

THE CHARTERHOUSE OF MONNIKENHUIZEN (ARNHEM)

by

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ca. 1000

The landscape

The former monastery Monnikenhuizen is situated in a side-branch of one of the large erosion-valleys in the southern slope of the ice-pushed ridge of Arnhem (Southern Veluwe).¹ The highest point in the surroundings (Galgenberg = Gallows hill) is almost + 90 m NAP. The neighbouring river plains of Rhine and IJssel have a level of about + 10 NAP (fig. 1). Next to the above-mentioned valley is a S-N running erosion-valley, where the castle of Rosendael - residence of the counts and dukes of Guelders, founders and benefactors of the Carthusian monastery - is situated. The former road from Arnhem to Rosendael (see map of Van Deventer) runs for a large part through the SW-NE orientated valley (fig. 2). Rosendael, like Monnikenhuizen, is situated at an unusual altitude (ca. + 35 m NAP) for the Middle Ages. This is possible, among other things, because of the special hydrological circumstances. In both valleys there are springs, forming the origin of brooks (the Molenbeek and the Rosendaalse beek respectively).² Most of the settlements at the southern edge of the Veluwe originated at the foot of the ice-pushed ridge (10-15 m NAP) at the transition of high to low, and of dry to wet.

The valley³ in which Monnikenhuizen is situated has a preponderating SE-NW orientation. Near the monastery it splits into three valleys, orientated S-N, SE-NW and E-W respectively (fig. 3). The place where they split, or rather where they join, the valley forms a kind of plateau, where the monastery must have been built (fig. 4).

* The author is grateful to G.F. Willemsen, who translated the text into English.

1 During the Saalian glacial - to be correlated with the alpine Riss - the inland ice reached the middle of the Netherlands. The ice, proceeding through the river valleys pushed up the sediments. Along the edges of the ice lobes the so-called ice-pushed ridges were created. Especially in the Veluwe area high ice-pushed ridges are found, in the southern part they can be as high as 100m NAP. During the cold middle part of the last glacial, the Weichselian (to be correlated with the alpine Würm), the permafrost and the abundant melting water during the spring caused the creation of large valleys in the ice-pushed ridges by solifluxion and erosion. The transported material was laid down as a talus fan in front of the valley mouth. At the edge of those fans settlements were formed, e.g. Arnhem.

2 Springs were of great importance for man and animal as they supplied large amounts of clear and drinkable water, always $\pm 10^{\circ}$ C, both in summer and in winter.

3 The erosion valleys in the ice-pushed ridges can be divided in "consequent" and "subsequent" valleys. The former are oriented perpendicular to the general trend of the ice-pushed ridge; the latter parallel to it, along certain erosion-sensitive strata, such as fine sands. In fine materials ice lenses are formed

Immediately north and east of the probable location of the monastic chapel, a difference in height of 10 to 15 meters over a horizontal distance of some tens of meters occurs (fig. 5). Expansion of the monastic buildings in those directions was not possible. The hills were, according to the map of Van Geelkerken, covered with heath and bushes. For agricultural use they were unsuitable, because of the strong relief. From the hill tops, now covered by wood, one must have had a superb view over the monastery.⁴

The above-mentioned hills form the eastern boundary of the S-N running valley, which is suitable for agriculture (fig. 6). The bottom of this valley is rather flat. The soil consists of fertile loess and/or fine cover-sands.⁵ The situation of the valley has been determining for the boundaries of the grounds of Monnikenhuizen as given on the maps of Van Deventer and Van Geelkerken. The Monnikhuizerbos (= woods of M.), mentioned in some mark rights,⁶ probably was situated, before its degeneration to heath,⁷ on the

during freezing. After melting more water is present than the pores between the particles can contain and soil creep can occur. Probably, this is why the valleys are relatively deeper where the preglacial deposits are coarse, because deep erosion dominates solifluxion more than in fine deposits. Subsequent valleys are relatively deeper than consequent valleys because the easily eroded strata are rather narrow. Concluding, it can be said that consequent valleys have a rather weak relief and gentle slopes, making intensive agriculture and building possible, while subsequent valleys have a rather sharp relief.

4 In 1449 the prior and "convent" of Monnikenhuizen bought one of these hills from the co-owners of the Monnikhuizerbos because they were bothered from those hills ("van wilder geselschap in hoeren cloester oversyen, belast ende gestoirt worden"). See: Chr. de Backer, *De kartuize Monichusen bij Arnhem. Prosopografie samen met de regesten van de zopas ontdekte oorkondenschat*. In: *Historia et Spiritualitas Cartusiensis*, 1982, p. 69-155, regist no. 67.

5 After the valleys were formed it was dryer and still cold. The valleys were partly filled with eolian (cover sands and loess) and solifluctive and water-eroded sediments. A clear but by many factors disturbed relation between the valley morphology and the character of the preglacial subsoil on the one side and the thickness and structure of the deposits on the other side is present. In deeper valleys (subsequent, coarse preglacial) rather thick filling deposits occur (strong solifluxion and easy catching of eolian material). They often have a mixed character. In less deep valleys the eolian element is dominating. Differences in structure, thickness and mineralogical composition of the deposits are reflected in the pedological and vegetation pattern, and in the use of the soil. (The facts in the notes 3 and 5 are taken from: D. Teunissen, *Het middennederlandse heuvelgebied*, (Thesis: State University of Utrecht, 1961)).

6 See: A.J.M. ten Hoedt, *Het Rheder- en Worthrhederbos; enkele aspecten van de Veluwe maalschappen in de late Middeleeuwen*, (unpublished report Catholic University of Nijmegen, 1980). In the archives of "het Huis Vornholz", cat. nr. 1378, fol. 6, a mark right of the Rhederbos and the Monnikhuizerbos occurs, resembling the rights of the Arnhemmerbos in the archives of "het Huis Klarenbeek", cat. nr. 1, fol. 13v (the year mentioned is 1408); in the archives of "het Huis Cannenburg", cat. nr. 614, fol. 4 a right of the Rhederbos, Arnhemmerbos and Monnikhuizerbos occurs, which is almost identical to the right of the Rhederbos and the Monnikhuizerbos (all rights are stored in the State Archive of Guelders in Arnhem). Whether the rights of the Monnikhuizerbos even were applied to the Monnikhuizerbos is to be doubted. Maybe the mark right discovered by Chr. de Backer (see: Chr. de Backer, *De kartuize ... o.c.*, p. 78) can shed a little more light on this matter.

7 See note 4; the hill which they had bought was covered with woodland at that time.

heights, surrounding this valley. The ridge, situated west of the valley, forms the boundary with the SE-NW running valley (fig. 7), which, just as the next, E-W valley (fig. 8), probably did not belong to the grounds of Monnikenhuizen.

The southern slope of the E-W valley (fig. 9), which continues as the slope of the valley after the three smaller valleys join, probably influenced the situation and possibilities for expansion of the Carthusian monastery. The distance between NW and SW slope is at this location ca. 150-200m, so there was just enough space for the construction of the monastic buildings.

The soil of the slopes and in the valleys consists of "loo-podzolen", according to the soil map 1:50.000.⁸ This is a brown podzolic soil with a black to dark grey, humous upper layer of 30 to 40 cm which was created by import of dung from a "holtpodzol". The latter is still present in the bottom soil as a 20 to 30 cm thick, light brown to light yellow-brown "moderpodzol B".⁹ Borings done by the AWN (Archaeological Working Group for the Netherlands)¹⁰ fit, as far as can be judged, well into this picture. Often, however, the natural profile has been disturbed, and it is often impossible to drill by hand because of the debris (remains of the monastery).¹¹

By means of a detailed pedological and archaeological mapping it must be possible to establish the locations of the monastic buildings, especially in view of the fact that Carthusian monasteries were usually built according to a known pattern. A pedological mapping will possibly provide answers to questions such as at what level the monastery was situated with respect to ground level at that time, i.e., whether digging activities have been carried out, and possibly even more important, how the construction was determined and influenced by the local hydrological situation. The bottom of the valley must have been rather wet, east from the monastery; on the map of Van Geelkerken, an "elsgront"¹² is mentioned. Probably there were several wells;

8 Soil Map of the Netherlands, 1:50.000. Sheet 40 east and west (Arnhem). 1975 edition. Stichting voor Bodemkartering, Wageningen.

9 Rain water percolating downward may carry material from the upper layer (A-horizon), which is precipitated further downward (B-horizon). Two processes may occur. In poor soils humus, iron and aluminum is transported. This is found in podzolic soils. If the humus in the B-horizon is present predominantly as more or less round or less round particles of organic matter (moder), we speak of a brown podzolic soil (moderpodzol) and a moder-B. The other humus form consists of amorph humus. The second process occurs in rich soils. Clay and loam is transported. In a holtpodzol both processes are important, the first is, however, dominating (holt= wood).

10 See: Veldwerknieuws 1979/1980 van AWN afd. Zuid-Veluwe en Oost-Gelderland.

11 In the second half of the 16th century, the monastery Monnikenhuizen was pulled down. The material was used to fortify the city walls of Arnhem. See: Chr. de Backer, *La Chartreuse de Monichusen (Arnhem) et sa Bibliothèque. Analecta Cartusiana* 55:4, 1982, note 41, and Id., *De kartuize Monnikhuizen*, In: *Moderne Devotie. Tentoonstelling ter herdenking van het sterfjaar van Geert Grote 1384-1984. Catalogus*, Nijmegen, 1984, p. 67-71.

12 Els=Alder (*Alnus spec.*), kind of tree growing on wet grounds.

it is not known, however, whether the water supply was raised artificially by the construction of springs. To what extent the construction of ponds was in progress during the period of Carthusian occupation of the site is not clear. It is even possible that the most western pond (fig. 10) was created on the former monastic grounds.

The geomorphological background of the monastic site is very interesting in several respects. It shows great resemblance to the situation of Rosendael (see map of Chr. 's Grooten). Probably, it is not mere chance that Reinoud II of Guelders chose this location for the charterhouse, rather sheltered in a valley, with potential agricultural areas in the direct surroundings, rather uncommon hydrological features and reasonably isolated. More detailed research into the natural features of the area and their influence on the monastery is desirable.



fig. 1 The valley in which the former charterhouse Monnikenhuizen was situated. In the background the river plains of Rhine and IJssel are visible.

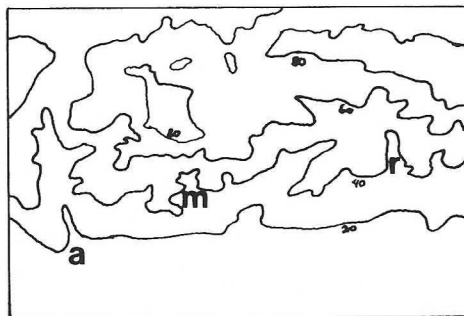


fig. 2 Contour lines near Monnikenhuizen and Rosendael.

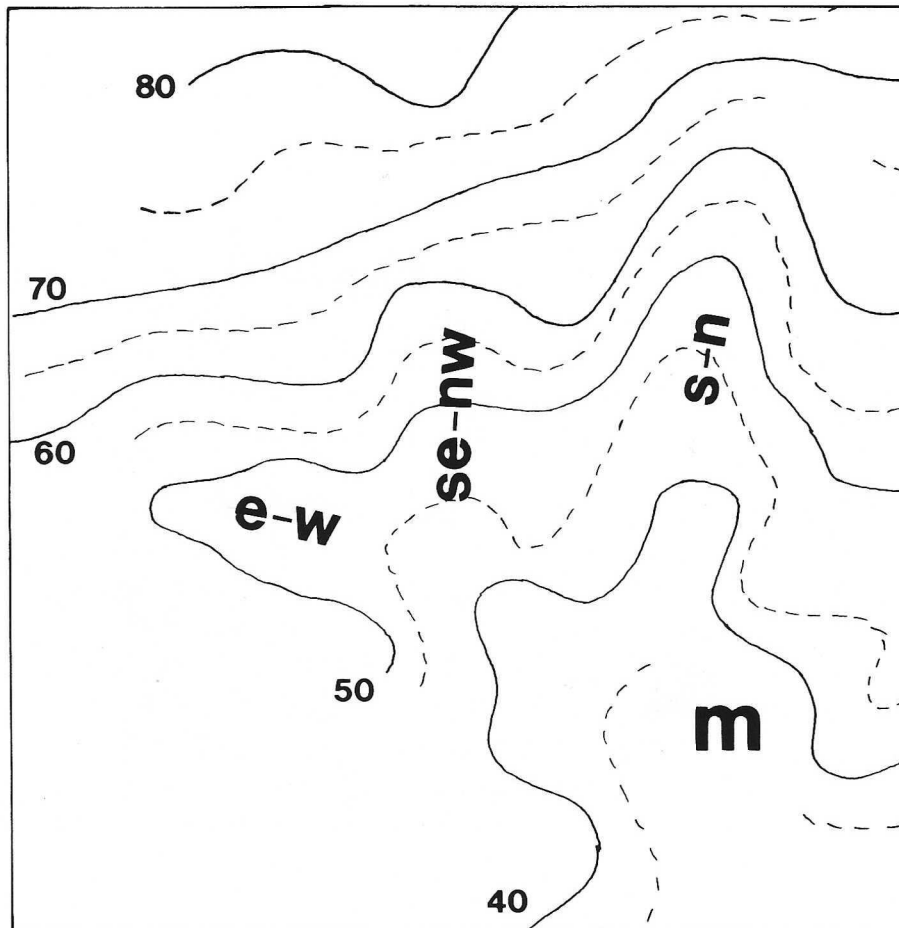


fig. 3 The tree valleys at Monnikenhuizen.



fig. 4 The plateau, where the monastery was probably built. Near the buildings at the left the 1930 excavation took place.



fig. 5 The hill north of the probable location of the monastery.



fig. 6 In the background the S-N running valley with a municipal nursery and allotments. On the left and right side wooded hills.

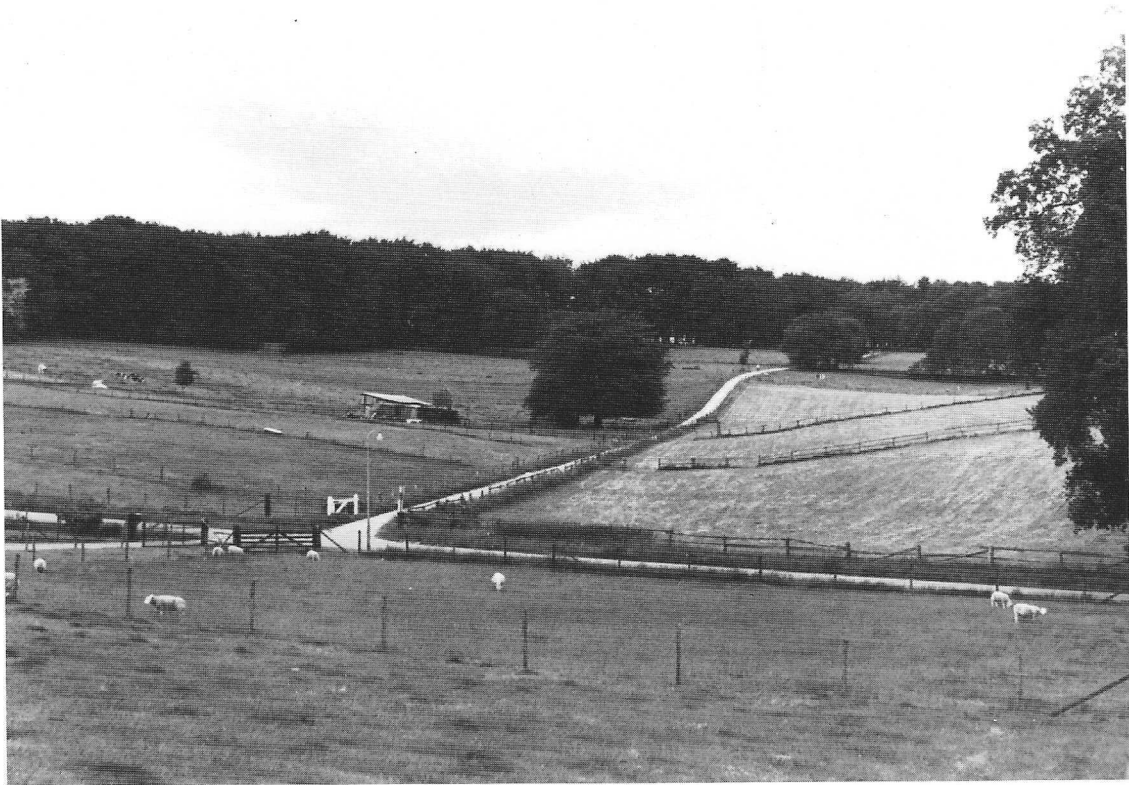


fig. 7 The SE-NW running valley with in the background the top of the ice-pushed ridge.



fig. 8 In the background the E-W valley. The trees at the right are on the ridge which forms the separation of the SE-NW and the S-N valley. In the foreground the plain on which the charterhouse was built.



fig. 9 The southern slope of the E-W valley.



fig. 10 The most western pond.

The excavation of 1930

In 1930, an excavation was carried out at the site of the former monastery Monnikenhuizen. Some information can be found in the annual report of the Gemeentemuseum Arnhem (Municipal Museum of Arnhem).¹ An exca-

1 Gemeentemuseum Arnhem, the annual of 1930: "Het hôtel-pension Monnikenhuizen, aan den rand van het Klarenbeeksche bosch, werd aan zijn bestemming onttrokken, om voortaan dienst te doen als buitenschool voor kinderen, die in aanmerking komen om in gezondere omgeving dan gebruikelijk, onderwijs te genieten. Het daaraan grenzende akkerland werd bestemd om er groote klaslokalen en eenige open rusthallen te bouwen.

Bij het graven der fundeeringssputten stuitte men op metselwerk van vroegeren bouw, wat geen verrassing kon baren, aangezien het bekend is, dat ongeveer op die plaats het klooster der Karthuizer monniken gestaan heeft.

Nadat door arbeiders van Gemeentewerken verscheidene stukken van den vroegeren bouw ontgraven waren, werd op 20 Januari de medewerking van den Directeur van het Gemeente-museum ingeroepen, om een verder onderzoek van den bodem te leiden. Bij het intusschen voortgang hebben der werkzaamheden, aan den bouw der nieuwe school verbonden, is van het Bureau van Gemeentewerken de noodige inschikkelijkheid en medewerking verkregen, zoodat dit onderzoek van den bodem, voor zoover dit mogelijk was, vrij systematisch kon worden verricht.

Met uitzondering van enkele onbereikbare gedeelten, was het geheele terrein onderzocht, toen op 27 Mei het werk ten einde was.

In de velden, die rondom het schoolterrein liggen, werd nog geen graafwerk verricht. Het voornemen bestaat echter, om later ook daar den bodem te onderzoeken.

Het leek dus van groot belang, door ontgraving de overblijfselen van den ouden bouw bloot te leggen, ze op te meten, te photographeeren en de situatie op een terreinteekening aan te geven, om over de grondvesten van het oude klooster vertrouwde gegevens te bekomen.

Een bevredigend resultaat te dien opzichte werd echter niet bereikt, omdat zelfs van de vrij diep gelegen fundeeringen te veel al verdwenen bleek te zijn.

Inderdaad bepaalden zich de aan den dag gekomen overblijfselen dan ook tot stukken van muur-fundeeringen, putten en tot eene menigte in zandsteen, enkele in syeniet, gehakte groote fragmenten van raam- en deurstijlen, gewelfribben en venstervullingen in Gotische vormen en verscheidene stukken met Renaissance-versiering en een kleine verzameling beschadigd figuraal beeldhouwwerk, voor het grootste deel dateerende uit het midden der 16de eeuw.

Een enkel kopje, in syeniet gebeeldhouwd, kan niet van lateren tijd zijn dan het midden der 14de eeuw.

Buitendien zijn er vele skeletdeelen gevonden en een aantal grafsteden blootgelegd, waarvan slechts één monniksgraf ongerept bleek. Bij opening van dit gemetselde, met een tongewelf gesloten graf werd alleen het skelet gevonden; metalen voorwerpen, staf, ring of kelk werden niet aangetroffen. De grafstede werd weder gesloten. Een viertal groote bredere grafsteden, naast elkander gelegen, die, in tegenstelling met die voor de monniken bestemd, ook aan den onderkant met gemetselden steen gesloten waren, bleken reeds vroeger geopend te zijn geweest; slechts enkele verspreide skeletdeelen werden op die plaats gevonden.

Zijn hier de graven van Willem van Gulik, zijne gemalin en twee kinderen aan te wijzen?

Op eenigen afstand van deze vier grafsteden werden inderdaad groote stukken gevonden van zware hardsteen zerken, die blijkens het iets ingehakte midden-gedeelte der oppervlakte met een koperen gegraaveerde plaat bedekt waren geweest, uit welke inschriften, - wanneer de platen behouden waren gebleven - het antwoord op bovengestelde vraag gelezen had kunnen worden."

vation report was never made.² Most excavated remains of buildings etc. were photographed (see appendix I), measured and mapped (scale 1:50, see appendix II). Stone fragments etc. were transferred to the Gemeentemuseum (appendix III).

Further information on the excavation can only be obtained from newspapers and periodicals from that time, - often they even contained photographs (fig. 1). The "Arnhemsche Courant" of January 20, 1930 states that remains of heavy walls have been found, probably foundations of the monastic chapel. In the most western part of the excavation site, four tombs filled entirely with sand, each measuring 2.25 x 0.80 x 0.80, were found. The vaults had been removed earlier. Near the tombs, two pieces of walls were found, probably remains of a SE-NW oriented façade. At other places, wall remains, perpendicular to this SE-NW line were found. At about 3 m distance from the tombs the skeleton of an adult man oriented NW-SE, was found at a depth of 1.50 m. Nearby a large piece of wall, pieces of worked granite³ with traces of leaded glass-work were found. So far the newspaper has not been quoted literally. The mentioned NW-SE directions are the same as the orientation of the valley in which the monastery is situated. On the 23rd of January the same newspaper mentions the discovery of a tomb with a skeleton of which the skull is missing.⁴

Of the excavation finds of Monnikenhuizen, - 109 numbers are listed in Appendix III, - only seven items can now be traced. Probably the other pieces were lost during the Second World War, which caused heavy damage also in the Gemeentemuseum.⁵

Preserved is now the figurative sculpture nr. 3, a head of Saint Peter (characterised by a baldish head, curling beard and moustache) from the 16th

2 In the annual of the Provinciale Geldersche Archeologische Commissie of 1930, published in *Bijdragen en Mededelingen van Gelre*, XXXIV (1931), it is mentioned that the history of the monastery Monnikenhuizen and the finds will be published in *Bijdr. & Meded. van Gelre*, XXXV (1932). This was never done.

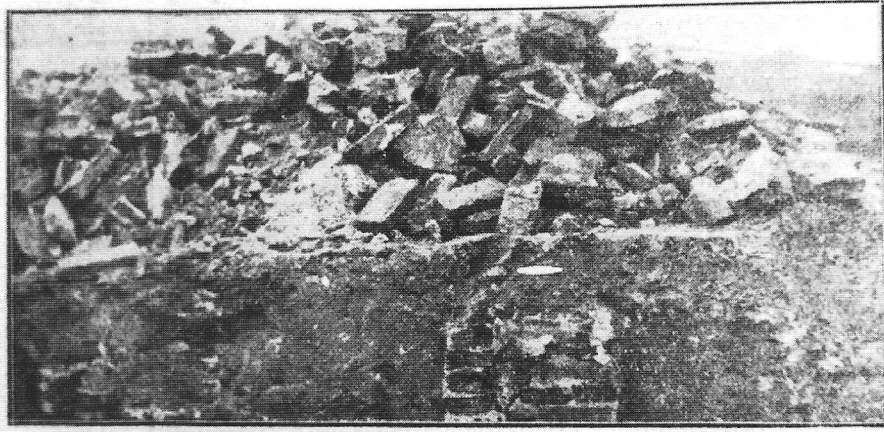
3 The excavation map mentions trachite, the annual report of the Gemeentemuseum and the catalogue mention syenite. A window fragment (cat. nr. 99) consists of trachite anyway. Syenite is a plutonite, trachite is the corresponding vulcanite. Both are rather poor in quartz and rich in feldspar. In trachite, the dominating feldspar is sanidine. Large idiomorphic crystals of sanidine are present, which crystallized in a period of slow falling temperature. The matrix (second generation crystals) formed after a sudden fall in temperature. Trachite has been used as a building material quite often. It is rather sensitive for erosion. It is found e.g. in the Eiffel and the Siebengebirge. In the Eusebius church in Arnhem Drachenfels trachite ("Draekenveldersteen", see: H.P.R. Rosenberg, *De Sint Eusebiuskerk te Arnhem*. In: *Bullitin K.N.O.B.* 6de serie 15 (1962), p. 190-211) has been used.

4 This is not to be seen on the photographs or excavation map.

5 In the direct neighbourhood of the museum the English and German troops fought each other in September 1944. After the Battle of Arnhem, the museum was in shell-fire of the allies during nine months. The most important parts of the collection were, however, transferred elsewhere.

century (fig. 2).⁶ Of the ornamental sculpture nothing is preserved; two fragments found during the 1980 excavation (AWN) give an impression of what has been lost (fig. 3). The sculptures belonging to the building itself are represented by key-stones of a rather complex vault (fig. 4-6), a key-stone of a window (fig. 6) and another window fragment (fig. 7). The latter consists, contrary to what the catalogue states, of trachite and not of sandstone.

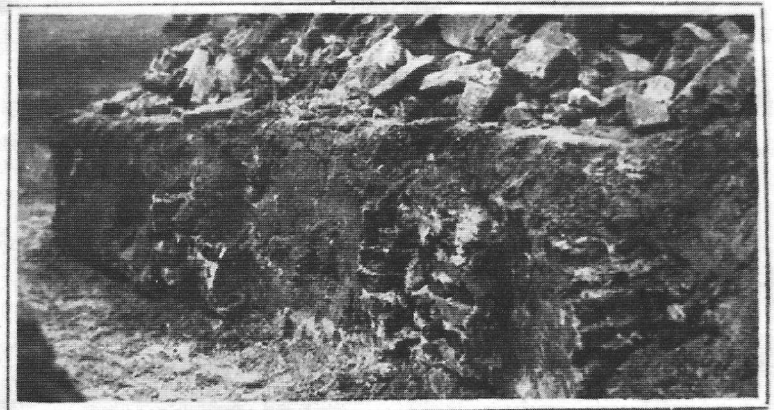
⁶ In the catalogue of the exposition "De oudste bewoning van Arnhem", Gemeentemuseum Arnhem, 1983, fragments of sculpture are indicated which are, contrary to the text, not from Monnikenhuizen but excavated near the monastery Nazareth at Oene (Guelders).



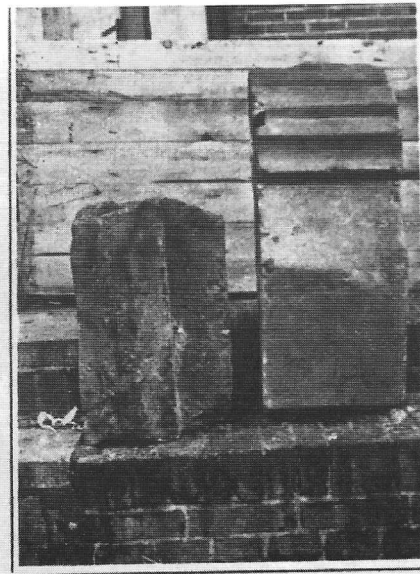
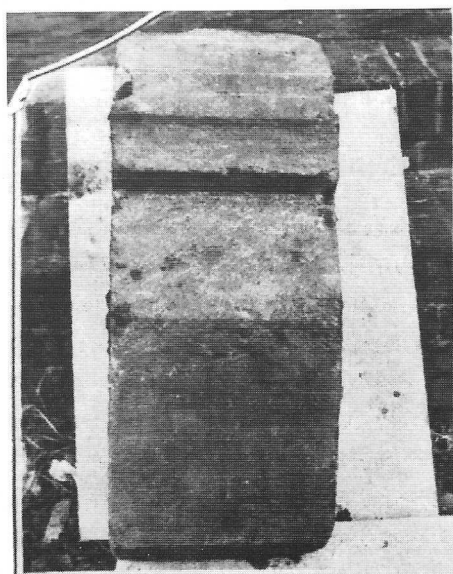
VONDSTEN OP MONNIKENHUIZEN TE ARNHEM. Bij het graven van sleuven voor de fundamente van de buitenschool stultte men op 4 grafkeldertjes, elk metende 2,25 M. \times 0,80 M \times 0,80 M.



De opgravingen naar de grondslagen van het oude Karthuis-klooster „Monnikenhuisen“ te Arnhem zijn in vollen gang. Op het oogenblik wordt een aantal stukken grafsteen naar boven gebracht.



Bij het graven van de sleuven voor de fundamente van de Arnhemsche buitenschool, ontdekte men 4 grafkeldertjes, elk metende 2,25 M. \times 0,80 M. \times 0,80 M. De opgravingen worden onder leiding van den heer Van Erven Dorens en de Directeur van Gemeentewerken Ir. Brinkman Visser voortgezet.



Eenige steenen van het vroegere Karthuiserklooster Monnikenhuisen (dat in de 13de eeuw gebouwd is) vond men tijdens de opgravingen bij Hotel Monnikenhuisen, dat verbouwd wordt voor buitenschool.

fig. 1 Photographs of the 1930 excavation in newspapers and periodicals.



fig. 2 Saint Peter (inv. no. 3)

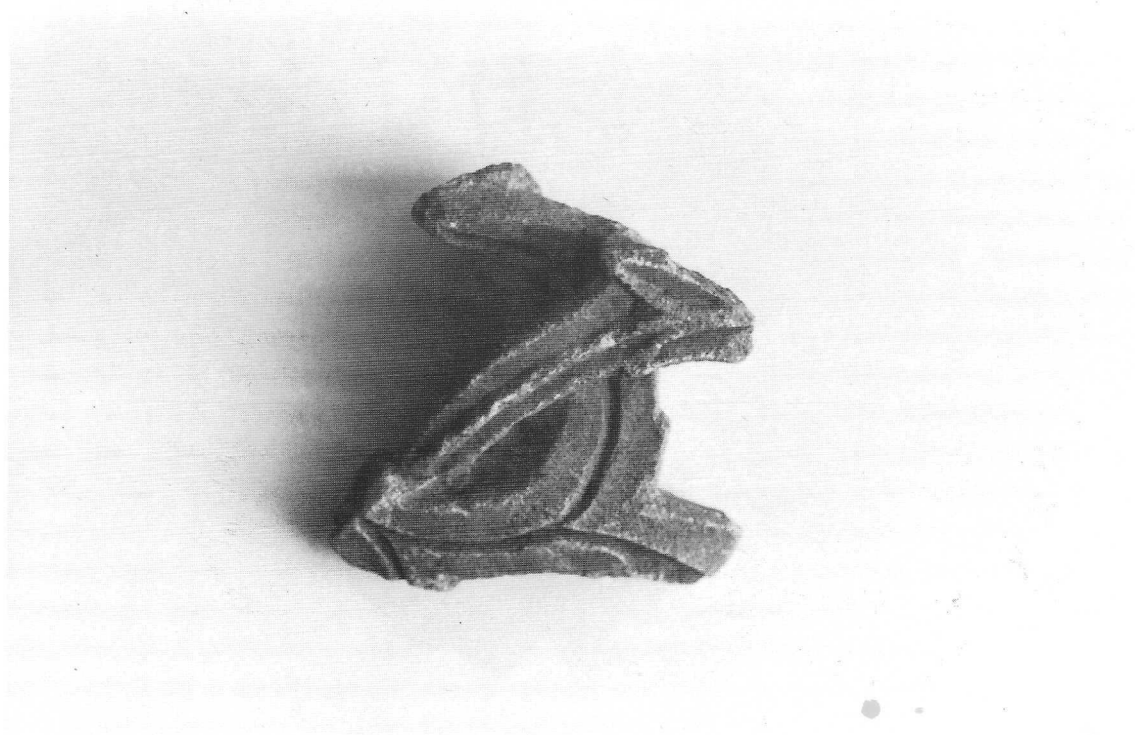


fig. 3 Ornamental sculptures found during the 1980 excavation.

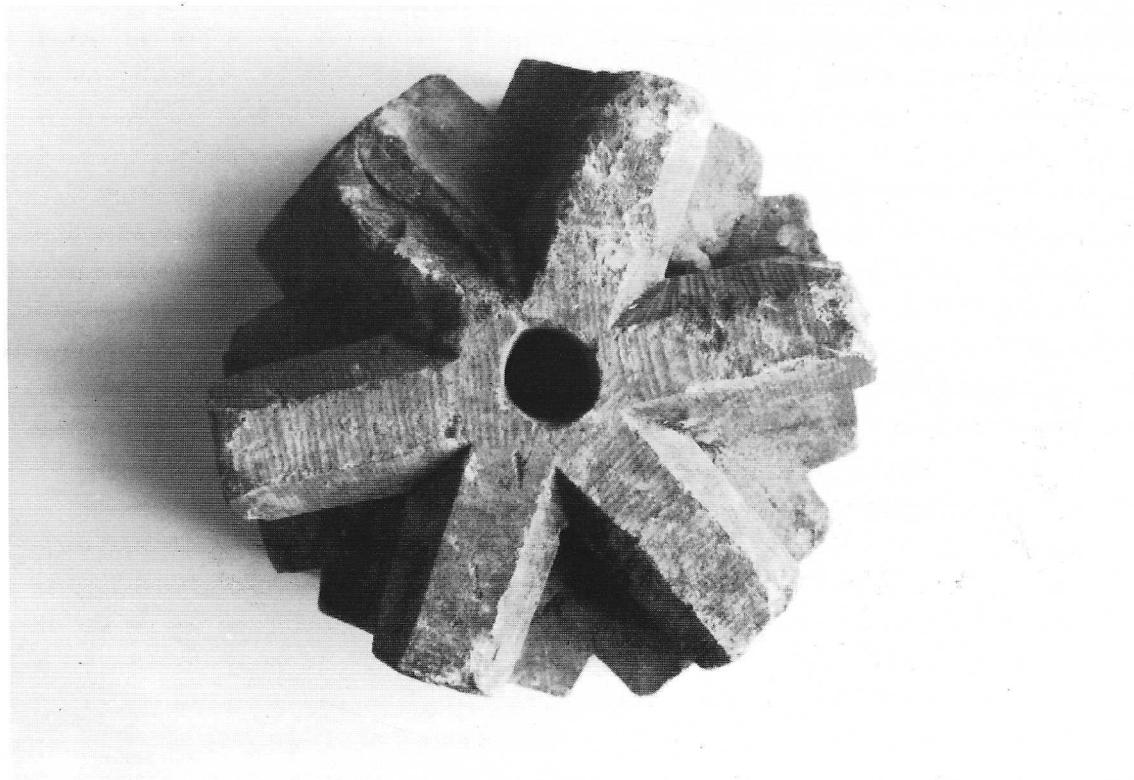
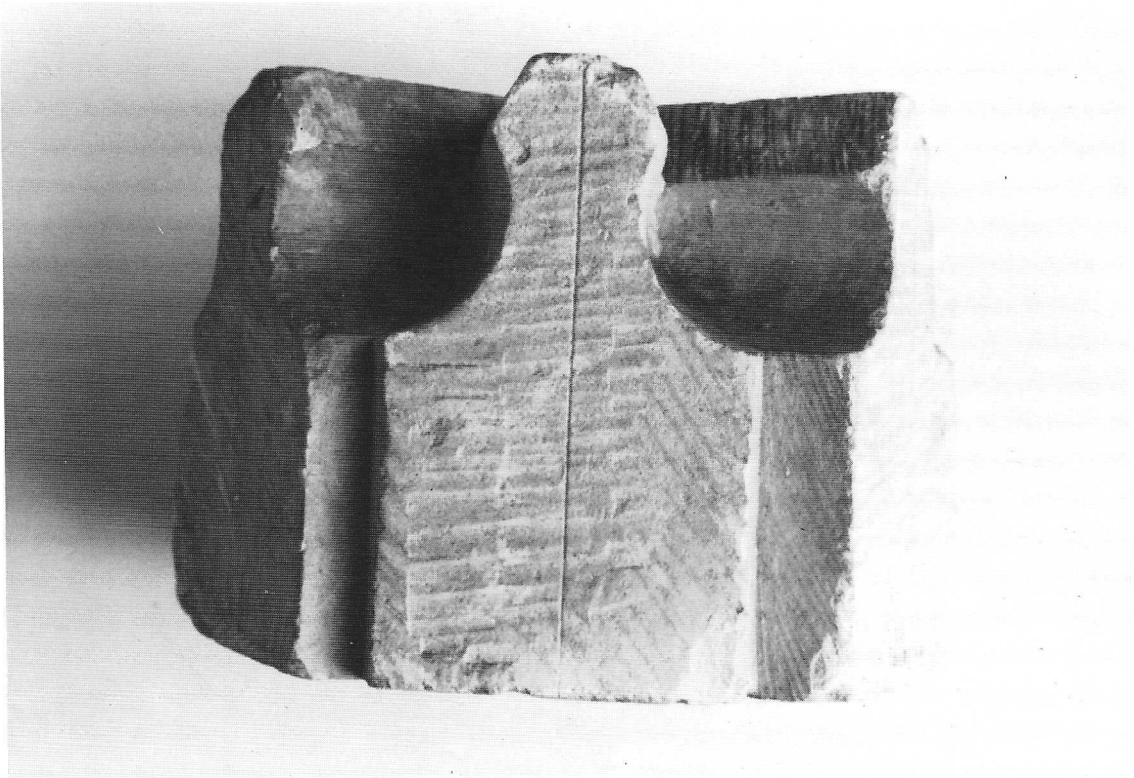


fig. 4 Key-stone with six ribs, frontal and from above (inv. no. 92)

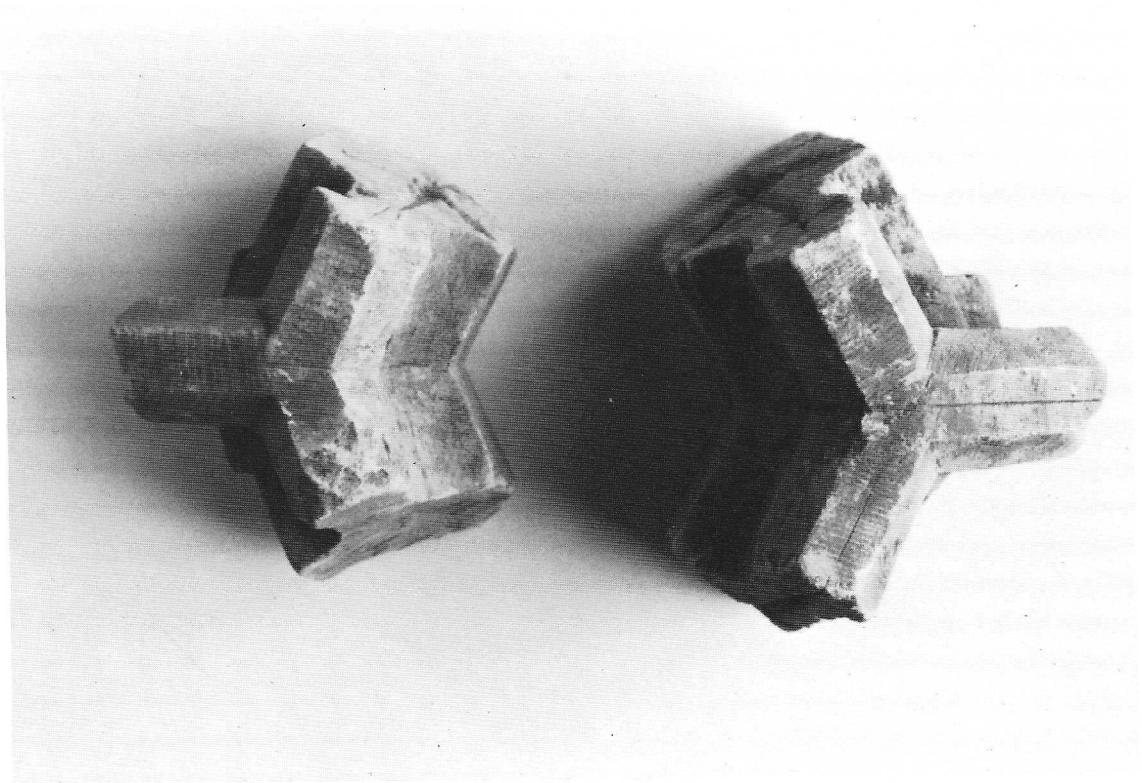


fig. 5 Key-stones with three ribs (inv. no. 83 and 86)

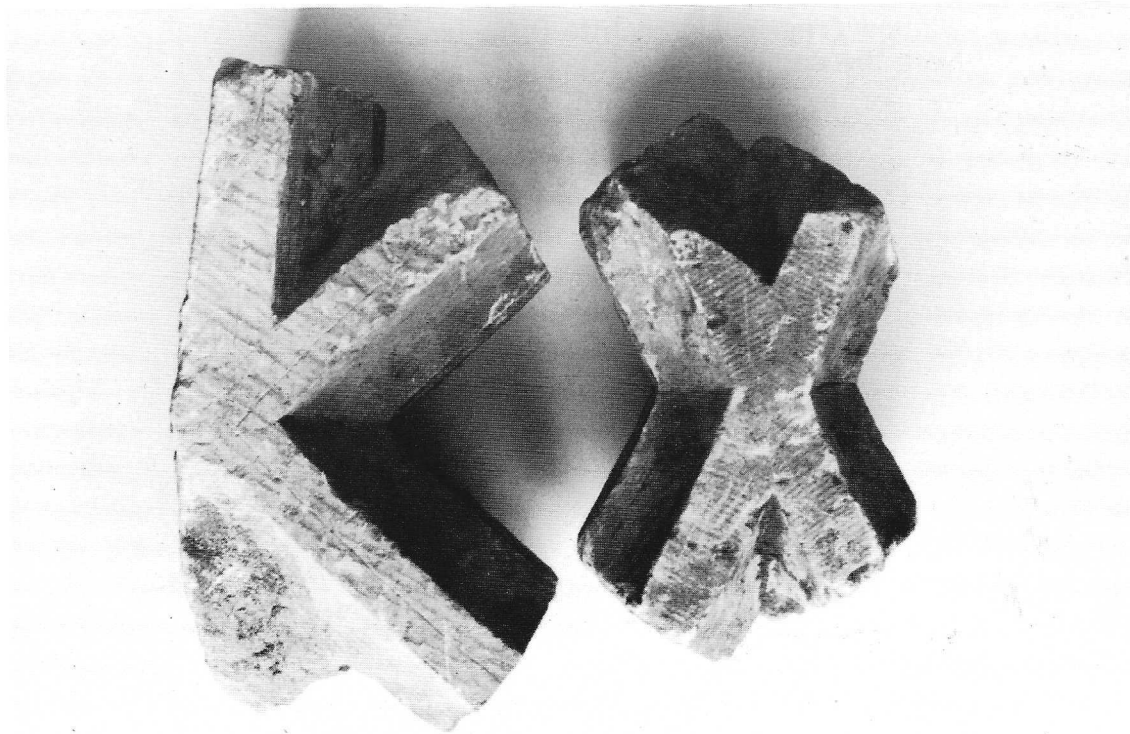


fig. 6 Key-stone with four ribs (inv. no. 91) and a key-stone of a window (inv. no. 90).

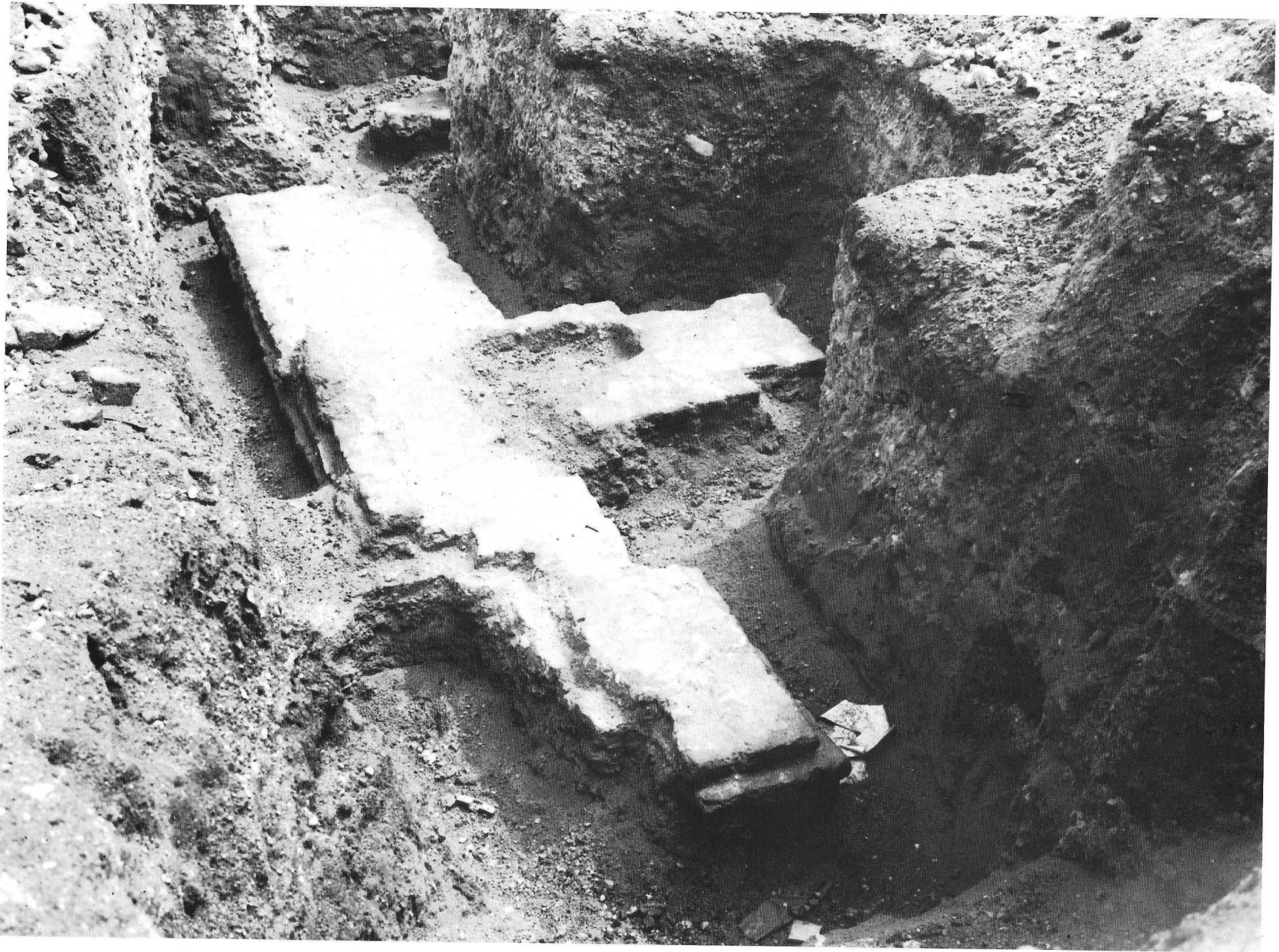


fig. 7 Window fragment, trachite (inv. no. 99).
Note the sanidine crystals.





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