Грабовського і Ю. С. Асєва: „Дослідження Софії Київської." „Архітектурні пам'ятники", збірник наукових праць за ред. С. Я. Грабовського. (А. А. УРСР, Київ 1950, ст. ст. 32-41).

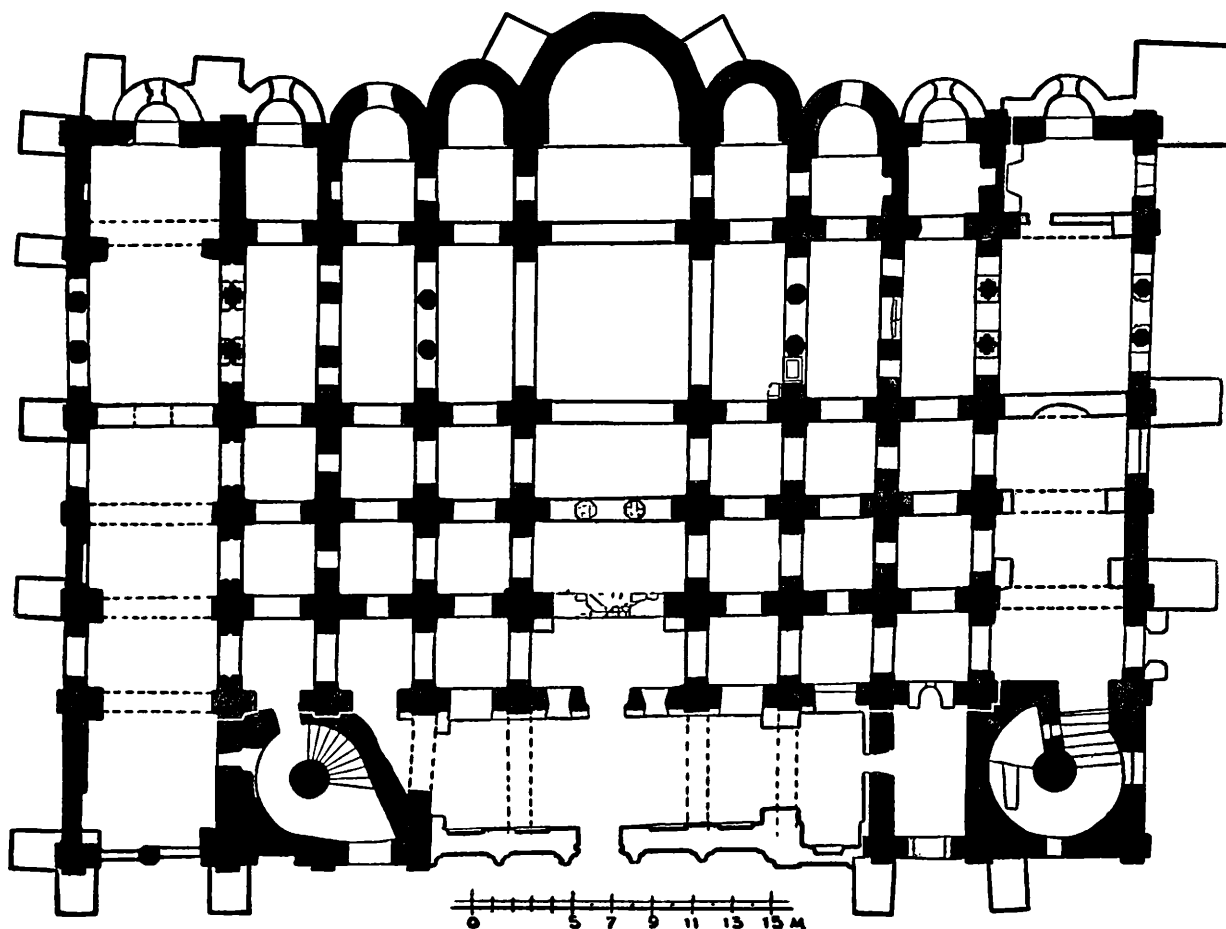


Plan and section of St. Sophia before the addition of the outside galleries. Reconstruction by Prof. N. Brunov.

Плян і перекрій катедрі перед добудовою зовнішніх галерій.
Реконструкція проф. Н. Брунова.

Professor A. Prakhov.⁶² It was not until 1909 that D. Mileev, an architect and archeologist, carried out painstaking investigations of the original and later floors which he had uncovered in the main sanctuary of the cathedral. With lectures and publications he aroused great interest for a thorough investigation of the cathedral flooring.⁶³

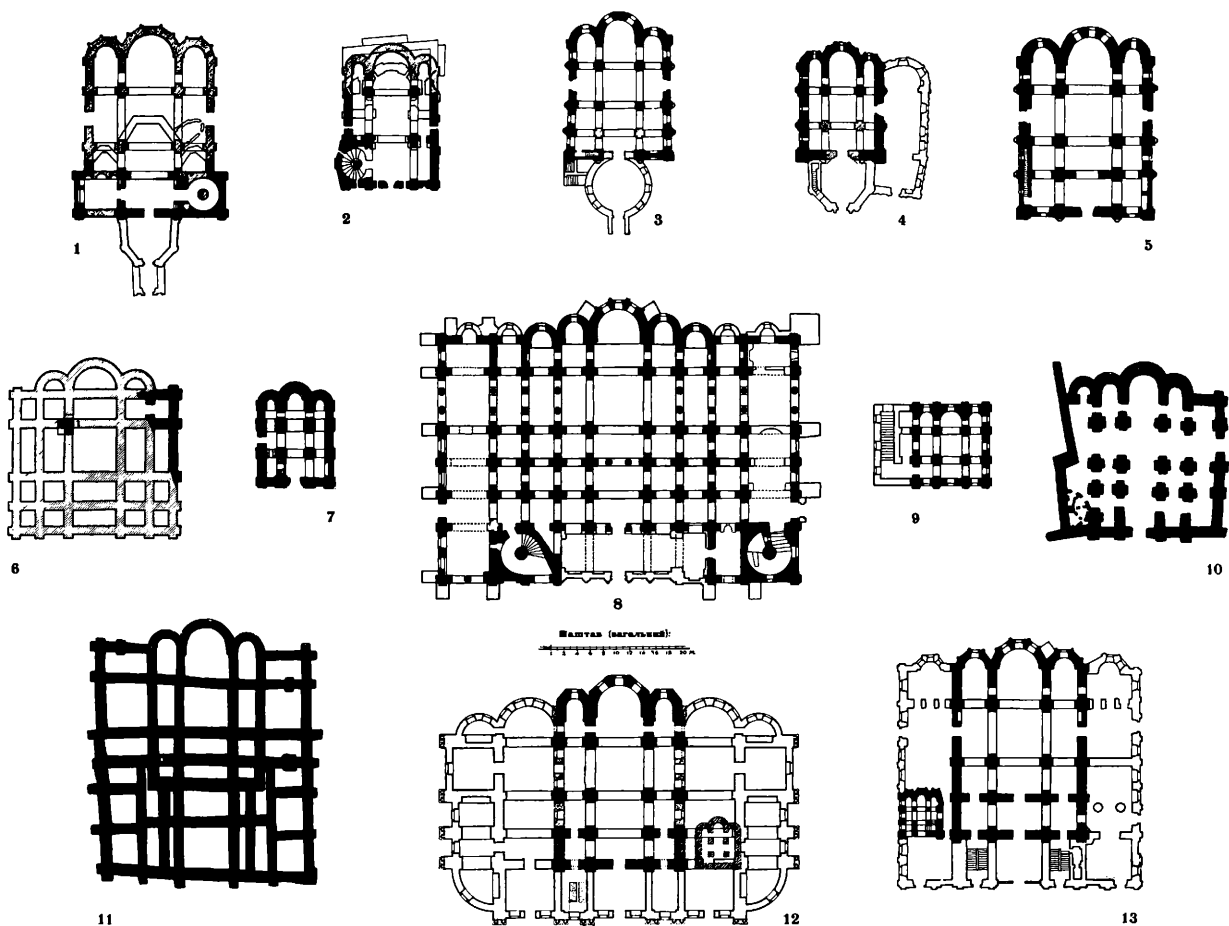
In 1920, an architectural survey of the cathedral by F. Ernst and I. Morhilevs'ky was initiated, and, in the years 1939-1940, detailed archeological investigations were carried on under the auspices of a mixed com-



First floor plan by Prof. I. Morhilevs'ky.
Плян першого поверху. За проф. І. Моргілевським

⁶² M. Karger, *Arkheologicheskie issledovaniya drevnego Kiev* (1951), p. 229. Cf., also, A. Prakhov, "Kievskie pamyatniki vizantiisko-russkago iskusstva. Drevnosti," *Trudy imp. Moskovskago Arkheologicheskago Obshchestva*, XI, 3 (1886).

⁶³ D. Mileev, "Ob ostatkakh drevnikh polov Kiev-Sofiiskago sobora, otkrytykh osen'yu 1909 g.," *Zapiski otd. Russ. i Slav. arkheologii Imp. Russkago Arkheol. Obshchestva* IX (St. Petersburg, 1913), 331-335. *Ibidem*, "Drevnie poly v Kievskom sobore sv. Sofii," *Sbornik arkheologicheskikh statei*, (St. Petersburg, 1911), pp. 212-221.



Comparative plans of the churches of Kiev, 10th—12th centuries, drawn on the same scale:

1. Church of the Redeemer in Berestovo, 12th c. 2. St. Michael Church of Vydbets Monastery, 11th c.
3. Uspens'ka Church in Podil, 12th c. 4. Church of the Three Saints, 12th c. 5. Church of St. Cyril, 12th c.
6. Church of St. Irene, 11th c. 7. Church in Kudryavets, 12th c. 8. St. Sophia Cathedral, 11th c. 9. Trinity Church (Nadvoritnya), 12th c.
10. Church of St. George, 11th c. 11. Tithe Church (Desyatynna), 10th c. 12. The so-called Michael (formerly, Demetrius) Monastery, 11th c. 13. Uspens'ka Cathedral of the Kiev Pechers'ka Lavra (Monastery) 11th c.

Note: for most recent restoration plan of St. Michael Church of Vydbets Monastery (No. 2), see: M. K. Karger, „Arkheologicheskie issledovaniya drevnego Kievа,” (Akademiya nauk USSR, Kiev, 1951), p. 160.

Порівняльні плани київських храмів 10—12 ст., виконані в одному масштабі:

1. Церква Спаса на Берестові, 12 ст. 2. Михайлівська церква Видубецького монастиря, 11 ст. 3. Успенська церква на Подолі, 12 ст. 4. Трисвятительська церква, 12 ст. 5. Кирилівська церква, 12 ст. 6. Церква св. Орини, 11 ст. 7. Церква на Кудрявці, 12 ст. 8. Катедра св. Софії, 11 ст. 9. Троїцька надворітня церква, 12 ст. 10. Церква св. Георгія, 11 ст. 11. Десятинна церква, 10 ст. 12. Михайлівський (Дмитрівський) монастир, 11 ст. 13. Успенська катедра Києво-Печерської Лаври, 11 ст.

Примітка: Сьогочасну реконструкцію плану церкви св. Михайла Видубецького монастиря (No. 2), див: в праці М. К. Каргера, „Археологические исследования древнего Киева” (А.Н. УССР, Киев, 1951), ст. 160.

mission which operated in close cooperation with Professor M. Karger and which was composed of representatives from the St. Sophia Architectural and Historical Monument, the Institute of Material Culture of the Ukrainian Academy and the Archeological Institute of the Academy of Sciences of the U.S.S.R.; the commission resumed its work in 1946. The excavation of an ancient kiln, uncovered in the northern part of St. Sophia courtyard, where bricks for the walls of the church were fired, is among the most important discoveries of the period. M. Karger has published a detailed account of these archeological investigations.⁶⁴

In the twenties, two Kievan historians of architecture, F. Ernst and I. Morhilevs'ky, began the extensive investigation of the architecture of St. Sophia. After Professor Ernst fell victim to the repressive measures of the Soviet authorities, this research continued up to the forties under the direction of Morhilevs'ky and a team of scientific workers from the Sophia Architectural and Historical Museum. Along with these architectural investigations, a study and fixing of the mosaics was conducted in 1935 by Professor V. Frolov from the Leningrad Academy of Arts of the U.S.S.R., while Professor P. Yukin of the Moscow Academy of Architecture of the U.S.S.R. worked at cleaning the frescoes.

An uninterrupted chain of chronicle data and other documents preserved from the very beginnings of the church proved of great assistance to the investigators of the architecture. The drawings of the 17th century Dutch painter Abraham van Westervelt, court painter to the Hetman of the Duchy of Lithuania, Janusz Radziwill, are especially important in that respect. The drawings of St. Sophia made by Westervelt in 1651 enabled Professors Ernst and Morhilevs'ky to unravel the problem of the original architectural forms of the cathedral — especially the western, northern and southern exteriors. It is believed that the original of the atlas which contained Westervelt's drawings of Kievan antiquities, was destroyed in Nieswiez, the family estate of the Radziwills, during the Russo-French War of 1812. Fortunately, a copy of this atlas was made for the last Polish King, Stanislaw August Poniatowski. In 1904 this copy was found by Academician J. Smirnov in the library of the Imperial Academy of Arts. The copy contains, among other interesting drawings of contemporary Kiev, several drawings of St. Sophia with (sometimes incorrect) subtitles. Attempts at interpreting these drawings were undertaken by Smirnov in his work *Drawings of Kiev in 1651 after Copies from the End of the 18th Century*,⁶⁵ as well as by N. Okunev in his article on the baptistry of the St. Sophia Cathedral.⁶⁶ Westervelt's drawings are not completely reliable, however, since the artist, although he reproduces de-

⁶⁴ M. Karger, *Arkheologicheskie issledovaniya drevnego Kieva* (1951), pp. 227-251.

⁶⁵ J. Smirnov, "Risunki Kieva 1651 g. po kopiyam ikh kontsa XVIII veka," *Trudy XIII (Ekaterinoslavskogo) arkh. s'ezda*, II (1908).

⁶⁶ N. Okunev, "Kreshchal'nya Sofiiskago sobora v Kieve," *Zapiski Otd. Russ. i Slav. arkheologii Imp. Arkheol. Obshchestva*, X (1915).

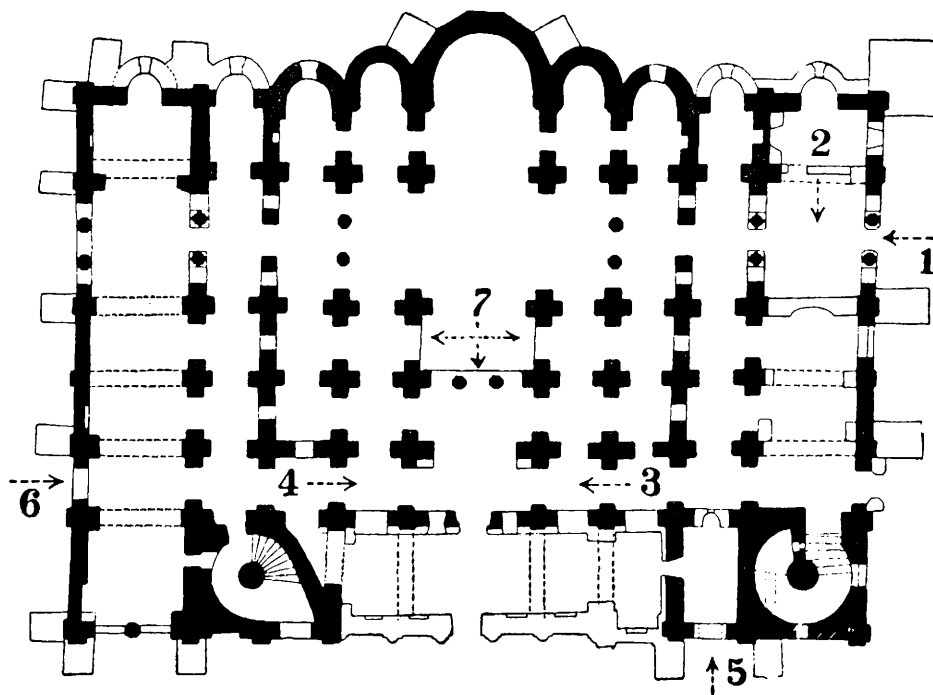
tails faithfully, rather admires the ruins and fails to notice the fabric of the church behind the picturesque, weed-covered remnants of the external portico. Nevertheless, in 1925, Ernst and Morhilevs'ky succeeded in identifying later alterations and in establishing the original architectural forms and details of the church by making soundings in the interior and exterior plaster of both stories. A comparison of Westervelt's drawings with corresponding parts of the cathedral enabled the investigators to establish certain discrepancies in the drawings themselves as well as errors in the subtitles (for which the copyist was probably responsible). It must be said, however, that certain drawings are precise. We shall discuss the interpretation of these drawings by Professor Morhilevs'ky in some detail.⁶⁷

On one of the drawings, bearing the inscription *Pars Academiae Kijoviensis versus Orientem*, Westervelt depicts the central portion of the southern external gallery of St. Sophia as having the form of a triple open arch supported by polygonal piers. Each arch is headed by a shallow niche composed of two receding rings. The arch is bordered on both sides by pilasters which are adjoined on either side by similar arches; these are filled rather than open and have a small window pierced in each immurement. In the clearance of the outer open arcade, still another is seen, which, however, is supported not by polygonal piers, as the first arcade, but by square ones with shafts along each of their corners. This drawing corresponds exactly to the part of the present southern wall where the entrance leads into the Dormition nave, and, therefore, should be considered as depicting the former southern external gallery.

In order to orient the reader, a plan of the cathedral is given with approximate indications of the positions from which Westervelt made his drawings and the direction he was facing while making them. In the above case, the drawing was made from position 1. Today we see the following changes in this part of the church in addition to the erection of another story: All three open arches have been filled, a door cut into the immurement of the central arch, and windows cut into the immurements with the lateral ones. The niches over them have remained unchanged with the exception of the right one which is already half in ruins on Westervelt's picture. It has disappeared completely under subsequent layers of plaster. The left pilaster, clearly seen on Westervelt's drawing, was covered by a buttress in the 17th century. Next to the right pilaster and bordering the former triple arch, we see a window in the arch's immurement. It is also shown on Westervelt's drawing, but now it is much wider than in the 17th century. The remnants of the slate imposts of the arcade are visible even now from under the thick layer of plaster.

Parts of the octagonal piers of the arcade were cleared of plaster by Professor Morhilevs'ky (they are shown on a photograph). Sometime

⁶⁷ I. Morhilevs'ky, "Kyiv's'ka Sofiya v svitli novykh sposterezhen', *Kyiv ta yoho okolytsya v istoriyi i pamyatkakh*, (Kiev, 1926), p. 91, fig. 7.



Key plan of the Cathedral with indications of positions from which Westervelt's drawings were made.

Плян катедрі з зазначенням позицій, з яких були виконані малюнки Вестерфельда.

later the plaster was removed from the middle niche over the entrance into the Dormition nave. After the removal of the plaster from the internal surface of the central arch, remnants of frescoes came to light and, to the right of the niche and above this arch, a decorative cross laid in brick was uncovered. As already stated, these findings prove that the cathedral's exterior had not been plastered in the 11th and 12th centuries.

On Westervelt's picture entitled *Pars Academiae Kijoviensis versus Occasum* (position 2), the same part of the outer gallery is shown but this time from the inside. Facing west (i.e., in the direction of the shaft at position 2 of the plan) we see, to the left, the same triple arch supported by polygonal piers (discussed with reference to the previous drawing) and, to the right, the internal arcade resting on square piers adorned with shafts (seen in the clearance of the outer arcade on the previous drawing by Westervelt). Straight ahead we see two parallel flying buttresses which abut into two neighboring transverse partitions. The third buttress, nearest to us, which supported the transverse wall immediately behind the arcade, is in ruins; only its springing remains visible on the drawing. Today a wall with a small apse (see plan) replaces this ruined flying buttress. It divides the Dormition nave from the nave of the Twelve Apostles. In the clearance of the flying buttresses the drawing shows the

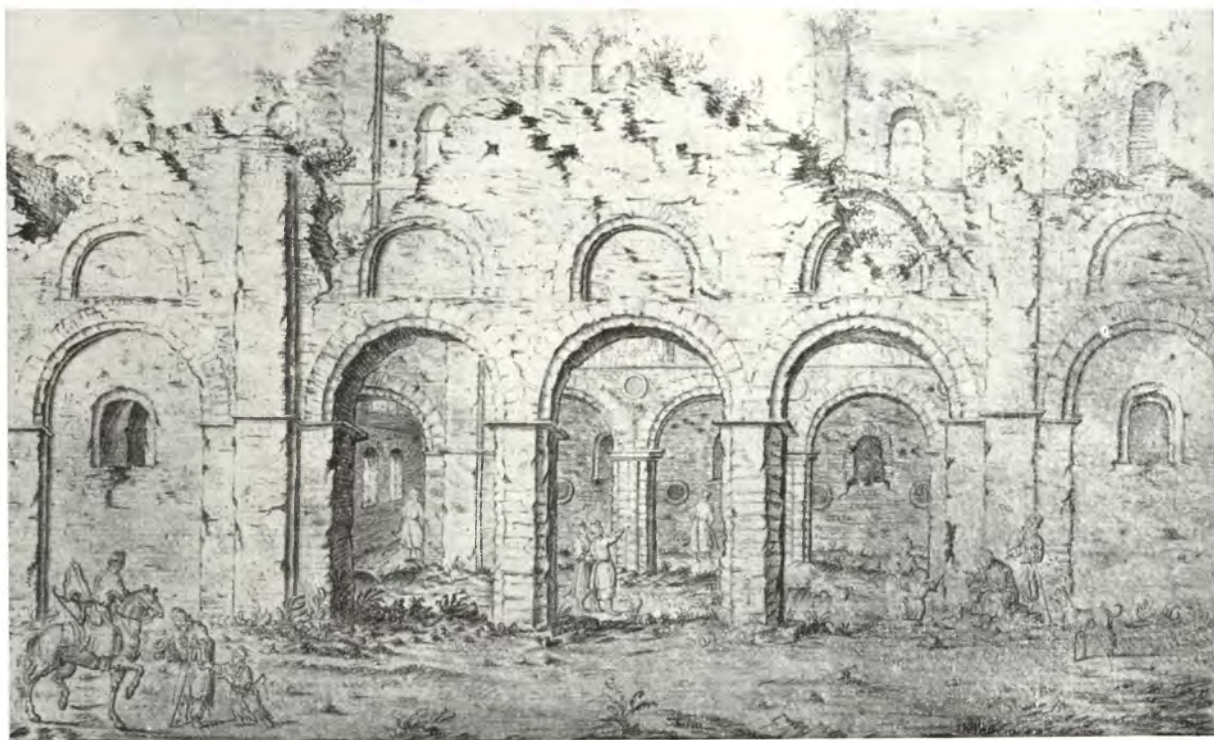
entrance into the cathedral through the present nave of the Twelve Apostles; the entrance still exists. Beyond the flying buttresses the wall of the southwestern tower is visible with a window in the upper part. The window was walled up when another story was added over the arcade (17th-18th century). Later it was transformed into an entrance for the present so-called Michael Section of the St. Sophia Architectural and Historical Museum. (The frescoes and mosaics of the St. Michael Monastery destroyed in 1933-34 have been set in the wall of this part of the Museum.)

Westervelt's drawing numbered 313 (position 3) depicts the lower part of the western interior gallery and a section of the adjoining outer gallery in the direction south-north. The left part of the drawing, representing the outer arcade, does not quite correspond to reality. Nevertheless, one can distinguish corresponding parts of this section of the church, which are still extant, namely, the flying buttress of the outer arcade, situated directly south of the main entrance, and the main entrance itself (which in the 17th century led from the open outer arcade and now leads from the narthex) with windows on either side. Furthermore, one sees the pilasters on each side of the main entrance, which correspond to the arrangement of the cross-shaped piers in the neighboring lateral naves, and, finally, the arch embrasure in front of the SS. Joachim and Anna nave. At present there is a window in this embrasure. Professor Morhilevs'ky thinks that this drawing of Westervelt also includes the baptistry,⁶⁸ with the corresponding part of the arcade open. Later it was walled up and now a small window has been set into the wall. Thus, in the position from which the drawing was made the baptistry could be seen.

The drawing entitled *Pars Academiae Kijoviensis versus Septentrionem* (position 4) represents the same lower part of the internal gallery and the neighboring outer gallery but viewed from the opposite direction (north-south). Here one clearly recognizes the main western entrance, the open entrance to the internal gallery leading from the south (a man is standing in its clearance), and the vaulted ceiling supported by the cross-shaped piers which also support the arches. Slate cornices and arch imposts also appear very distinctly. On the right side of the drawing one sees a fairly exact rendition of the external gallery with its pylons, flying buttresses, arches, and vaults.

Westervelt's drawing with the subtitle *Ecclesia Parochialis S. Nicholai, ad quam in Prospectu Campanile S. Michaelis Kijoviae Anno 1651 delineata* (position 5) is very interesting, but its right half difficult to interpret. It depicts the southwestern corner of the cathedral. The middle part of the picture, showing the baptistry through the aperture of the arch, is painstakingly exact. With almost photographic accuracy, the painter represented the 11th century frescoes of the baptistry and the immurement of the 12th century arch with its small apse and lunettes,

⁶⁸ *Ibidem*.



Southern gallery in 1651 after A. v. Westervelt's drawings; position 1, above, and position 2, below.
 Південна галерія в 1651 р., за мал. А. Вестерфельда. Зверху: з 1-ої позиції; внизу: з 2-ої позиції.



Western galleries in 1651 after A. v. Westervelt's drawings; position 3, above, and position 4, below.
 Західні галерії в 1651 р., за мал. А. Вестерфельда. Зверху: з 3-ої позиції; внизу: з 4-ої позиції.

even including the fissure in the wall over the right lunette which exists up to the present day. He also copied the frescoes on the immurement of the 11th century arch and those of the 12th century apse. Side by side with this painstaking exactitude one sees on the left, in the aperture of the neighboring arch, a flying buttress placed sideways, whereas it must have run perpendicularly to the arch and not parallel to it, as shown on the drawing. On the whole, both the middle and the left part of the picture faithfully correspond to the section of the cathedral which they depict. Of course the part of the church shown on the left hand side of the picture is no longer extant and the arch of the baptistry was later immured. Today there is a window in the embrasure of the formerly open arch and the baptistry is entered from the western narthex. The fact that the southwestern tower is shown round, and not quadrangular as it always has been (this point was established by Morhilevs'ky, who undertook soundings in the tower walls), has to be imputed to the fantasy of the painter or to the error of the copyist. Westervelt himself represented the eastern part of this same tower as square on the picture entitled *Pars Academiae Kijoviensis versus Occasum* (position 2). It is difficult to imagine how this tower could have become cylindrical on its western side. Moreover, the drawing entitled *Monasterium S. Sophiae juxta quod Janusius Princeps Radzivil Belli Dux Triumphator Anno 1651 Kijoviam ingressus*, which shows the eastern façade of the cathedral, presents the roof over the southwestern tower as completely undamaged while it is ruined on the drawing under discussion. Professor Morhilevs'ky attributes this to the carelessness of the copyist,⁶⁹ but it is more probable that Westervelt himself may have added this tower later on, possibly at home. Morhilevs'ky himself weighs this possibility. Remembering that both towers were cylindrical inside, Westervelt may have given this tower the same shape outside when using the sketches made during his travels. The illegible inscription under the drawing, mentioning the *Campanile S. Michaelis Kijoviae*, might lead to the assumption that Westervelt had added here the tower of the St. Michael Monastery in Kiev; but even then this tower could not have been cylindrical. This drawing may have been the source of K. Sherotsky's error, for in his *Guide to Kiev* he gives a plan of St. Sophia with its towers rounded on the western side.⁷⁰ Over the open arch, in the aperture of which we see an accurate rendering of the eastern wall and apse of the baptistry, a small relieving arch is represented. This is additional proof that the drawing was executed from memory. In reality, the arch was surmounted by a niche like those drawn by Westervelt over the arches of the southern entrance (see drawing from position 1). The copies of Westervelt's drawings contain a considerable number of similar inexactitudes.

Another drawing with an obscure subtitle (*Porta Plateae Monasterii S. Michaelis ad quam Hospitale S. Spiritus, Kijoviae 1651*) shows a part

⁶⁹ *Ibidem*, p. 92.

⁷⁰ K. Sherotski, *Kiev, Putevoditel'* (Kiev, 1917), p. 29.

of the northern wall of the cathedral with its entrance leading through an open arch to the lower story of the interior gallery (position 6). On the photograph of the corresponding part of the church we may detect the following later alterations: a window, as wide as the arch itself, has been arranged in the open arch; the pilaster to the right of the arch has been covered by a buttress; the small window in the immurement of the arch adjoining this pilaster has been enlarged; finally, the arch adjoining the left pilaster has been walled in. An interesting detail deserves mention here; this, as well as the preceding drawing, shows rather low pilaster socles, for they were not raised to their present level until the 19th century.

On the basis of the comparison of Westervelt's drawing with corresponding parts of the present cathedral and the information derived from the soundings taken in the old walls, Professor Morhilevs'ky concluded that the flying buttresses of the exterior gallery corresponded in number to the partitions of the interior gallery which in turn correspond to the transverse arches of the naves and to the transverse arms of the cathedral: thus, four flying buttresses for the southern exterior gallery; five, for the western, and five, for the northern.⁷¹ Morhilevs'ky freed one of the flying buttresses of the western gallery (the present narthex) beside the northwestern tower from surrounding wall and plaster and found fragments of frescoes on its interior surface. In certain other places, where constructive elements of the exterior gallery abutted against the earlier walls of the cathedral, soundings again led to the discovery of frescoes. It may therefore be concluded that the exterior gallery was added, after the main body of the church had already been finished and adorned, in order to enlarge the church, to erect another tower and to counter the thrust of the walls, the effects of which had soon been felt. The thrust could be cushioned by the flying buttresses of the exterior gallery.

Westervelt's drawing entitled *Monasterium S. Sophiae, Juxta quod Janussius Princeps Radzivil Belli Dux Triumphator anno 1651 Kijoviam ingressus* represents the solemn entrance of the Hetman of the Duchy of Lithuania, Janusz Radziwill, and his army into St. Sophia Square. Westervelt's main task was to show the celebration itself; but, for our purposes, the architectural part of his drawing is the most interesting. To the right of the cathedral we see an interesting free-standing wooden bell tower flanked by a building (probably inhabited by the *hegumen* or some other cleric of the St. Sophia Monastery). The building is not completely visible behind the fence; we see only its roof with an indented crest running along the ridge (a characteristic detail in Ukrainian architecture of that time; similar crests are partially preserved on the roofs of the Kievan Lavra). To the left of the cathedral, on the approximate site of the present bell tower, the drawing shows a wooden gate tower. In the left part

⁷¹ I. Morhilevs'ky, *op. cit.*, p. 101.



Southwestern part of the Cathedral. Position 5 of Westervelt's drawing, 1651.
Південнозахідня частина катедри за мал. Вестерфельда 1651 р. (Позиція 5).



St. Sophia. General view; Westervelt's drawing, 1651.
Загальний вигляд катедри св. Софії за мал. Вестерфельда, 1651.



Part of northern façade. Position 6 of Westervelt's drawing, 1651.
 Частина північної фасади катедри. Мал. Вестерфельда, (позиція 6), 1651.



The walled-in gallery of the western façade at the present time.
 Деталь замуrowаної галерії західньої фасади — сучасний стан.

of the drawing the Golden Gate is barely distinguishable; the ranks of Radziwill's army are passing through it. In the foreground of St. Sophia Square the drawing depicts a crucifix under a roof (*figura*). But the east elevation of the church itself is the most interesting for us: We see it here, in an almost orthogonal projection, from the east. It is in a relatively good state of repair as it must have looked after the restitution ordered by Metropolitan P. Mohyla (who, however, never finished repairing the exterior galleries). The roofing of the cupolas, the apses and both towers, visible from behind the walls, looks as if it had just been renewed. Elsewhere, Westervelt, for some reason, depicts the southwestern tower (see drawing from position 5) with a half-ruined roof or none at all (see drawing from position 2), but these discrepancies may be explained either by inadvertance or (if the roof of this tower was really ruined completely or in part) by the desire of Westervelt to show the solemn entrance of Hetman Radziwill against the background of the magnificent Kievan church at its best. It may have been for the same reason that Westervelt draws improbable roofs over the interior and outer porticoes in the north and south. They appear as half-pitched roofs encompassing both galleries and adorned with some improbable details in Gothic and Renaissance style. On the north side both the exterior and interior galleries are shown with a blind wall covered by a half-pitched roof common to both galleries. The top of this wall is adorned with Gothic perforated parapets while the northern wall of the exterior gallery seems to be topped with a Renaissance attic, crowned with sculptured figures. All of this cannot have corresponded to reality inasmuch as on Westervelt's previous drawings all exterior galleries (including the northern one which he so diligently embellishes here) appear in utter ruin. Nevertheless, the drawing is a very important one for its rendering of the oldest part of the cathedral. All the five altar apses, the cupolas towering above and the southern interior gallery (except for its roofing) correspond on the whole to the aspect which this part of the cathedral must have had in 1651. Westervelt distinctly shows the buttresses on either side of the main altar apse which had been erected not long before then (in the forties) by Metropolitan P. Mohyla to reinforce its walls. He also depicts the arrangement and the number of windows in the drums and in the cupolas fairly accurately. The same may be said for his rendering of the niches in the altar apses where he gives some indications of the presence of frescoes. The wall of the southern interior gallery shows the window, which is still extant, of its enclosed gallery. Professor Morhilevs'ky made soundings around this window aperture and discovered from them that except for plastering, it has not been changed since the Princely period. It follows then that the interior galleries were two-story structures from the Princely time on. Morhilevs'ky's soundings, it is true, disclosed that the second story of the gallery was not connected with the main body of the church but separated from it by a wide seam. Nevertheless, he states that the addition of the second story of the interior gallery was not accidental, but was comprised by the general plan of the structure and was separate



Joint between 11th and 12th cent.
wall after the removal of plaster.

Стикання очищених муровань
стін XI та XII століть.



Masonry of a decorative niche of
the 11th c. after removal of plaster.

Муровання декоративної ніші
XI ст., очищене від тинку.

from the body of the church for constructional reasons.⁷² Academician O. Novytsky draws the opposite conclusion from these findings, showing, in his reconstructions of the original aspect and plan of St. Sophia, the two story interior gallery as of one story.⁷³

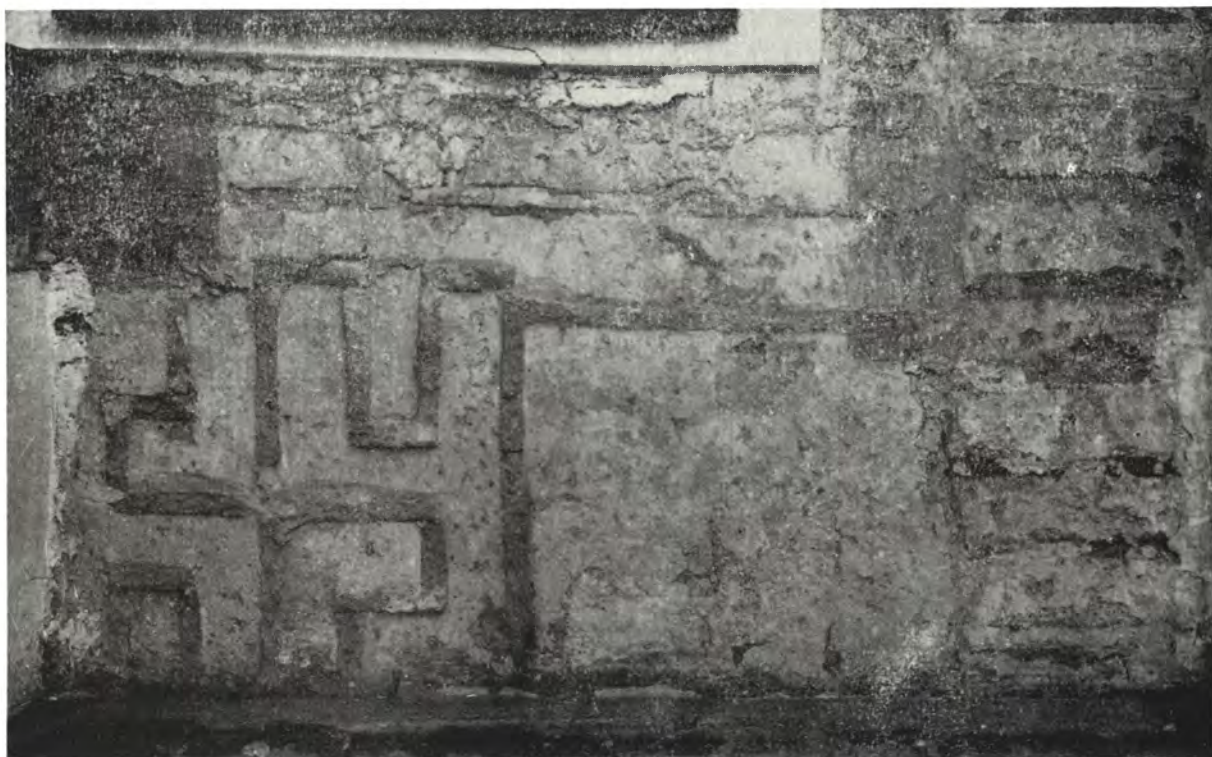
Professor Morhilevs'ky showed great diligence in measuring, making soundings, and restoring the cathedral inside and outside with a view towards reconstructing its original appearance. Unfortunately, his main efforts were spent towards creating an impressive display of large surfaces cleared of later plaster (for instance, walls of the altar apses), and he died without having either finished or published all of his research work on St. Sophia and other buildings of the Princely Ukraine (in Chernihiv and Kaniv). However, Morhilevs'ky did complete a detailed geodetic survey of the cathedral on the basis of which he made a plan of its ground floor (and started one of the second story) and of its sections, and executed drawings of architectural details. Among the latter, an isometric analytical section of St. Sophia, published by him in his

⁷² *Ibidem*, p. 105.

⁷³ S. Ya. Hrabovs'ky and Yu. S. Aseyev, "Doslidzhennya Sofiyi Kyyivs'koyi," *Arkhitekturni pamyatnyky*, zbirnyk naukovykh prats, ed. S. Ya. Hrabovs'ky, (Akademiya Arkhitektury Ukrains'koyi RSR, [Kiev, A. A. URSSR, 1950]), p. 28.



Niche with plaster removed — southern façade.
Очищена від тинку ніша південної фасади.



Meander design on masonry — northern façade.
Меандер, виложений з цегли на стіні північної фасади.



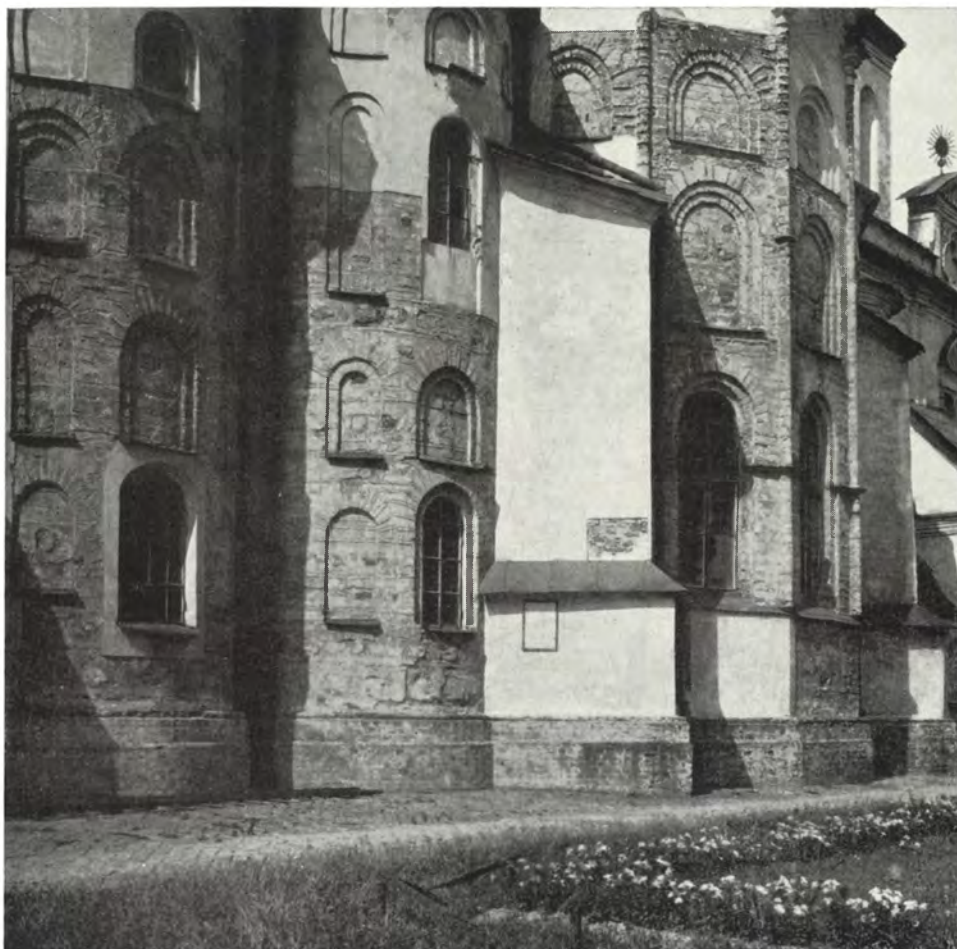
Exterior wall with plaster removed — altar of SS. Joachim and Anna.
Очищена від тинку апсида віваря свв. Якіма і Ганни.



Exterior walls with plaster removed — main apse.
Стіни головної апсиди після очищення їх від тинку.



Exterior walls with plaster removed — main apse.
Стіни головної апсиди після очищення їх від тинку.

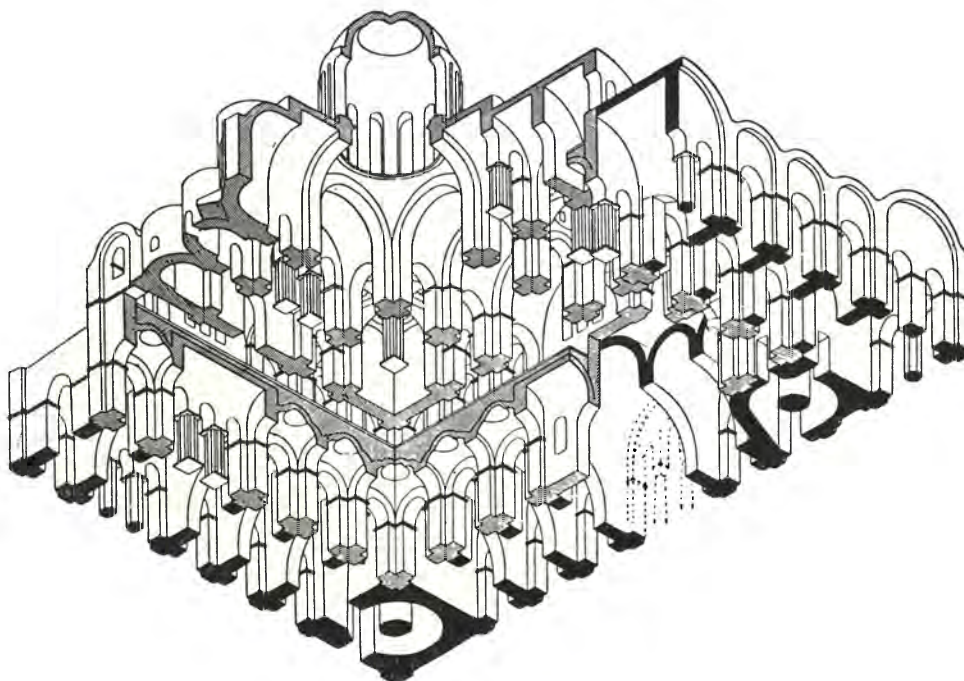


Exterior wall with plaster removed — eastern façade.
Східня фасада після очищення від тинку.



Detail of marble base of column
of portal—main western entrance.

Деталь мармурової бази колони
з порталю головного західнього
входу.



Isometric restoration (by Prof. I. Morhilevs'ky).
Аксонетрична реконструкція проф. І. Моргілевського.

work repeatedly quoted here, deserves special attention.⁷⁴ N. Brunov in his article "On the Question of the Independent Features of Russian Architecture"⁷⁵ also publishes the isometric section of Morhilevs'ky but disagrees with him on the following two points concerning his concept of the earliest part of the cathedral: (1) The western arm of the cross is shown in the section in its present form which is actually the result of basic alterations made between the 17th and the 19th centuries. (2) The gallery girdling the five-nave central area and belonging to the original building is shown as open in its lower story and is composed of cross-shaped pillars supporting arches; the upper story of the gallery is walled in, with windows cut into the walls, and has a vaulted ceiling. In reality, says Brunov, the piers and vaulting of the ground floor bore an open exterior arcade built level with the cathedral's choirs and bordered by a low parapet.⁷⁶ Brunov, while justly remarking that Morhilevs'ky's isometric

⁷⁴ Cf. note 67. This reconstruction has been often repeated, cf. *p. ex.*, V. Sichyns'ky, *Monumenta Architecturae Ucrainae* (Prague, s.a.); K. J. Conant, *Speculum* XI (1936), 495, fig. 2; N. N. Voronin and M. K. Karger, eds., *Istoriya kul'tury drevnej Rusi, domongol'ski period*, II (1951), p. 257, fig. 66.

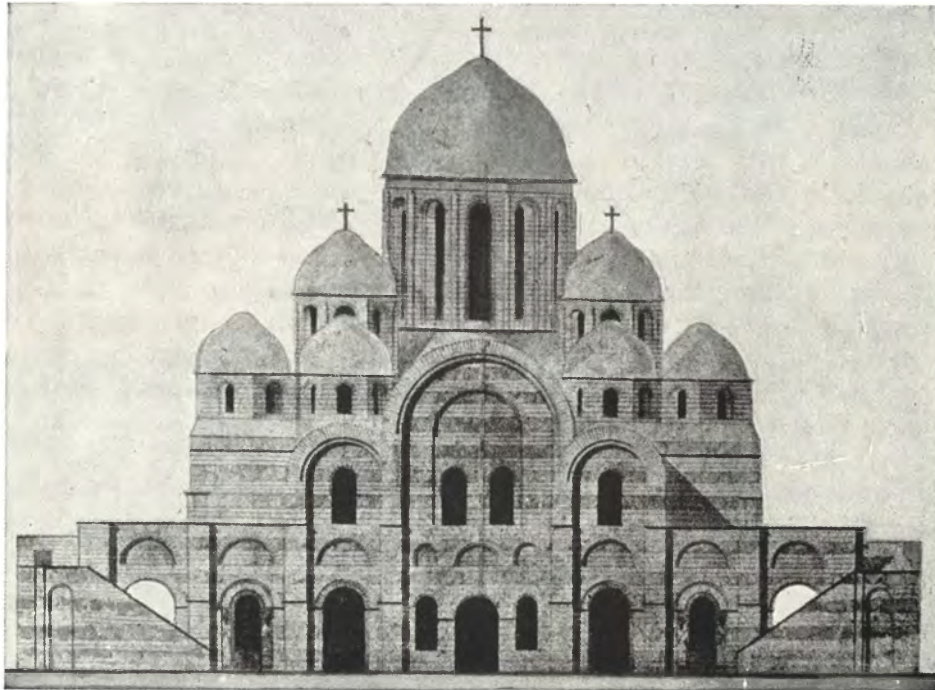
⁷⁵ V. Shkvarikov, ed. *Russkaya arkhitektura*, (Moscow, 1940), illustrations for chapter "K dokladu Prof. N. Brunova."

⁷⁶ *Ibidem*, p. 111.



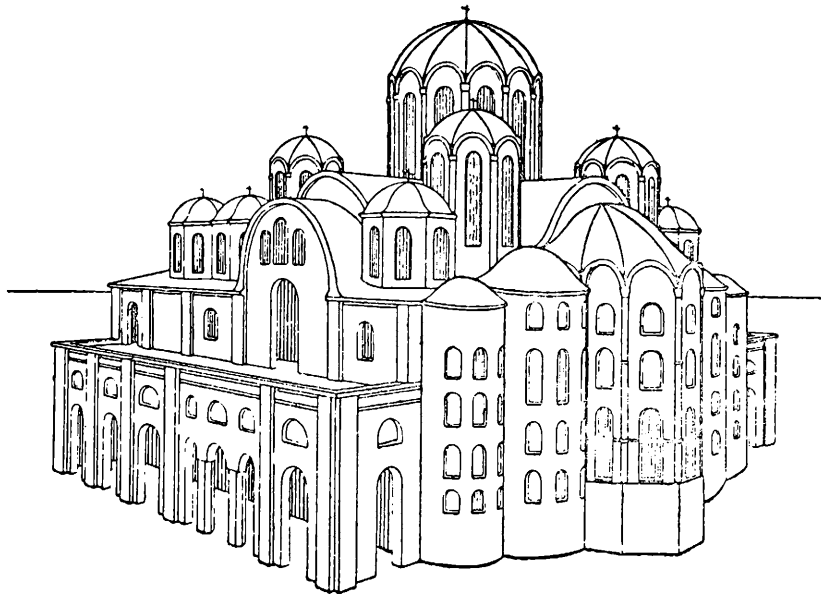
Front view of eastern elevation. Restoration
by Academician F. Solntsev, 19th century.

Східня фасада катедри. Реконструкція акад. Ф. Солнцева, 19 ст.

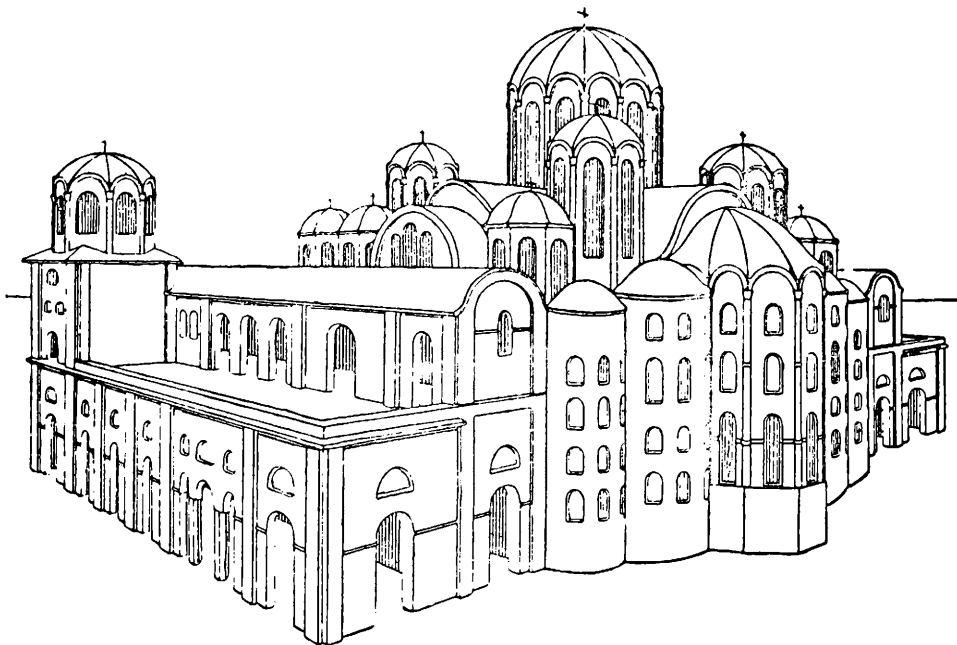


Front view of western elevation. Restoration
by Academician F. Solntsev, 19th century.

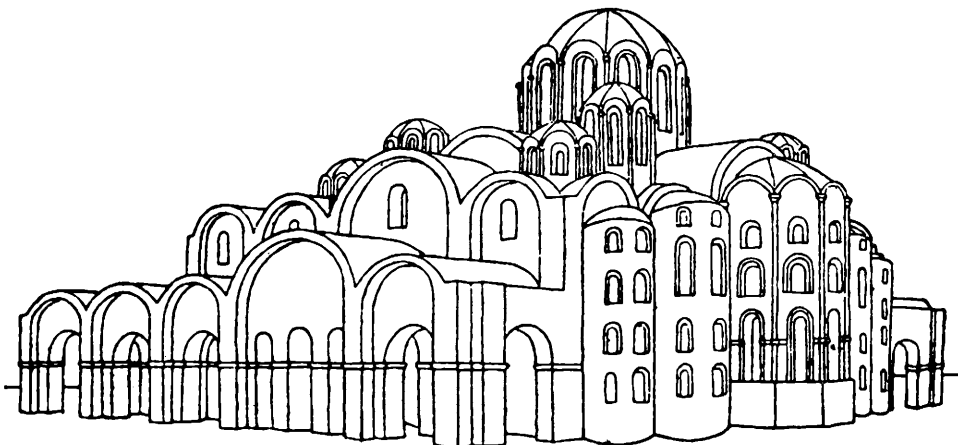
Західня фасада катедри. Реконструкція акад. Ф. Солнцева, 19 ст.



General view of Cathedral before addition of outside galleries.
 Restoration by Academician O. Novyts'ky.
 Загальний вид катедрі перед добудовою зовнішніх галерій.
 Реконструкція акад. О. Новицького.



General view of Cathedral after addition of outside galleries and southwestern tower. Restoration by Academician O. Novyts'ky.
 Загальний вигляд катедрі з добудованими зовнішніми галеріями й південнозахідньою вежею. Реконструкція акад. О. Новицького.



General view of Cathedral, restoration by Professor A. Nekrasov.
Загальний вигляд катедрі. Реконструкція проф. А. Некрасова.

reconstruction proves the incorrectness of previous similar attempts (Academician Novytsky), agrees with him on only one point, namely, that the exterior gallery was added to the central, original body of the cathedral at a later date. Professor Brunov also imputes to Morhilevs'ky the view that both towers leading to the galleries were built simultaneously with this gallery.⁷⁷ But Morhilevs'ky never asserted that both towers were built at the same time;⁷⁸ on the contrary, in his lectures he was always careful to point out that the northwestern tower was built at (approximately) the same time as the original cathedral while the southwestern tower was erected in the 12th century.

In his isometric reconstruction, Professor Morhilevs'ky aimed at showing the original church without going into the problems of sequence and time of construction of the towers and exterior galleries. The seams which join the brickwork of the towers to the fundamental part of the church, shown by him on his plan of the ground floor, could have served as settling seams, independently of the time of the construction of either tower (though it is true that Morhilevs'ky did not show any similar seam on the southern part of the southwestern tower). Thus, Morhilevs'ky cannot be said to support N. Brunov's opinion concerning the simultaneous construction of both towers. Moreover, Professor Brunov ignored the im-

⁷⁷ *Ibidem*.

⁷⁸ I. Morhilevs'ky, "Kyyivs'ka Sofiya v svitli novykh sposterezhen' " . . . , p. 104: "As to the time which must have elapsed between the construction of the two parts of the church, i.e., the interior gallery and the exterior gallery with towers, it could not have been long. On the one hand, the building materials of both parts are almost identical; on the other, it is difficult to imagine that the church should have done without a staircase leading to the gallery, or with a temporary wooden staircase for any considerable length of time."



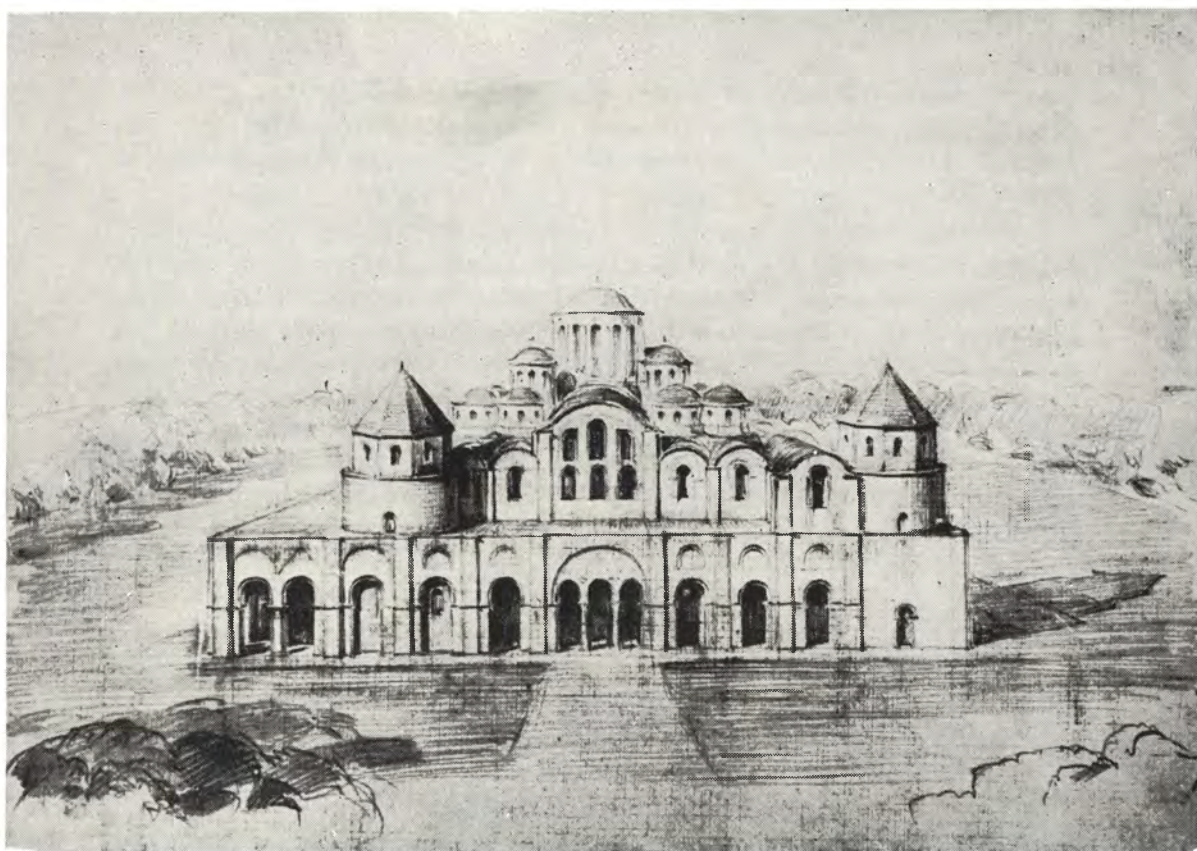
General view of Cathedral, restoration by Professor N. Brunov.
Загальний вигляд катедрі. Реконструкція проф. Н. Брунова.

portant source (dated 1055-1062) concerning the construction of the exterior gallery and the second tower. (It appears clearly from the contents of this source that the first tower was already in existence when it was written.⁷⁹)

Professor Brunov has to be credited with having been the first scholar to postulate the existence of two octagonal piers in the western arm of the architectural cross of the cathedral, corresponding to identical piers in the southern and northern arms. He showed these piers in his plan of the cathedral's ground floor made in 1923.⁸⁰ The bases of these piers came to light *in situ* during the archeological investigations of the floor in 1938-1940, so they are not yet indicated in the isometric reconstruction by Morhilev'sky, published in 1922. The second point of disagreement between Brunov and Morhilev'sky has to remain unresolved until new investigations are undertaken. This applies especially to the problem of the open arcade on the level of the gallery. But allowing for

⁷⁹ P. Lebedintsev, *Opisanie Kievo-Sofijskago Kafedral'nago Sobora*, (Kiev, 1882), p. 71.

⁸⁰ N. Brunov, "K voprosu o samostoyatel'nykh chertakh russkoi arkhitektury X-XI vv." *Russkaya Arkhitektura* (ed. V. Shkvarikov), p. 111, where the author speaks of his investigations of the cathedral, made in 1923, 1925 and 1938. On p. 116, the author refers to his previous article "K voprosu o pervonachal'nom vide drevneishei chasti kievskoi Sofii," *Izvestiya Gosud. Akad. Istorii Mater. Kul'tury*, V. (1927), with a drawing which I. Morhilev'sky failed to take into account.



Above, north elevation of Cathedral; below, west elevation. Reconstruction by Professor K. J. Conant.
 Північна (вгорі) й західня (внизу) фасади катедрі. Реконструкція проф. К. Конанта.



Above, east elevation before addition of outside galleries; below, aerial view after addition of outside galleries and southwestern tower. Restoration by Professor K. J. Conant.

Східня фасада перед добудовою зовнішніх галерій (вгорі) і загальний вигляд катедрі (внизу) після добудови галерій і південнозахідньої вежі. Реконструкція проф. К. Конанта.



Above, north elevation before addition of outside galleries; below, east elevation after addition of outside galleries. Restoration by Professor K. J. Conant.

Північна (вгорі) й східня (внизу) фасади катедри. Реконструкція проф. К. Конанта.

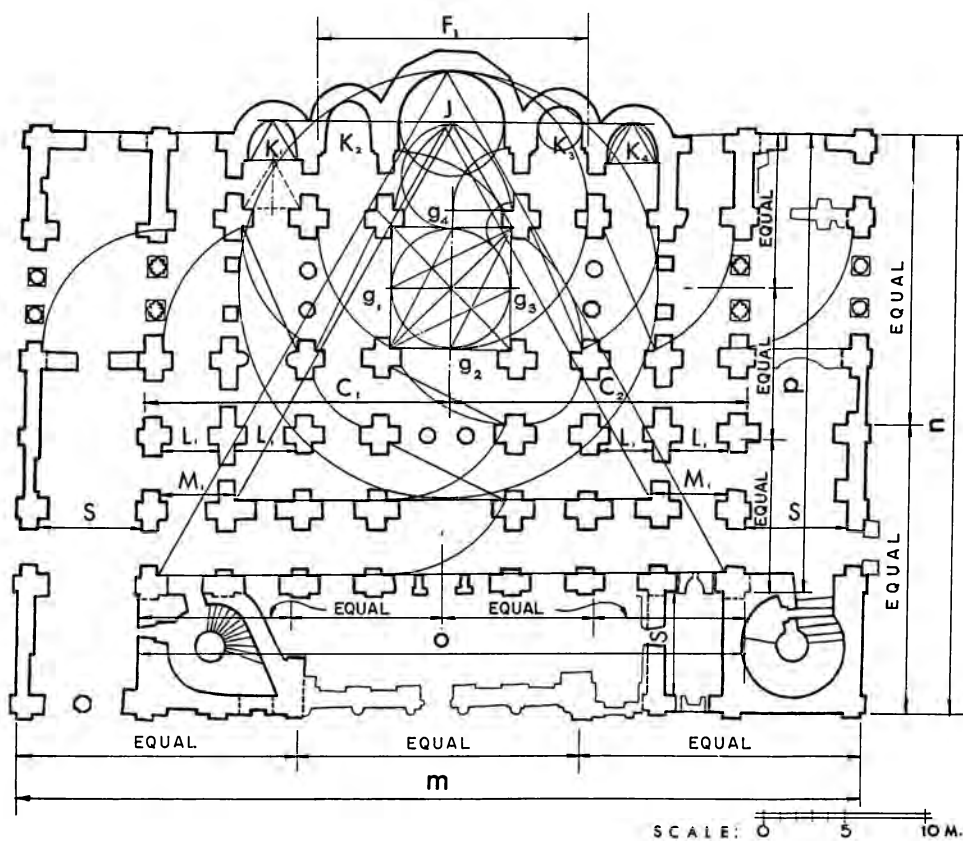


Above, west elevation and below, east elevation. Model reconstructed by St. Sophia Architectural and Historical Museum.

Західня (вгорі) і східня (внизу) фасади катедрі. Реконструктивний модель Софійського Архі-
тектурно-Історичного Музею.



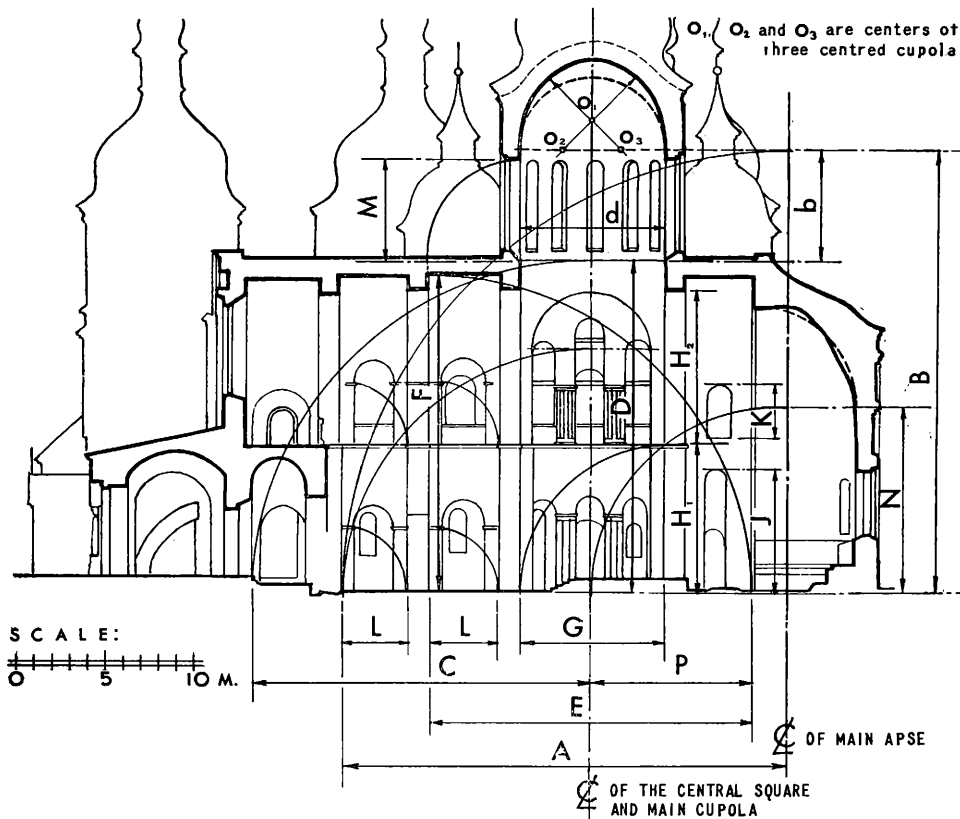
Preliminary study of longitudinal section, by author.
 Реконструкція подовжнього розрізу катедрі (автор).



External and internal dimension proportions: $m : n = 3 : 2$; $o : p = 4 : 3$.

Architectural proportions in plan.

Архітектурні пропорції в плані.



Architectural proportions in sections.

Equals and proportions: $A = B$; $b : d = 3 : 4$; $C = D$ (in section) $= C_1 = C_2$ (in plan); $E = F$ (in section) $= F_1$ (in plan); $G = H_1 = H_2$ (in section) $= g_1 = g_2 = g_3 = g_4$ (in plan); J (in section) $= J_1$ (in plan); K (in section) $= K_1 = K_2 = K_3 = K_4$ (in plan); L (in section) $= L_1$ (in plan); M (in section) $= M_1$ (in plan); $N = P$.

For source of architectural proportions in plan and section of St. Sophia Cathedral, see: K. M. Afanas'ev, "Pro proporsional'nist' pamyatnykiv drevnerus'koyi arkhitektury XI-XII st.", "Arkhitekturni pamyatnyky", ed. S. Ya. Hrabovs'ky, (A. A. URSR, Kiev, 1950), pp. 49-53.

Архітектурні пропорції в розрізі.

Докладніше про архітектурні пропорції катедри св. Софії див. статтю М. К. Афанас'єва „Про пропорціональність пам'ятників древнеруської архітектури XI-XII ст”. „Архітектурні пам'ятники” за ред. С. Я. Грабовського. (А. А. УРСР, Київ, 1950), ст. 49-53.

occasional error, we may say that the investigations of St. Sophia, conducted by the scientific staff of the St. Sophia Architectural and Historical Museum (founded 1929) under the direction of Professor Morhilevs'ky, produced results satisfying the requirements of scholarship. They made possible the execution of exact survey drawings of the church as well as of a reasonably plausible reconstructive model representing St. Sophia in its original aspect (now among the exhibits of the St. Sophia Architectural and Historical Museum). The reconstructive drawings of the cathedral

executed by K. J. Conant (in collaboration with Morhilevs'ky) are somewhat related to this model.⁸¹ These drawings show the cathedral in two variants, namely, in its unfinished state (with a single one-story gallery and without the tower leading to the gallery) and in its completed aspect (with the interior two-story gallery and the exterior one-story gallery and the two towers). These studies by Professor Conant are very interesting and impressive in their execution. They reflect with reasonable accuracy the latest conclusions of scholars as to the original appearance of St. Sophia. Nevertheless, in his variants of the reconstruction of St. Sophia, Professor Conant did not express the nuances of the refined architecture of the Grand Princely period. His reconstructions fail to give full expression to the building materials of the church: the almost flat roofs over the exterior galleries, the almost three-centered vault roofing, the low-rounded roofs of the cupolas, the cylindrical drums — all these remind one rather of concrete structures than of the brick buildings of the Grand Princely period. But for that, the drawings of Professor Conant are a valuable scholarly contribution since they render the basic masses of the cathedral correctly. In his reconstructive schemes of the façades and his perspective drawings, Professor Brunov represents St. Sophia with only a single one-story gallery.⁸² He holds the same opinion in comparing the cathedral with the *Sobor* of Basil the Blest. In these schemes Brunov gave the cathedral a rather squat appearance, deforming the proportions not only of the general architectural masses of the church but also of its individual parts (such as cupolas, drums, roofing of the apsidal conches, windows and niches). The comparison of Brunov's reconstructions with many of our illustrations, in which the cathedral is represented from all sides in its general and detailed aspects, makes one realize that these reconstructions are not true to the real proportions of the church and even omit certain details, for instance, the niches of the main apse and the imposts. A definitive reconstruction of the original aspect of St. Sophia as well as of the enlargements of the 11-12th centuries still remains a problem for the more or less distant future. For the time being, the model executed by the scientific staff of the St. Sophia Historical and Architectural Museum and the reconstructive drawings of Professor Conant have to be regarded as the plausible ones.

⁸¹ K. J. Conant, *Speculum* XI (1936), plates II-VII.

⁸² N. Brunov, "Kievskaya Sofiya-drevneishiy pamyatnik russkoi kamennoi arkitektury," *Vizantiiski Vremennik* III (1950), 162-165.

THE INTERIOR OF ST. SOPHIA CATHEDRAL

Even today, the interior decoration of St. Sophia impresses the visitor by its richness, although many an element of the Grand Princely period has disappeared. The massive cross-shaped piers of the ground floor dividing the cathedral into longitudinal and transverse naves; the arches and barrel vaults which cover these rows of piers; the slate imposts supporting the arches; the carved slate rails of the galleries and the sculptured marble sarcophagi; the clustered columns, bordered with shafts, of the triple arcades in the galleries; the mosaics of the dome, of the triumphal and lateral arches, and of the main altar apse, as well as frescoed compositions and the remains of old frescoes on the piers, over the arches and on the walls of the apses and towers — all this reminds the onlooker of the original grandeur of the decoration of the Ukraine's most important shrine.

The present lighting differs from that of the Grand Princely period since augmentations and superstructures, caused by the need to restore the cathedral after repeated sacking, diminished the amount of light in certain parts of the cathedral and especially in the northern and southern naves created by the interior galleries. A number of ancient window sashes with octagonal lead casings have been preserved and are on exhibit in the narthex. Most of them date from the 17th century; it is possible, however, that the window of the Grand Princely period had the same form and the same octagonal casing. Some remnants of the once rich architectural ornamentation of the cathedral may be seen in the narthex and the baptistry where most of the exhibits of the St. Sophia Architectural and Historical Museum are housed. Here, along with the specimens of building materials of the Grand Princely period, certain architectural details are on exhibit. Samples of building materials from St. Sophia, the Cathedral of the Transfiguration in Chernihiv, the Dormition Cathedral of the Yeletsky Monastery of the same city and the Tithe Church of Kiev, have been collected in the baptistry. In the narthex are exhibited Princely sarcophagi carved in stone (slate and marble), fragments of the old mosaic floor of the *Desyatynna*, the Church of the Virgin of the Tithe, the remnants of the original lead roofing of St. Sophia, and the bricks of the Grand Princely period bearing the stamps of 11th and 12th century artisans. Gypsum reproductions of stamped ceramics produced by the kilns of the Princely period, panels, fragments of marble from various ornamental features, marble capitals, bases and shafts of the columns of the former marble portico, the marble carved capitals from the small columns of the chancel barrier of the 11th century and the fragments of the carved marble jambs of the former western portal of the cathedral are here also. The motives of the carved ornamentation on these fragments can be encountered even today in Ukrainian woodcarvings. Among other carvings coming from Kievan churches, a fragment of a slate panel covered with a braided all-over design deserves special men-



The metropolitan's marble throne, adorned with mosaic (main altar apse).

Мармуровий оздоблений мозаїкою митрополичий трон
в головній вітлярній апсиді.



Left, flying buttress of the western exterior gallery (uncovered by Professor Morhilevs'ky in 1939). Right, window of the altar viewed from inside.

Аркбутан західньої зовнішньої галерії (ліворуч). Виявив проф. Моргілевський в 1939 р. Вікно вівтарної апсиди зсередини (праворуч).

tion. Also in the narthex are exhibited the so-called "loud-speakers" of the 11th century which look like ordinary pots of baked clay immured into the vaults and pendentives in order to diminish the weight of the structure and provide resonance. In one of the showcases, fragments of the original 11th century mosaic floor of the cathedral, destroyed by plunderers, and polychrome tiles from the 17th-18th century floor which had replaced it, are displayed. In order to acquaint the visitor with the technique and process of the execution of mosaics and frescoes, fragments of frescoes, mosaics, and smalto have been placed in cases in the narthex. The fact that the smalto was prepared locally (as stated by V. Khvoyko during the excavations in the Tithe Church) has been confirmed by excavation in St. Sophia during which slag connected with the production of smalt was found. Among the architectural details that came to light during the excavations of 1939, the remnants of marble thresholds in the western and northern portals may be inspected *in situ*. These thresholds, as well as the southern one uncovered in 1936, show the level of the original floors. In this connection, it was found that the floor of the central part of the church was somewhat lower than those of the interior galleries.⁸³ A slate panel (inlaid with smalto) found in the southern arm

⁸³ M. Karger, *Arkheologicheskie issledovaniya drevnego Kiev* (1951), p. 245.



Marble capitals from the 11th century chancel barrier.

Мармурові капітелі з передвітарної перегороди 11 ст.

of the architectural cross of the plan, in itself an important discovery, also enables us to establish with exactitude the original level of the floor of the church. In the western arm of the cross the bases of two octagonal brick piers uncovered during the excavations of 1939 may be inspected. Built on foundations (which also run under the walls and supports of the cathedral), these piers once supported the triple arch and the wall surmounting it, on which the central fresco showing part of Grand Prince Yaroslav's family (Grand Prince Yaroslav, Grand Prince St. Volodymyr and Grand Princess Irene) was depicted. This triple two-story arcade was analogous to the southern and northern arcades and set off the western part of the gallery. Now the gallery in this part is shorter because during the reconstruction of the cathedral, its western part, being in the greatest state of ruin, was not restored to its original form. In the altar part of the cathedral, remnants of old floors, uncovered by the removal of the 19th century cast iron panels, are visible.

The original mosaics of the 11th century constitute the lowest layer. These are covered by a second layer of glazed tiles from the 17th century and a third layer of hexagonal tiles from the 17th-18th centuries. The investigations by Mileev (1909) of the outer southern nave and its western wall, including the apse of the altar of Archangel Michael, were resumed in 1936. These detailed excavations brought to light fragments of the original mosaic floor in the southern arm of the cross (between the piers of the southern triple arches and the slate mosaic incrustations). In the altar of the Archangel Michael, only small remnants of the later floor of glazed tiles (17th century), rising 20 to 25 centimeters above the level of the original one, were found.

In 1939-1940, according to the schedule elaborated by the Learned Council of the St. Sophia Monument, the floor areas of the central nave, the two northern ones and the southern nave bordering the central, were



Marble capitals from the 11th century chancel barrier.
Мармурові капітелі з передвітарної перегороди 11 ст.

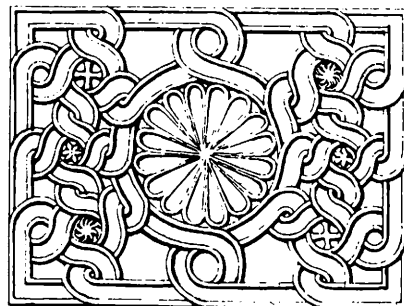
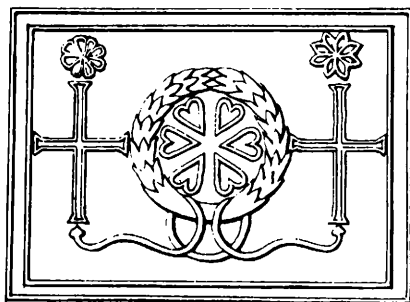
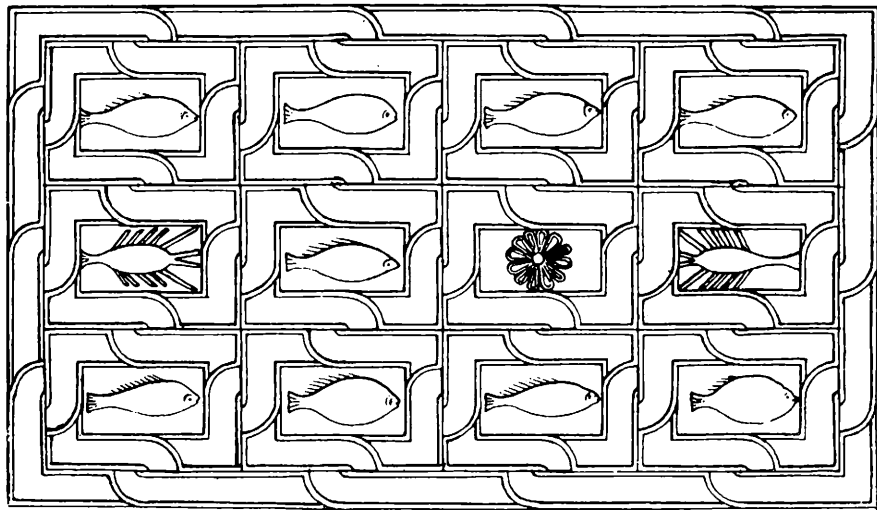
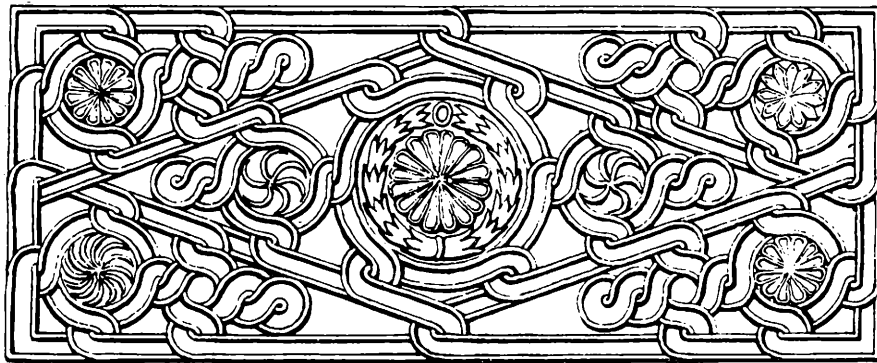
completely uncovered. After the removal of cast-iron panels, brick and sand cushion courses and other substructures of the 19th century floor, the compact and strong mortar bed of the original floor was reached at a depth of 0.60 to 0.70 meters. This foundation of the original mosaic floor (possibly containing some mosaic fragments) was completely destroyed by the excavations for the canals of the air heating system in 1882 as well as by the digging of graves during the 17th, 18th and 19th centuries, which were uncovered during the archeological excavations of 1936.⁸⁴

In the better preserved parts of the 11th century floor foundations, however, it is possible to follow the technical process used in the mosaic work of that time. The preparation of the surface consisted in the laying of three beds. The first, a rendering of lime mortar with brick dust, received, after smoothing and hardening, a thin layer of mortar. Upon this still wet intermediate bed, the outline of the mosaic design was made with some sharp metal instrument. The mosaicist followed this sketch in setting the tessellae in the (third) wet setting bed of the floor. The exactitude with which the trimmings, circles and the design of the composition were executed points to the use of rule and compass by the artisans.

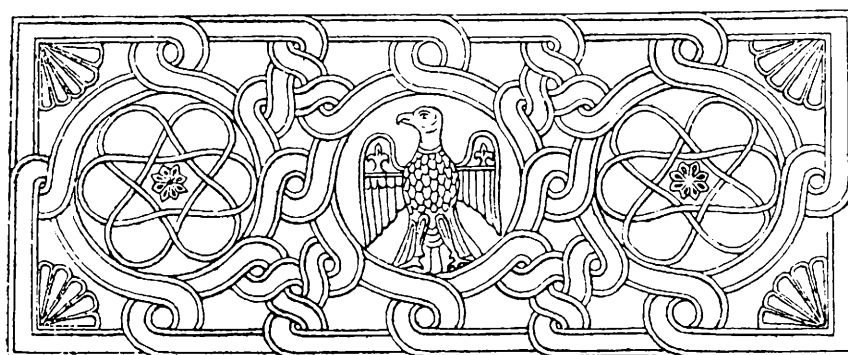
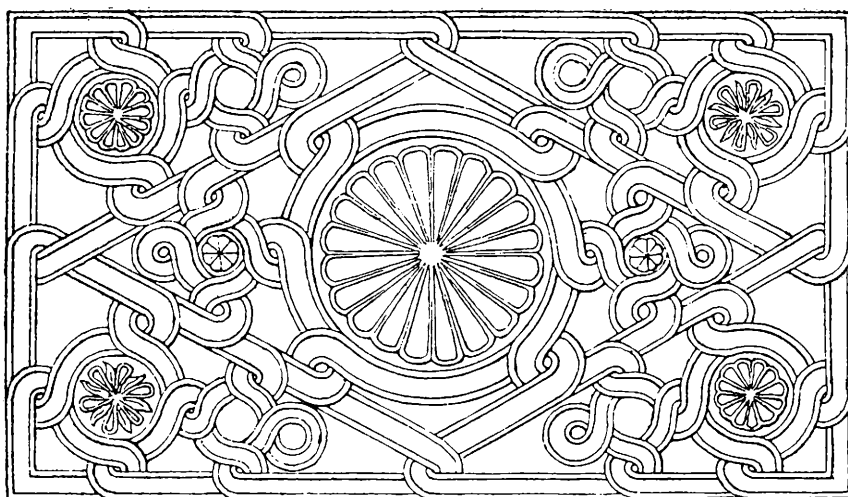
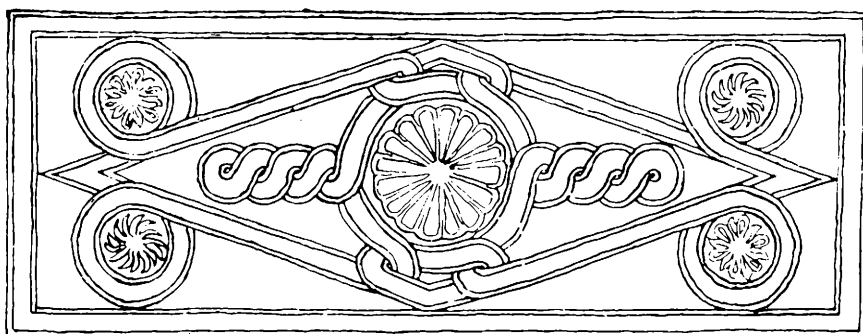
Four mosaic fragments were disclosed during the excavations, the best preserved being the fragment found between the piers of the southern triple arch of the main nave. In the same area, east of the southeastern pier, traces of early repair of the mosaic floor (not later than the 12th century) were discovered. This restoration was made necessary by the warping of the floor, caused by the settling of the pier. D. Mileev observed a similar phenomenon in the altar area of the cathedral.⁸⁵

⁸⁴ *Ibidem*, p. 230f.

⁸⁵ D. Mileev, "Drevnie poly v Kievskom Sobore sv. Sofii," *Sbornik arkheologicheskikh statei*, (St. Petersburg, 1911), p. 215f. Cf., also, M. Karger, *op. cit.*, p. 233.



Bas-relief stone parapets of the upper part of the galleries.
Різьблені шиферні парапетні плити верхньої частини галерій.



Bas-relief stone parapets of the upper part of the galleries.
Різьблені шиферні парапетні плити, верхньої частини галерій.



Fragment of the marble doorframe of the portal.
Фрагмент мармурового одвірка порталю.

Near the northern triple arch, between the octagonal and the cross-shaped piers, where fragments of a slate panel with smalto encrustation had been found, fragments of mosaic floor and mortar bed with a sketch on it came to light. The design here differs from that of the area of the southern triple arch in that it displays only intertwined, concentric circles of various diameters, while in the southern part straight lines were predominant in the composition. Unfortunately both in the southern and the northern areas the heating canals of 1882 cut through these fragments.

In the Peter and Paul altar the fourth group of mosaic fragments and mortar bed with design were laid bare. Here, as well, the heating canal had cut through the middle of the floor (or the mortar bed); nevertheless, on the basis of the remaining mosaic and design, it is possible to form an approximate idea of the mosaic composition of the floor of this altar. The border strip was executed in multicolored smalto (yellow, green, violet and blue), square and triangular in form and arranged in a checkered design. The design and the color scheme of Ukrainian textiles is reminiscent of the sequence of the multicolored squares and triangles of this mosaic pattern.

During the excavations conducted in the main altar apse in 1940, three floor levels were ascertained below the parquet flooring of 1909 which had replaced the cast iron floor of 1882. 0.25 meters below the parquet floor was the 18th century floor made of hexagonal tiles; 0.70



The marble threshold of the western entrance.

Мармуровий поріг західного входу.

to 0.75 meters below the parquet floor the archeologists hit upon the 17th century floor of thin, round, multicolored tiles (blue, yellow, green, white) and gaged green tiles. In the lower part of the walls of the altar apse, the gaps in the 11th century mosaic panel, situated below the mosaic representation of the Church Fathers, were filled with the same type of tiles, only square in form and adjusted to the character and colors of the panel. Both the repair of the panel and the laying of the glazed tiles in this part of the floor is to be dated to the time of the decoration and repair works sponsored by Metropolitan P. Mohyla (the forties of the 17th century).

In places where the 17th century glazed tiles were destroyed, M. Karger disclosed fragments of the original mosaic floor. Its ornamental design was geometric, and the smalto was dark red, yellow, and light green. Owing to the small number of fragments, Karger was not able to reconstruct the general composition of the design of the 11th century mosaic floor. He limited himself to giving the description, made in 1911 by D. Mileev, that the composition of this floor consisted in a border of large dark red rectangular smalt tiles with an inscribed circle of identical tiles, the center of which was covered by a small circle. The intervals were filled by a design in smalto, triangular, rectangular and square in shape.⁸⁶

⁸⁶ M. Karger, *op. cit.*, p. 235f.



Fragment of the 11th century mosaic floor.

Фрагмент мозаїчної підлоги 11 ст.

Thus, this seems to have been a composition of the *omphalos* type known from palaces of Constantinople and churches of Khersonesus. Similar *omphaloi* were found in the churches of the Grand Princely period, such as the Tithe Church, the Dormition Church of Pereyaslav, the Twelve Apostles Church in Bilhorodka and the Annunciation Church in Chernihiv.

The multicolored mosaic floors of the St. Sophia Cathedral, the mosaic panel of the main altar with its characteristic design (either a checkered pattern reminiscent of the *plakhty* patterns or larger squares bordered with an indented ornament), and the choice of colors seem to be of local origin.

The decoration of the metropolitan's marble throne, the *synthronon* of the main altar and the decoration of the cross set into the wall of this altar display the same characteristics. Here, the Byzantine carved braiding on the back of the throne and the inlaid filling of the bow above the cross is freely combined with the local motif of incrustation by means of equilateral triangles (p. 86).

The same observation applies to the carved slate panels of the parapets, set between the piers of the arcades. Their very material (Volynian slate) points to local workmanship. The division of their relief by axes of symmetry and individual geometric figures, as well as the fact that the carvings cover their whole surface, are repeated in modern Ukrainian woodcarving. Of course, in this case we are dealing with a widespread Byzantine braided motif and symbolic decoration (crosses, Chrisma, fish, birds, etc.). Eleven of these parapet panels have been preserved in the galleries, in addition to two panel fragments. The carving of the parapet panels are closely related to the sculptures on the sarcophagi, the fragments of marble jambs and the marble capitals on the columns of the



Fragment of 11th century mosaic floor.
Фрагмент мозаїчної підлоги 11 ст.

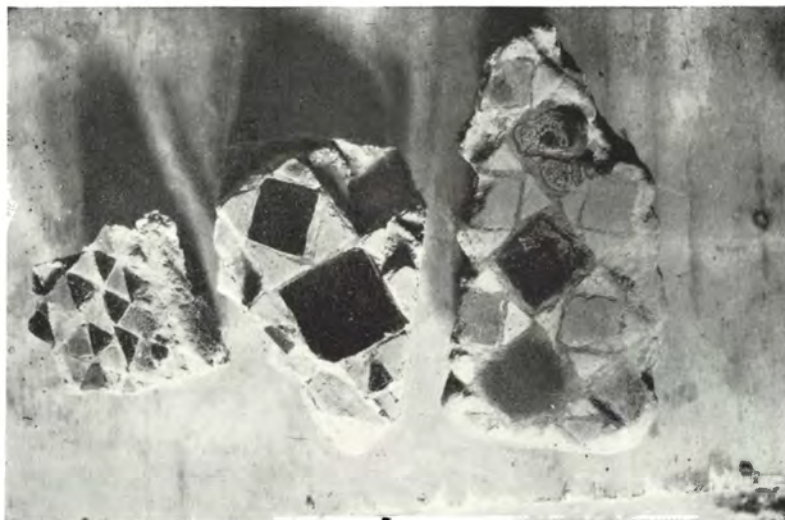
chancel barrier (or on the ciborium over the altar, according to P. Lashkarev and Y. Aseev⁸⁷).

From among the icons made by old local painters, the cathedral possessed the icon of St. Nicolas (Mokry) until it was removed by the Germans in 1943. It was made not later than the 14th century. Kept in a small oaken ambry, the icon hung in the St. Nicholas nave of the gallery. Its gilded silver sheathing dated from 1840. A few years before World War II, the icon was cleaned by the restoration shop of the so-called All-Ukrainian Museum *Horodok* (formerly the Kiev-Pechersky Monastery). It is to be considered among the most prominent examples of early Ukrainian icon painting. After the confiscations mentioned above (Chapter I) only a very small number of old icons remained in the cathedral.

Large segments of the cathedral's decoration date from the 17th to the 19th century. Among these belong the 19th century oil paintings, covering the old frescoes and filling the gaps in the mosaics, the (much less extensive) paintings of the 17th and 18th centuries and the 19th century cast iron panels, set 0.70 meters above the level of the original mosaic floor.

Artistically, the most valuable parts of the later interior decoration date from the period of the Cossack hetmans (17th and 18th centuries).

⁸⁷ P. Lashkarev, *Tserkovno-arkheologicheskiya ocherki, issledovaniya i referaty*, (Kiev, 1898), p. 159, where the author says: "These columns may have been part of the chancel barrier. It is more probable, however, that they supported the ciborium over the altar, since at that time the sanctuary without a ciborium was unthinkable." Y. Aseev in *Ornamenty Sofiys'koyi* (ed. S. Hrabovs'ky, Kiev, 1949), p. 7, says almost the same thing.



Fragments of the 11th century mosaic floor.
Фрагменти мозаїчної підлоги 11 ст.

The skillfully carved and richly gilded wooden iconostases have to be mentioned in first place. The iconostasis in front of the main altar, erected in 1731-1747 by Metropolitan Raphael Zaborovs'ky is the most interesting specimen of 18th century Ukrainian wood carving. It replaced a wooden iconostasis of the 17th century, made under the auspices of Mohyla. In the 11th century the emplacement of the iconostases was occupied by a low marble chancel barrier. The 18th century iconostasis has not remained in its original form. At first, it was composed of three bands of icons; now, only the lower band remains in place. The upper band was removed in 1853 and the middle one in 1888. It was installed in the altar of the Presentation nave. The rich carvings of the iconostasis were executed by skilled local masters in Ukrainian Baroque style with some rococo elements. Some echoes of the Renaissance are felt in the general composition of the iconostasis.

The vine motif, widespread in iconostases of Ukrainian 17th and 18th century churches, has been replaced in the St. Sophia iconostasis by a rose design which picturesquely winds around the spiral columns. This motif was widely used in the Renaissance as well as in the Baroque. All of the other iconostases of St. Sophia (eight of which were of particular interest) were destroyed by the Soviet authorities between 1935 and 1940.

The silver royal gate of the iconostasis (also confiscated by the Soviet Government) was a true masterpiece of Ukrainian metal work. In happy harmony with the Ukrainian ornamentation, figures were cast in each of the panels of the gate, representing the Annunciation (above), the four Evangelists (in the center) and King David flanked by SS. Joachim and Anna (below). The royal gate was executed on the order of Metropolitan Zaborovs'ky by the Kievan goldsmiths Petro Volokh and