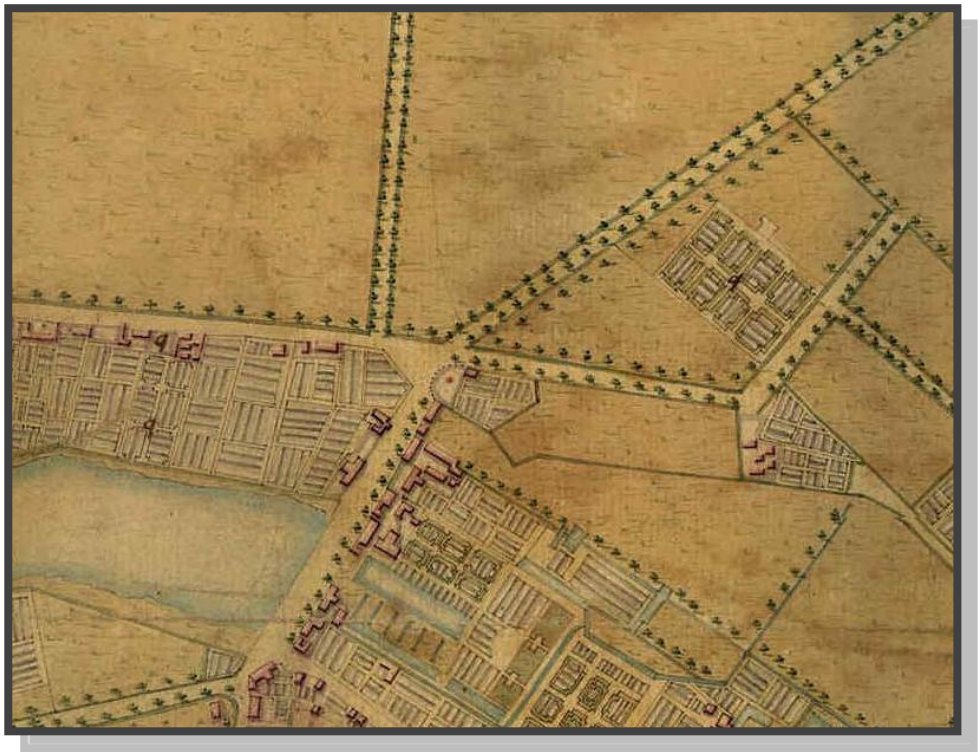
KØBENHAVNS MUSEUM / MUSEUM OF COPENHAGEN

Trianglen

KBM 3841, Indre Østerbro Kvarter, Simeon-Sankt Johannes Sogn, Sokkelund Herred, Københavns Amt

Kulturstyrelsen j.nr.: 2010-7.24.02/KBM-0015



Jacob Mosekilde

Front-page:

Close up of parts of the pastures that surrounded Copenhagen. With Trianglen in the middle, the triangular square was formed by the four roads that met there: *Plan of the City of Copenhagen and its fortifications*. Drawn by H.J von Czernikov in April 1769.

Københavns Museum

Vesterbrogade 59

1620 København V

Telefon: +45 33 21 07 72
Fax: +45 33 25 07 72
E-mail: **museum@kff.kk.dk**

www.copenhagen.dk

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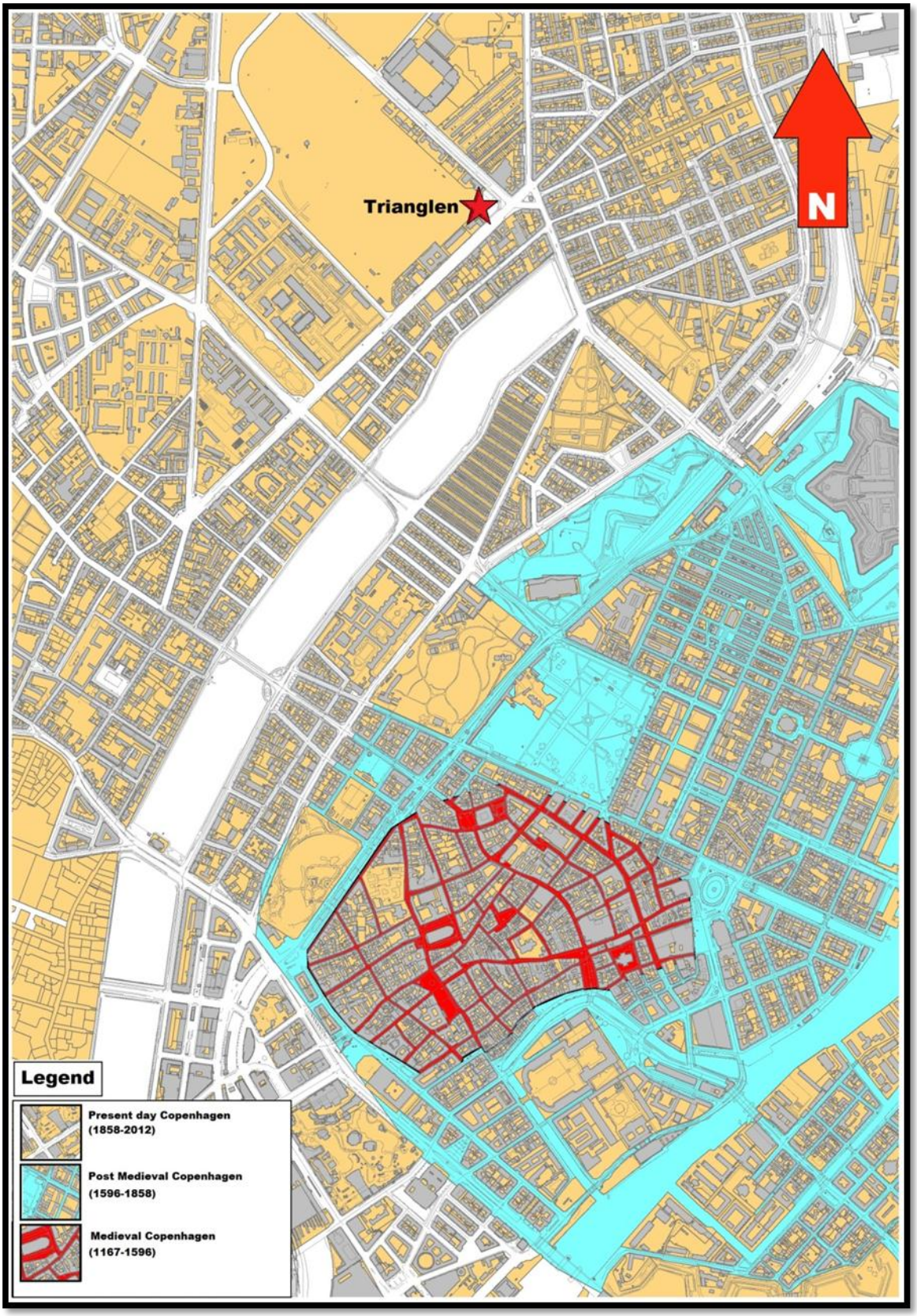

Figure 1 Map over the Copenhagen area and the place for the excavation. The red star marks the location of the excavation. Museum of Copenhagen 2013.

1 Abstract/Resumé

In 2012 excavations took place at Triangeln, former pasture land which became incorporated in the city of Copenhagen around 1900. The excavation was conducted in three several steps, one being a community dig, or open excavation, involving hundreds of school children and other members of the public. The project was part of the Museum of Copenhagen's focus, on increasing the local community's historical awareness, through public outreach programs, in this case by constructing an historical awareness experience, for the participating individuals, based on practical archaeological fieldwork.

The excavation revealed no standing structures, below ground there were several modern constructions, these had truncated large portions of the site. There where pockets of intact areas, where the archaeological stratigraphy was uninterrupted from the present days, down to the ice age. These areas revealed scattered traces of prehistoric activity; a piece of prehistoric ceramic waste and a few worked flint shards. There was no evidence of medieval or renaissance activity at the site. A few coins were found, the oldest from 1815. In the upper layers there was evidence of paving. A large paved area consisting of stamped slags, from iron production, was found below a dump layer. The dump layer consisted of material, from the numerous slum clearances which were carried out in Copenhagen in the early 20th century.

Also, a wooden post construction, interpreted as a breaking wheel (execution instrument) and dated to late 18th-early 19th centuries, was the most remarkable find.

Periods: Ice age, prehistoric, absolutism, modernity

Features: Wooden construction, modern constructions, coins, cannonball

Keywords: Pasture, military drilling ground, park.

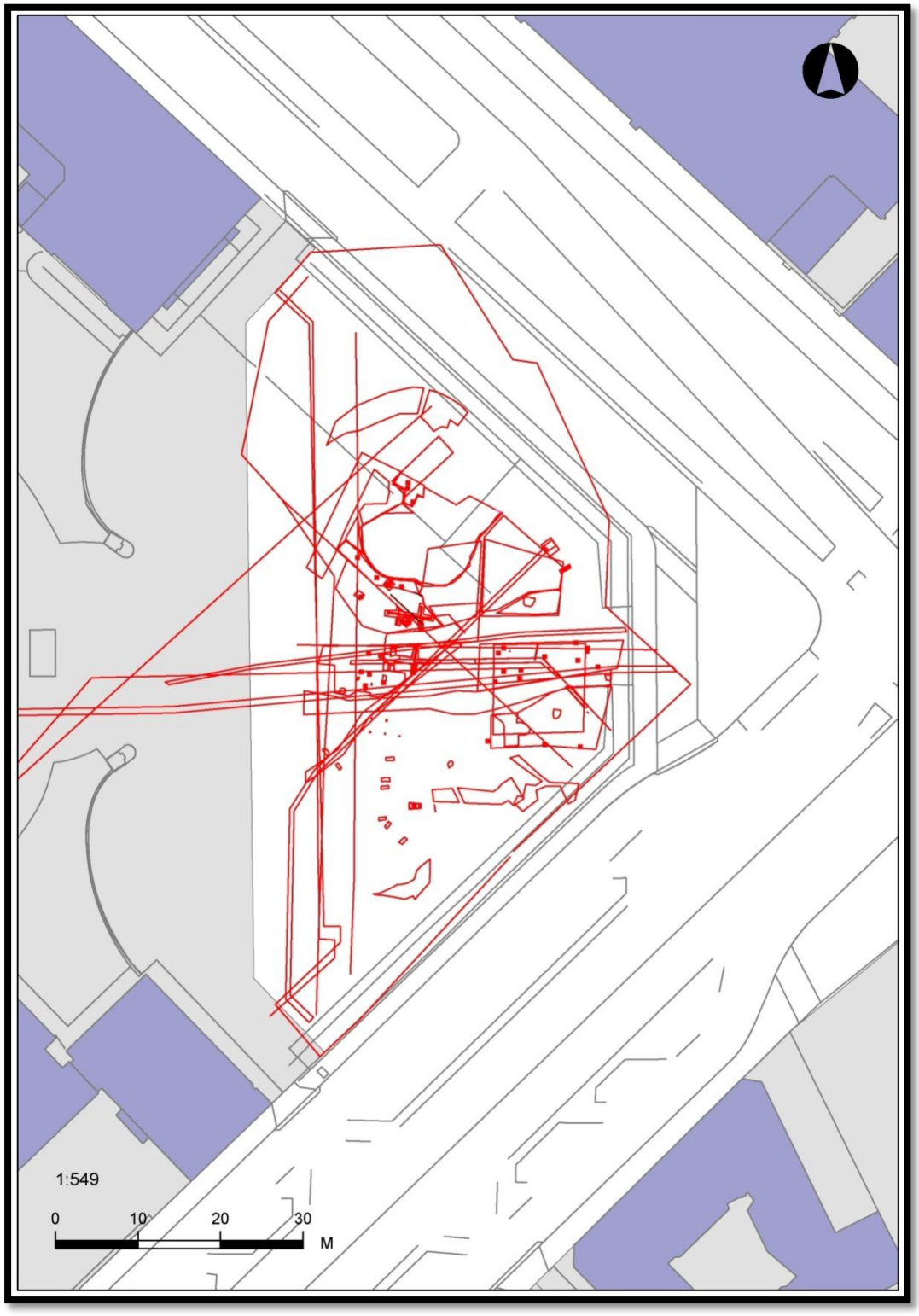

Figure 2. Overview of the excavated area at Trianglen. The red lines represent the measurement data taken during the excavation. Museum of Copenhagen 2015.

2 Introduction

2.1 Proposed development

Archaeologists from Museum of Copenhagen were commissioned by Metroselskabet I/S (Metro Company) to undertake the supervision of the construction work (by NCC) as part of the establishment of a metro station at Trianglen.

Fieldwork took place in 2012 and was subdivided into three main phases: 1) March 26th-April 19th. 2) June 24th-July 6th. 3) September 13th - November 31th.

Due to the fact that the fieldwork was organised as watching briefs, the interruptions in the work procedures were caused by standstills in the construction work. The area affected by the excavation work is depicted on Figures 1 and 2.

2.2 Legislative framework

The watching brief will follow guidelines required by Kulturstyrelsen (Danish Agency for Culture; in KUAS Vejledning 2010) and Danish Museum law (Bekendtgørelse af museumsloven nr. 1505). Standards for investigations carried out by Copenhagen Museum are stated within a document covering the overall archaeological design aspects of the Cityring project which was approved by KUAS in the autumn of 2009 and in June 2010 (Project Design 2009).
According to Danish legislation, no research financed by the developer, in this case the Metro Company, will be carried out. The end product of the excavation is working statements and site reports, which contains empirical conclusions and basic cultural historical interpretations. For the smaller of the Metro Cityring excavations (named Categories 2 and 3 in the preparations work for the project) there will also be produced a joint report which will highlight the most interesting cultural historical results from the excavations (called “Bygherrerapport”). Further archaeological research and analysis can only be carried out under separate funding. This complies with statements in the Danish Museums law (Bekendtgørelse af museumsloven nr. 1505). Construction work that involves excavation can be temporarily stopped in accordance with Museum Act § 26 (protection of ancient monuments).

Museum of Copenhagen was contacted well in advance, so that a test excavation could take place before the construction work was initiated. The Metro Company agreed on the further details with Kulturstyrelsen and the Museum of Copenhagen.

2.3 Administrative data

On completion of the fieldwork, Museum of Copenhagen produced a concise interpretative report on the archaeological results of the excavation (this report), which includes an outline of the historical and archaeological contexts and a summary of the results. A copy of this report was distributed to Kulturstyrelsen and the Metro Company (MC).

The documentary archive relating to the fieldwork is deposited with the Museum of Copenhagen. All digital records are filed in the IntraSiS database program.

The Museum of Copenhagen was responsible for the archaeological investigation and owns the rights to this report. According to agreement the client, Metroselskabet I/S, Metrovej 5, 2300 København S, financed the investigation.The public outreach excavation was financed outside the excavation budget, and the details of the practical process was agreed between MC, Kulturstyrelsen and Museum of Copenhagen

2.4 Other data

The initial casework related to the archaeological evaluation excavation was handled by curator and project manager Hoda El-Sharnouby. Responsible for the site excavation was Jacob Mosekilde. In addition a number of archaeologists were involved in the excavation work: Andreas Bonde Hansen Claes Hadevik, Claus Rohde Olsen, Mikkel Blichfeldt Siebken Niels Henrik Andreasen and Stine Damsbo Winther,

Different aspects of the finds registration and finds report writing was undertaken: Metal finds: Mikkel Siebken. Detector finds: Niels Henrik Andreasen. Ceramics and other finds: Claes Hadevik. Georefering of maps: Claus Rohden Olsen. The report was written by Jacob Mosekilde.

3 Topography and historical background

3.1 Cultural historical background

The area where the Metro Cityring station of Trianglen will be constructed was initially used as a summer pasture for the stabled cows and horses from within the city walls of Copenhagen. It was a part of Østerfælled, or the Eastern pastures. During the age of absolutism, the area was also used as a drilling area for Copenhagen's militia and later for the standing army. In the early 20th century the pastures where slowing being absorbed by the expanding city, Copenhagen was growing exponentially, as the age of industrialism upturned the demographic census, which had existed for centuries between countryside and city. The social movements of the late 19th century and early 20th century, focussed on workers' rights and in some cases, made it possible to establish large green areas, where factory workers could relax or engage in sports in their newly acquired leisure time. One such area was Trianglen and the area was there for newer build upon as the city rapidly grew, beyond the constraints of its antiquated fortifications.

Østerfælled consisted of Blegdams fælled, Østerfælled and the pastures along the coast up to Gamle Vartov and Rosbæk bridge. In 1682 it was valued at 180 Høved. A Høved is an Old Danish term for one unit One cow equals six sheeps. You had to pay money to the magistrate for keeping your animals on the pasture. In total the towns pastures where valued at around 1000 animals. This number does not include animals that where in the private enclosures or animals that were kept in stock all year round. So it cannot be used to calculate the total amount of animals being kept by the inhabitants of Copenhagen. Initially the pastures where used only by the herders and their animals. After the loss of the eastern provinces, in 1658, the militarization of Copenhagen essentially turned the capital into a huge fortress with a disproportional large number of soldiers compared to other contemporary Danish towns, with the exception of the garrison towns in the duchies of Schleswig and Holstein. In the 18th century during the Great Northern War ((1700–21) the Pastures where used as drilling ground and encampment for up to 16000 soldiers at a time. In written sources from the period it is complained about holes being dug in the pasture and that it required a great effort to restore the pasture to its original purpose.

In 1847 we know that roughly 1,100 heads of cattle were grazing on the Commons. Horses and livestock roamed freely on the Commons until about 1906-07 and the large area was enclosed with a wooden fence which had only a few entrances.

A debate on what to do with the Commons erupted during the 1880s. Should the area be developed for buildings, or should the citizens be given access to the green space? In the late 1800s, the Commons were a favourite place for neighborhood children during the summer months.

Fælledparken was established 1908-12 and it included then app. 58 ha. Mayor Jensen planted the first tree on 27 April 1909. The public got access to the park and the military lost its right to use the Commons. A park area was established by merging Copenhagen's former pastureland for horses and cattle: Blegdams

Common, North Common and East Common. In subsequent decades, a large part of the parkland was gradually sold off for construction but preservation of Fælledparken was carried out in 1965 when the Copenhagen municipality accepted to preserve the area as a recreational green area and operate it as a park.

Figure 3. Map of Copenhagen anno 1722 and the area north of the town, the map is a depiction of the water supply system that provided the town with water. The black star marks the location of the 2012 excavation for a new metro station.

Military

The pasture around Copenhagen has been used as a drilling ground for the Copenhagen militia and later for the standing army. From historical sources and maps it seems that the area north of Trianglen has been favoured for the annual inspections of the troops, probably because of its close proximity to the Citadel. On the map below from 1750 one can see the positioning of different regiments lined up for inspection. The map also gives a good depiction of the layout of the terrain and road system at the time.

Figure 4. Østerfælled, around 1750. The coloured hand drawn map shows the position of the different regiments for the yearly army inspection. The red square marks the location of the 2012 excavation, prior to the establishment of a metro station, unknown artist.

During the great northern war (1700-1721) as many as 30 000 Russian troops, including the distinguished *Preobrazhensky* guard regiment, were camped at Østerfælleden in 1716. Russia was allied with the kingdom of Denmark-Norway and had agreed to participate in the planned and botched invasion of Sweden. According to historical sources[1] the Russians had difficulties in gaining admittance to clean water and resorted to digging down to the water supply network running from the lakes to the north into Copenhagen, they then drilled holes into the wooden water pipes in order to gain access to fresh drinking water. They also chopped down trees from private gardens for firewood. The Citizens of Copenhagen closed the city gates to the Russians and a fear of a Russian sneak attack on the town spread, Russian discontent, fuelled by Danish xenophobia led to the departure of an angry Tsar Peter the Great (1682–1725) and his Russian troops before the campaign against Sweden even started.

Figure 5. A Russian musketeer, taken from General Adam Veides: *Drill manual for musketeers*, 1698, unknown Artist.

[1] Nielsen. Page. 477

3.2 Topography

Figure 6. Arial photography from 1953 the red area, shows the location that was excavated in 2012, Københavns Museum 2013.

The excavated area consisted of flat terrain with a few shallow water holes that have been filled in or regulated in modern times. The area is situated on average 8.5 meters above sea level. The natural underground is made up of fine sandy clay with a light brown colour, some pebbles and at times larger stones are included in the natural Ice Age deposit.The geological material seems to have been above water since the Ice age as its lacks any evidence of having undergone fluvial activity. The area lies on a moraine flat formed by the Oresund Glacier during the last Ice Age. The terrain has only modest undulations. The topography rises towards the south, which is reflected on modern maps and in the average height values for the till deposits found in recent geotechnical investigations. The till consists of yellowish brown clay. The average depth of postglacial layers in the area is rarely more than 0.5 m. The excavated area is at an altitude of app. 12 m above sea level (DVR90).

4 Archaeological background

There have been a few recorded prehistoric finds in the area. In general the emphasis is on prehistoric finds, as the area as far as we know has been unhabitatedin the historic period. One recent archaeological survey (KBM 3843) discovered a prehistoric pit from the late Bronze age in the north western part of Fælledparken.In the beginning of the 20th century the National Museum excavated a stone coffin in a prehistoric burial mound underneath what is now Østerport stadium. Also, artefacts from Palaeolithic reindeer hunters, which moved up through Scandinavia behind the receding ice, have been found in the area where Rigshospitalet now stands.

5 Archaeological potential and aims

The Excavation at Trianglen had two main focuses, both the scientific documentation of the archaeological remains according to the Danish Museum Law, and also a pedagogical campaign, undertaken outside the framework of the Museum Law.The initial part of the excavation was pedagogic and was carried out as a community dig. The purpose of the public excavation was to strengthen the local inhabitant's connection to their local area and to give them a practical experience in how and what archaeology can achieve as a tool for generating information about the past. The project was carried out as a joint project between the museums archaeological department and the public outreach department. The two departments gained valuable experience in the process, and the project was a success. Several hundred schoolchildren and adults participated in the excavation of the modern dump layers[2] that covered the site.

The conclusion about the sites value from a cultural historic and pedagogic perspective is good. The area is easily accessible and large enough for a large group of people to participate in a public excavation. The layer chosen for public excavation was interpreted as being used as a levelling for the modern entrance to the park.

One should be careful, though, with automatically assuming that the modern dump layers are spread all over the area. It likely that as one progress further into the park, the dump layers thins out and disappears. The cultural historical aim for the excavation was to establish the site's usage from prehistory to the age of absolutism. The Museum Did not have high expectations of finding significant items or remains from the historical period[3] as the areas usage as a pasture for Copenhagen has been well documented. The museum could however not rule out that there would be evidence of prehistoric activities in the area, or of later activities not documented in written sources**.**

[2] AD 1800-1950, mostly building material and ceramics

[3] Early medieval to Absolutisme

6 Methodology and measurement system

The site had to be cleared well down into the natural Ice Age deposit prior to the building of a new metro station. The main part of the archaeological work consisted of watching briefs, there was several gas, water and telephone cables that truncated the site, so large parts of the site were disturbed. There were also several large disturbances caused by the constructions of air raid shelters from the Second World War.

6.1 Excavation and documentation

The excavation and documentation followed the standards that the Museum of Copenhagen has dictated for its excavations within its area of archaeological responsibility (see literature section).

The excavation was carried out from Monday to Friday, from 0700-1500, there was no weekend or night work. The Museum had a good dialogue with the construction crew and the client. The museum's work was well facilitated, and the construction crew had full disposal over machines; both large and small diggers were available to the archaeologists at a moment's notice. The work consisted in carefully scraping down to the natural underground with the machine in stretches of approximately 10 meters in length and 3 meters in width. If anything of potential archeological interest showed up the machine digging waited for the archeologists to investigate the structures and layers.

Excavation methodology

The excavation was carried out according to the single context documentation method. As the stratigraphy was not very complicated the use of machines to excavate did not result in any loss of the understanding of the areas stratigraphic development

Documentation methodology

All archaeological contexts were measured and recorded with a portable GPS and photographed, then the contexts where described on paper and finally excavated. Contexts interpretations that were used included:

- Cut
- Foundation
- Cable, water pipe, gas pipe, drainage.
- Deposit, backfill, dump layer, levelling layer, primary deposit, secondary deposit.

After the construction was concluded, all contexts that where considered important for the interpretation where grouped and contextual relations where created between them and the finds or samples that belonged to the context.

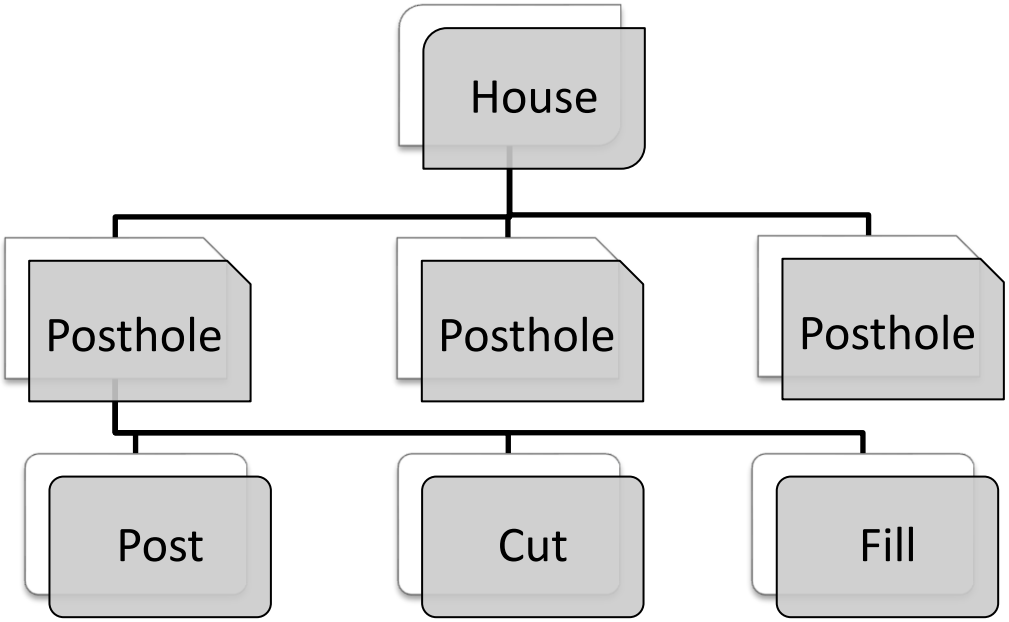

Figure 7. Example of the principle of grouping of archaeological contexts. It shows how a cut for a wooden post, and the wooden post and the fill that surrounds the post gets grouped together.

The figure above shows the process that creates archaeological groups which are the basic units that will be described in the report. A post has a cut and a fill, together they form a posthole. Several postholes create a house. The House is the group. The idea behind the system is to facilitate the interpretation work that is represented in the report.

Archive material

A Nikon D3100 was used for taking pictures in the field. All documentation regarding the excavation of Trianglen is stored by the Museum of Copenhagen. This means that all paperwork: context sheets, diaries, drawings and such are kept in the museum storage under the id KBM 3841. Digital material, such as photos, Intrasis database, e-mail correspondence and so on, have been saved on the museums terminal server with relevant back-up.

6.2 Finds registration

Finds that didn't have a dating value or were deemed having low informative value, where discarded in the field. Finds were collected and placed in plastic bags with a KBM-Nr. (KBM is short for Københavns Museum) and a number that connected them to the layer or context that included the find, dates and initials of the finder where also added to the find bags. Special finds such as coins where measured with a GPS, so that the artifact had a precise location connected to a layer. After the excavation the finds where transported to the museum, where they were washed and entered into the site database.

Retrieving

The collection of finds was done in accordance with the collection policy of the Museum of Copenhagen as it is stated in the Finds Handbook (Januar 2010)

All the archaeological finds retrieved on the excavation have been added into IntraSiS as Finds Units. Special finds have been measured by totalstation, whereby finds unit identities were generated in the IntraSiS database. Finds Units for bulk finds have been created by the archaeologist with special responsibility for finds. The excavating archaeologist has split the finds material collected in the same context/excavations unit into various material types, and placed it with a tag in a bag, and label with KBM number, context number and Finds Unit ID number. KBM Collections department staff have been consulted and used in the lifting procedure of selected artefacts.

The finds were brought to the museum, processed (cleaned, weighed, counted, placed in bags and marked) then transformed within IntraSiS from Finds Units into Finds Objects, whilst the fieldwork was ongoing.

Within the documentation process, artefacts have been registered in the Finds Object section of IntraSiS. In this way they have been further sorted using appropriate typologies, dated and split into function type. Through this process, information regarding chronology, trade, wealth, and land use has been discerned.

Registration

Each Find Unit created was registered as a Finds Object. Usually many Finds Objects were created from a single Finds Unit as the finds were retrieved and placed together due to their material type. Each Finds Object was registered in two phases; the Basic Registration phase (whilst the excavation was ongoing) and then the Specialist Stage (post-excavation phase). The Specialist stage differed as extra analysis was undertaken after conservation and the whole assemblage could be viewed at one time.

Each Finds Object is given an auto generated number in the database. The Finds Object consists of a Class section and Subclass section. The Class section comprises various fields such as material type, type of object, date, measurement, location within the project and provenance. The Sub-class section consists of finds grouped together with other finds of similar types and functions. These groups relate to categories used by NOM (*Nomina Rerum Mediævalium*) and (MOLAS) Museum of London Archaeological Services.

Each Finds Object comprises information on the bag such as:

- KBM-number
- Context number (SD number)
- Finds Object ID
- Material or Special Find type

Preservation

In general the preservation condition was reasonable, for most types of finds.

- Wood was fairly well preserved
- Ceramics were well preserved, but highly fragmented, indicating secondary or tertiary deposits
- Most of the easily corroded metals where badly preserved, Gold, silver and copper lived up to their names as precious metals and were perfectly preserved.
- Animal bones were generally badly preserved, highly fragmented and weathered.
- All in all the preservation of the finds indicates that they were dumped at Trianglen from other sites.

6.3 Environmental sampling

One dendrochronological sample was taken from structure S21.

Sampling techniques

Samples were extracted by archaeologists or consultants on site. Hereafter the samples were prioritized by the archaeologists in order to secure that only the ones with most potential in providing answers to relevant questions were sent to specialists. Further sampling has been undertaken in the laboratories by consultants. All the samples have been accompanied by a written motivation for each analysis, which has been entered into the free text field for the sample in IntraSiS.

Sample documentation

All samples taken were surveyed by GPS, creating a unique number for the sample while linking it directly to the context from which it was sampled. On the context sheet the motivation for taking the sample is stated. This was then transferred into IntraSiS. The individual consultant was responsible for creating sample ID in the IntraSiS database. The sample analysis ID was then created by the consultant conducting the analysis.

7 Results

7.1 Preservation

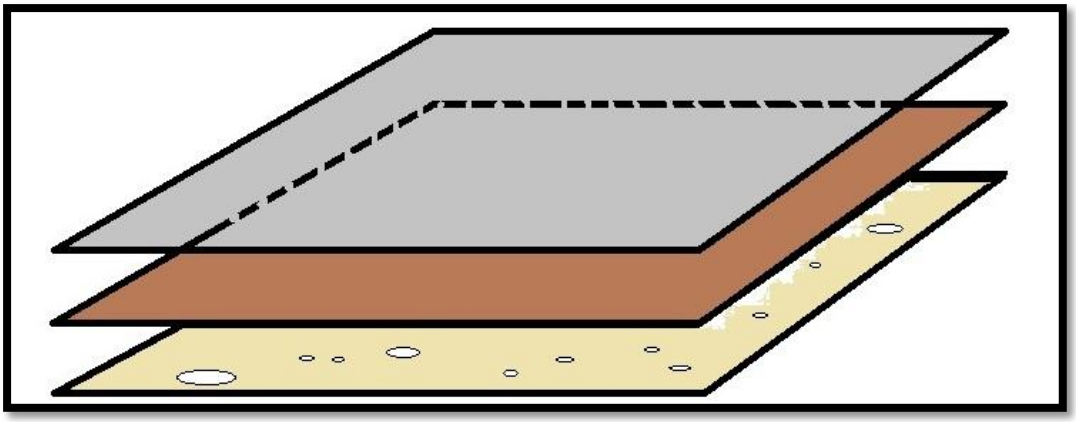

Figure 8. depicts a model of the general stratigraphy at Trianglen. The area generally consisted of 3 layers. Grey: Modern Debris, Brown: Organic soil (Muld). Yellow: Natural natural soil. Københavns Museum. 2015.

The modern layer at Trianglen consisted of several strata of grey sand, heavily mixed with modern building material. The building material contained yellow and red brick fragments, window and bottle glass, various metal types; nails, brackets, pipes, hinges and different kinds of ceramics; mostly bone China. The items were mixed together and had clearly been deposited elsewhere before ending up at Trianglen. The fragile items like glass and ceramics, were minute and shattered to a size that indicated tertiary deposition. The layer is interpreted as coming from the urban sanitations of Copenhagen in the late 19th century and early 20th century. The material has been used as a levelling layer for the entrance area of the newly created park, sometime in the beginning of the 20th century or possibly in connection with renovation works in the 1950s, when one of the old air raid shelters from the Second World War was removed. The layer was between 1- 1, 2 half meter thick.

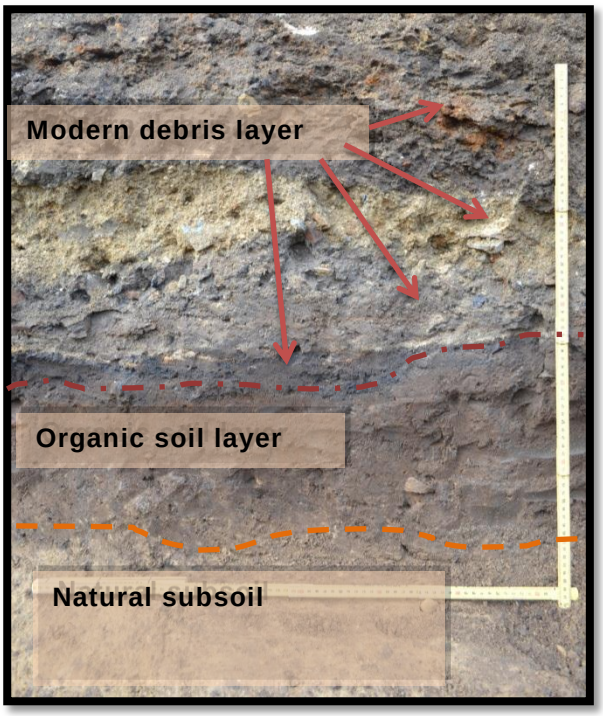

Figure 9 shows an example of the three different layers that covered the entire excavation site. Københavns Museum. 2015.

The organic soil layer at Trianglen dates back to the postglacial period that followed the Weichsel glaciations, from 9.600 B.C. and after. The upper parts of the layer date to around the end of the 19th century. The layer was featureless and contained pebbles and small pieces of flint. The layerwas on average 0,3 m thick.

The natural soil consisted of fine yellow sand with small whole and fragmented pieces of flint. The layer is interpenetrated as fluvial deposited due to the fine sand. A couple of larger boulders where removed with machine power, these boulders properly dropped through the seasonal ice covering the fluvial environment below, and ended up embedded in the sand bottom of the ice lake which formed during the ice melting.

7.2 Archaeological results

A total of 94 contexts were recorded at the site (Tab. 1). The table below gives an overview of the types of features encountered during the excavation. Individual contexts will be described within the group that it belongs to, if it serves a purpose for the understanding of the feature.

Type	No
Deposits	**27**
Timber structures	**29**
Cuts	**16**
Disturbances	**21**
Total	94

Table 1. Total number of contexts recorded at Trianglen.

Table 2 shows that a total of 5 archaeological groupings where created from the 94 contexts shown in table 1. Each group consists of several contexts as explained above.These groups will be described in this chapter.

No	Type	Duration	Comments
1	Timber construction	18th century	**Pre modern metal nails. Bone China in backfill.**
2	Wooden box	19th century	**Filled with industrial slag. Drainage system**
3	Postholes	19th-20th century	**Forms a rectangle: Army encampment, circus or agricultural show**
4	Rectangular cuts	19th-20th century	**Tree planting or agricultural show.**
5	**Undisturbed Fælled**	**9600 BC - 2012**	**Area without truncations**

Table 2 Groups created from the contexts

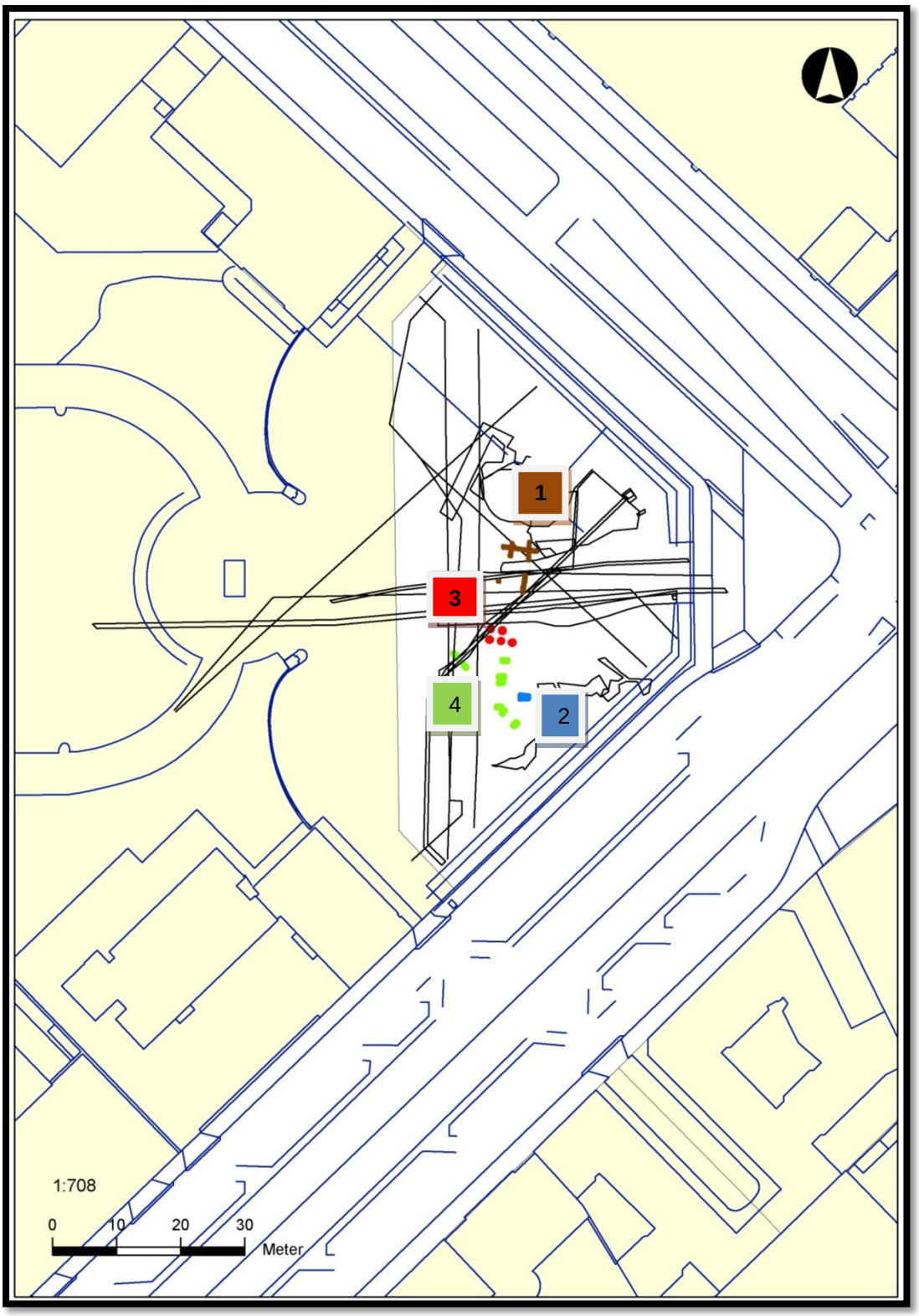

Figure 10. Map of the 4 groups created for the interpretation of the activities that has taken place at Trianglen. The black lines are modern utility pipes that run through the site. Note that group 5, the undisturbed fælled, is not shown on the map. Københavns Museum, 2015.

Group 1: Wooden structure

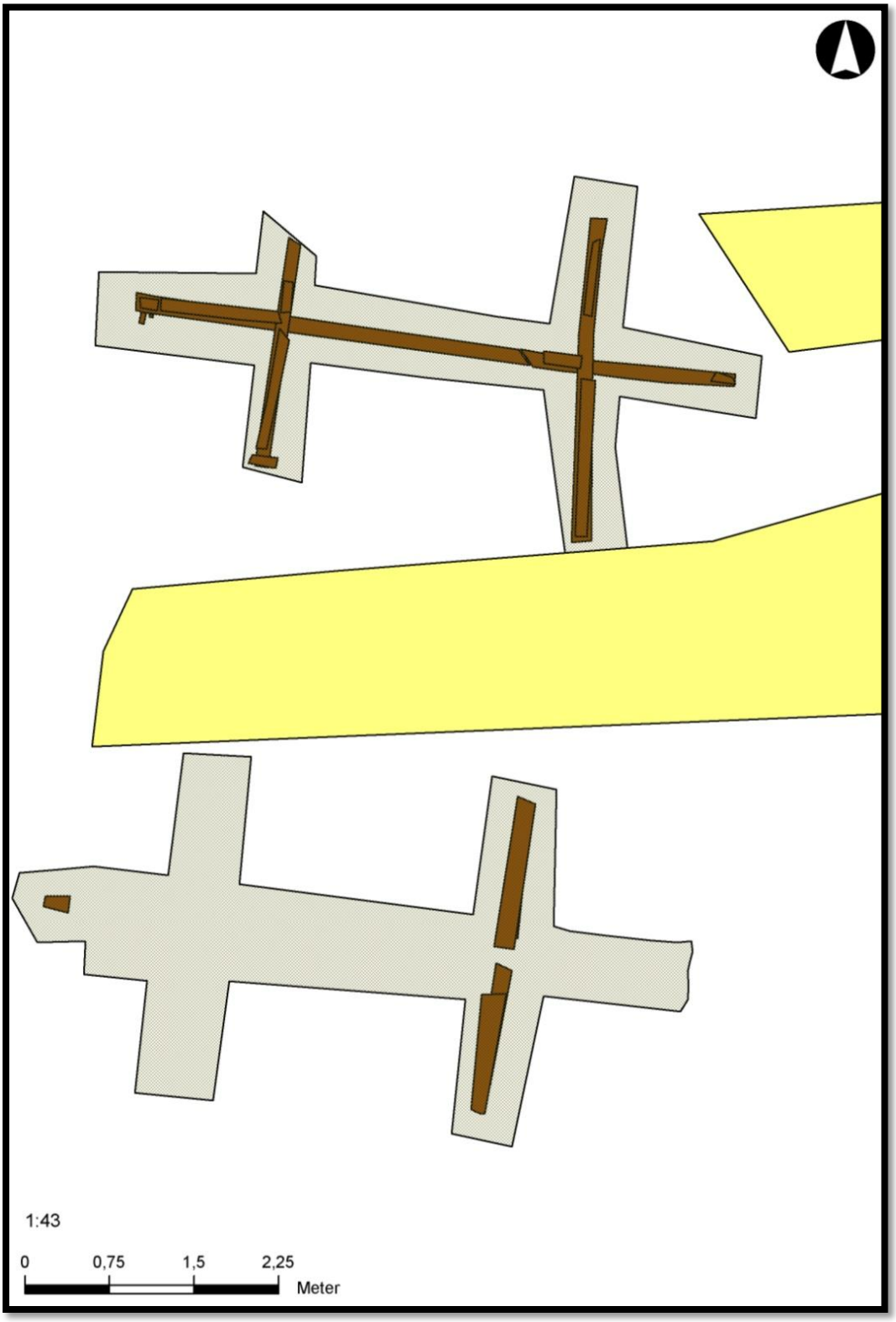

Figure 11. Plan of the wooden structure, Group 1. The grey area represents the cuts into the natural ground for the wooden structure. The brown areas represent the parts of the wooden structure itself. The yellow shape marks a modern disturbance that cuts in between the two areas. Museum of Copenhagen 2015.

The table below (tab. 3) shows parts of group 1 (the wooden structure), namely the northern part, excavated in the spring of 2012, and named subgroup 25. This consists of several contexts which are the multiple wooden elements that make up the entire structure (Fig. 12). Of particular interest is of course the fill that was in the cut for the structure, as it contained ceramics which is useful for dating.

Id	Name	Class	Subclass
25	**Hjul og stejle nord**	**Stratigraphic object**	**Group**
2200	Støttende pæle Ø	Stratigraphic object	Timber Structure
2256	Støttenden pæle vest	Stratigraphic object	Timber Structure
2292	Træplanke Ø-V	Stratigraphic object	Timber Structure
2299	Stopklods II	Stratigraphic object	Timber Structure
2303	Træpløk	Stratigraphic object	Timber Structure
2307	Undeliggende træstøtte II	Stratigraphic object	Timber Structure
2311	Østlig Træplanke Ø-V	Stratigraphic object	Timber Structure
2322	stopklods I	Stratigraphic object	Timber Structure
2332	Østlig træplanke N-S	Stratigraphic object	Timber Structure
2349	Træplanke N-S	Stratigraphic object	Timber Structure
2353	Underliggende træstøtte I	Stratigraphic object	Timber Structure
2223	**Opfyld I nedgravning**	**Stratigraphic object**	**Deposit**

Table 3. Northern part of wooden structure, group 1.

The table below (Tab. 4) shows the south situated part of group 1, excavated in the fall of 2012, and named subgroup 26. This consisted of several contexts which are the multiple wooden elements that make up the entire structure. This structure had been truncated by an old gas pipe and was therefore not complete.

Id	Name	Class	Subclass
26	**Hjul og stejle træ (syd)**	**Stratigraphic object**	**Group**
5593	Skråstiver til stejle	Stratigraphic object	Timber Structure
5597	Bundplanke til stejle	Stratigraphic object	Timber Structure
5602	Skråstiver til stejle	Stratigraphic object	Timber Structure
5606	Bundplanke til stejle	Stratigraphic object	Timber Structure
5662	Træstykke	Stratigraphic object	Timber Structure
5573	**Opfyld I nedgravning**	**Stratigraphic object**	**Deposit**

Table 4. Southern part of wooden structure, group 1.

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Figure 11 shows the structure in 2D and seen from above. The grey area is the cut for the structure. The cut was not visible until approximately 0,4 m´s of soil and demolition material from the early 20th century had been removed. The refill in the cut contained small fragments of ceramics that gives a *terminus post quem* to the middle of the 1700:s. One of the wooden posts itself has been dendrochronologically dated to 1771-1811. The best correlation match for the origin of the tested wood was found in Mid Norway[4], which is not so odd, given that Norway has been a major exporter of timber since the Middle ages.

The wooden construction was found placed in a complicated cut that was shaped like a double cross. The construction was made up of heavy worked timber planks and rafts. The timber structure seems to have been constructed on the surface and then lifted into the hole.

The structure itself was well crafted and held together with handmade iron nails At the centre of each of the two crosses, three secondary wooden rafts met in a supporting angel. The supported objects had been removed prior to the demolishment of the structure. It was constructed so that the supporting rafts, for the central protrusion, were held firmly in place, the rafts were prevented from sliding by blocks of woods at the distal ends of the crosses. These blocking parts were nailed to the double-crossed wooden structure that formed the framework for the structure.

The reason for there being only three supporting rafts on each cross seems to be intentional so that the supported object, which protruded from the structure vertically, could be raised and lowered on a regular basis. Consequently the fourth supporting beam would have been added on the surface.

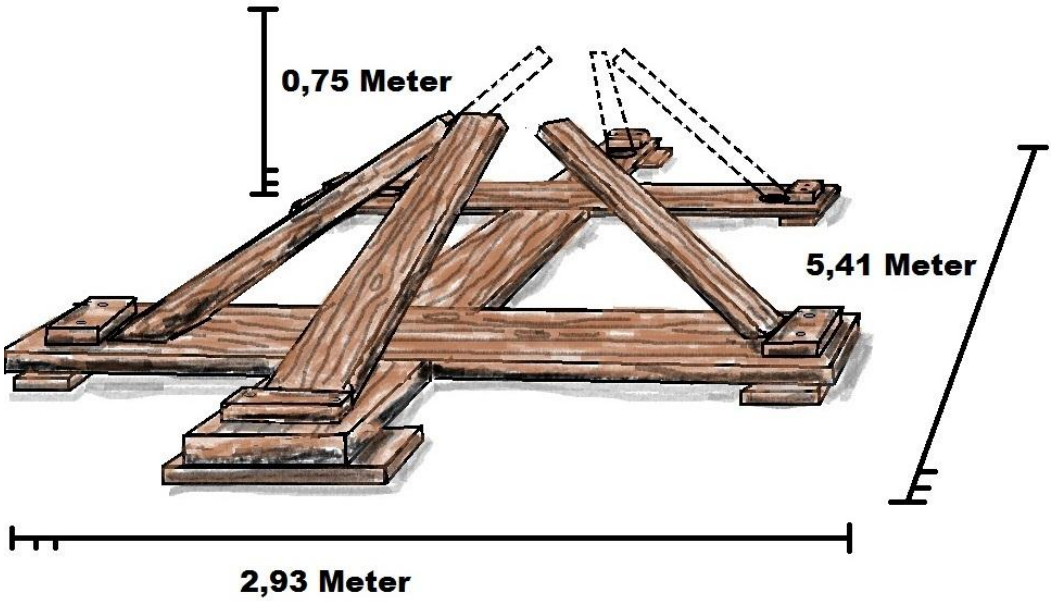

Figure 11. Drawing of north-most of the two identical wooden constructions found at Trianglen.

[4] See Dendro rapport, Appendix x..

Figure 12. The north eastern part of the wooden structure seen from the west. Københavns Museum, 2015.

Figure 13. The same structure as figure 13 seen from another angle. Københavns Museum, 2015.

Figure 14. The southern part of the wooden structure, seen from the east. The striped red line is the construction cut for the structure. A gas pipe from the late 1800's have gone right through the southern structure, destroying much of it. Københavns Museum, 2015.

Interpretation

The structure is, after investigations in different kinds of options, interpreted as the lower parts of a breaking wheel (hjul og stegle). The dendrochronological dating to 1771-1811 is correlating with the time when these methods were used. Placement at a certain distance from the city is also in line with the usual placement of these types of activities. After considerable research into preindustrial manufacturing and processing methods and consultation with Swedish, Dutch and German archeological institutions, the most probable purpose for the wooden construction is to function as the lower part of a "Hjul and stegle"[5] These have been in use since the Middle Ages in Denmark. Some of the earliest Illustrations of these constructions can be seen on church frescos from Vinderslev church and the Cathedral in Aarhus, both in Jutland (Fig. 16 and 17). The construction has to be very steady as it must stabilize a long vertical pole that, at its top, carries a wagon wheel. The constructions where often placed at major roads leading into and out of urban centers.

On the earliest depictions of *hjul og stejle* the artist usually paints the structure as a pole erected into the ground. This could be because they were erected in this simplistic fashion or possibly the structures where uncommon and the artist hadn't seen them in real life, but knew about them as symbolic figures in a medieval world dominated by symbolism..

Figure 15. A late medieval depiction of purgatory, with a Breaking wheel on the left. Fresco from Vinderslev Church, Jutland. 1510.

Figure 16. Another late depiction of an erected wheel, with a gallows next to it. The setting is rural and possibly realistic. Fresco from Aarhus cathedral, Jutland 1470-1520.

[5] A Breaking wheel or Catherine wheel, erected on a pole.

Group 2 Wooden frame

Id	Name	Class	Subclass
31	**Trækasse med slagge**	**Stratigraphic object**	**Group**
5150	Trækasse	Stratigraphic object	Timber Structure
5169	Slaggelag	Stratigraphic object	Deposit

Table 5. Wooden frame, group 2

Wooden construction of unknown function, perhaps some kind of drainage well. The box was underneath the modern dump deposit (late 19th century or early 20th century) that covered the whole excavation area. It was possibly filled in together with the rest of the site. The box was rectangular; it measured 1,45 meters in length and 0,65 meters in width. It was held together with industrial machine fabricated nails. The box was constructed with horizontally laid planks, with 4 supporting corner post hammered into the ground on the inside of the box. The box had a deposit of slag from a blast furnace; the slag was lightweight and had been almost completely exhausted of iron. The dating of the ceramics, which included modern ceramics, the mass fabricated nails and the stratigrafic information places the box in a timeframe between 1850 and 1900

Figur18. Group 2, Wood framed box, filled with blast furnace slag, possibly some kind of drainage. Københavns Museum, 2015.

Group 3 Postholes

Id	Name	Class	Subclass
29	Træpæle	Stratigraphic object	Group
5096	Træpæl	Stratigraphic object	Timber Structure
5104	Træpæl	Stratigraphic object	Timber Structure
5111[6]	Træpæl	Stratigraphic object	Timber Structure
5133	Træpæl	Stratigraphic object	Timber Structure

Table 6. Postholes, group 3.

Rectangular system of wooden posts that has been hammered into the ground. The post were probably not hammered all the way into the ground from the top, no cuts where observed as the machine was removing the topsoil. Possibly some form of tent or stand, of either military or civilian use. No ceramics was found in connection to the structure. The posts looked fairly recent. Structure dated on the basis of appearance to the late 19th century or early 20th century. Surface, with modern fill is at 8,1 meter above sea level. The posts were found at 7,5 meters above sea level, under the modern fill. The posts continued down to 7 meters above sea level. They had been broken off at 7,5 meters.

Figure 17. One of the 5 postholes found at Trianglen, forming a rectangular shape. Dated to around 1800 – 1900. Københavns Museum, 2015.

[6] Measurement consists of 2 posts

Group 4 Rectangular cuts

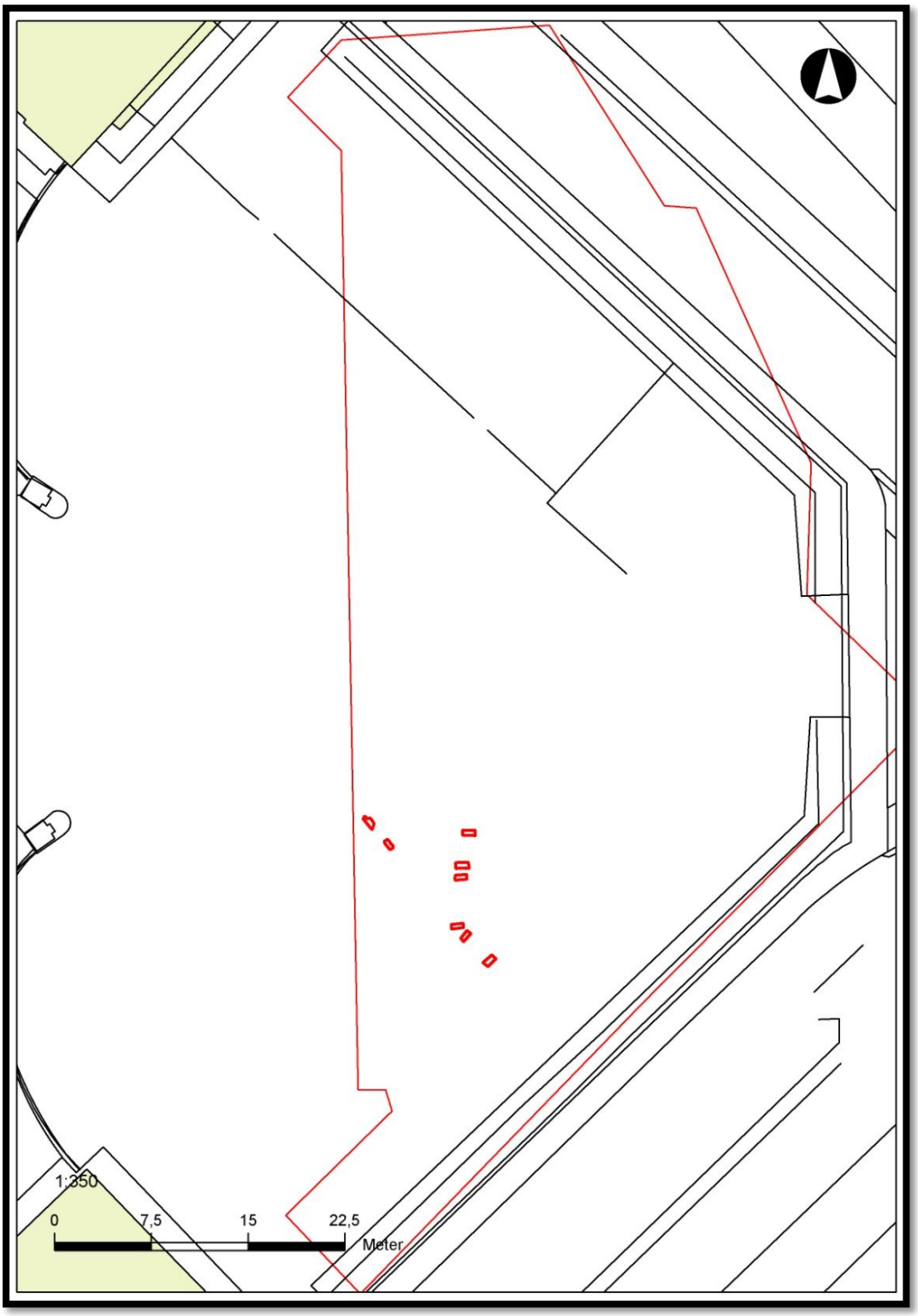

Figure 20. A series of rectangular cuts with no inclusions of any kind was registered at Trianglen. Københavns Museum, 2015.

Id	Name	Class	Subclass
30	Nedgravninger 8 stk	Stratigraphic object	Group
5016	Nedgravning til træ 1	Stratigraphic object	Cut
5029	Nedgravning til træ 2	Stratigraphic object	Cut
5047	Nedgravning til træ 3	Stratigraphic object	Cut
5052	Nedgravning til træ 4	Stratigraphic object	Cut
5061	Nedgravning til træ 5	Stratigraphic object	Cut
5092	Nedgravning til træ 6	Stratigraphic object	Cut

Table 7. Rectangular cuts, group 4. 5052 and 5061 consists of 2 cuts each

A series of rectangular cuts were measured at the site, 0,90 meters in length and 0,45 meters in width. They are presumed to be modern cuts, maybe a survey or for tree planting. There were no inclusions in the fill. The holes looks like they were made by a small machine as they are all of equal size.

Figure 21. One of the 8 cuts observed at Trianglen that formed some kind of broken line. There were no inclusions in the fill. Københavns Museum, 2015.

Group 5 Undisturbed Common

Id	Name	Class	Subclass
1145	Fælledparken fragment 1	Stratigraphic object	Deposit
2018	Fælledparken fragment 2	Stratigraphic object	Deposit
2097	Fælledparken fragment 3	Stratigraphic object	Deposit
5542	Fælledparken fragment 4	Stratigraphic object	Deposit

Table 8. Deposits in *Fælledparken*, group 5.

The undisturbed common or old pasture was located numerous places on the site. It had of course been heavily truncated by all the different modern utility pipes that crossed the site. A huge section of the deposit had been disturbed in the northern part of the zone. It is assumed to be from the removal of a massive air raid shelter from the Second World

War, leaving a huge construction cut filled with rubble. The layer contained most of the finds collected from the excavation; at the second part of the excavation the use of a metal detector enabled the museum to find a large amount of coins and other metal objects.

Figure 22. Close up of the consistency of the pasture, a small fragment of a clay pipe has been located. Københavns Museum, 2015.

On the figure above a clay pipe has been exposed almost at the bottom of the layer that is assumed to be the commons or the pasture. Clay pipes are not abundant until the 17th century; the presence at the bottom of the layer assumed to have formed from the last ice age and up until today, seems odd. There may have been several incidents of soil turbulence in the area, particularly as herds of cows have been moved in and out of the area in rainy seasons.

7.3 Summary and Assessment

The archaeological remains were in line with what could be expected for an area belonging to the Commons. The finds material is quite small and typical of a late post-medieval park-like environment in a suburban context, and it does not on its own bear any potential for further research.

Of particular note was the wooden structure with its possible judiciary importance, its presence is significant in that structures affiliated with crime and punishment found in-situ is uncommon in a wider European context.

Given that the excavation went below the level of any possible archaeological remains, the site is no longer of any antiquarian interest. Since Fælledparken, as mentioned above, through the centuries has not been subjected to agricultural activity or development, the area may offer preservation that unusual for Denmark with all its intensive farming and buildings. For this reason, archaeological watching briefs should be conducted ahead of future construction work in Fælledparken.

Preservation conditions

Preservation conditions were average, structural preservation was poor, due to the many truncating utility lines that crossed the site. It should be noted that this properly only affects the outlying areas of Fælleden. Material preservation was average to excellent for inorganic finds. Organic finds where almost nonexistent.

Finds material

Few finds could be associated with archaeological features and the mixed finds from the layer of topsoil cannot be associated with a specific event, seen as deposits or other features. However, they have significance for the interpretation of activities in the area and have, as all archaeological finds from Copenhagen, relevance in relation to general background knowledge regarding find types and their distribution in the Copenhagen area.

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Appendices

Finds report

In total, 2 418 finds were collected, that made a total weight of 42,5 kg (tab.1). The vast majority comes from the large demolition layer (S100030) that covered a large part of the site, and which was excavated within the Public Excavation Project. The finds date from prehistoric to modern time. Most of them, however, are from the 19th and the 20th century. It includes both local and regional Danish production, as well as various European and Far East import. All in all, the representation could be characterized as a standard southern Scandinavian mix of urban working class and bourgeois waste.

Material	Number	Weight (g)
Ceramic	578	5 868
Ceramic Building Material	99	3 414
Pipe clay	26	59
Concrete	1	4 300
Slate	3	59
Glass	359	1 992
Copper alloy	45	372
Iron	341	10 142
Lead	10	279
Silver	3	8
Slag	786	12 753
Tin	1	21
Undefined metal	32	239
Animal bone	127	2 783
Flint	2	14
Plastic	3	20
Shell	3	128
Textile	1	22
Sum	**2 420**	**42 473**

Table 1. Triangeln. Finds.

Ceramic

The registration of the ceramic finds material was conducted in a brief manner, dividing it only into specific types of wares. Consequently the material consists of 38 find units counting 578 sherds with a total weight of almost 6 kg (tab. 2). Chronologically it ranges from prehistoric to modern time, even though most of it comes from the 19th and 20th centuries.

The oldest ceramic find consists of a few prehistoric earthenware pot sherds (fig. 1), and they were found in the topsoil layer 2092. The sherds are small and worn and out of their original context, so it's hard to say anything more specific about them. However, one of them seems to have a coarse surface slip that is a characteristic for the late Bronze Age and Early Pre Roman Iron age pottery in southern Scandinavia. Even though their original context has been destroyed, it is likely that they primarily have been deposited in this very area. Because of their fragile state they are not likely to have been moved around very much. Except for a few flint flakes (fig. 2) there were no other prehistoric finds or contexts

found. This suggests that the sherds don't represent a waste from a settlement site. One possible explanation to their presence could be that they represent a grave urn, and thus also a burial and a burial ground.

ID	Name	N	W (g)	Dating	Stratigraphic object (Context)
100230	Late redware	179	2498,5	Late post-medieval	100030
100231	Late greyware	8	87,5	Late post-medieval	100030
100232	Stoneware	11	177,5	Late post-medieval	100030
100233	Porcelain	92	421	Modern time	100030
100234	Bone/flint china etc	152	1002,5	Modern time	100030
100235	Faience	12	135,5	Late post-medieval	100030
100236	Basalt ware	1	4	Late post-medieval	100030
100247	Late redware, slip dec.	1	42,5	Late post-medieval	1145
100248	Late redware, leadglaze	5	23,5	Late post-medieval	1145
100249	Porcelain, musselmalet	4	7,5	Modern time	1145
100250	Bone/flint china etc	1	1,5	Modern time	1145
100254	Late redware	6	41	Late post-medieval	2018
100256	Bone/flint china etc	26	41,5	Modern time	2018
100257	Stoneware, saltglaze	1	33	Late post-medieval	2018
100263	Bone/flint china etc	1	17,5	Modern time	2067
100266	Late redware	4	5	Late post-medieval	2061
100267	Porcelain	2	3,5	Modern time	2061
100268	Bone/flint china etc	14	10,5	Modern time	2061
100269	Stoneware, Westerwald	1	8,5	Modern time	2061
100270	Stoneware, saltglaze	1	3,5	Late post-medieval	2061
100275	Prehistoric pottery	2	23	Late Bronze Age	2092
100276	Late redware	2	14,5	Late post-medieval	2092
100277	Bone/flint china etc	3	5	Modern time	2092
100279	Bone/flint china etc	2	1	Late post-medieval	2223
100280	Porcelain, brush painted	1	1	Late post-medieval	2223
100282	Late redware, slip dec.	1	7,5	Late post-medieval	5016
100283	Bone/flint china etc	4	10	Late post-medieval	5016
100284	Royal Copenhagen, Musselmalet	1	9,5	Late post-medieval	5016
100286	Late redware	16	871,5	Late post-medieval	5150
100287	Late greyware	1	7	Late post-medieval	5150
100288	Terracotta, red painted	1	96	Late post-medieval	5150
100289	Bone/flint china etc	11	191	Modern time	5150
100290	Porcelain	3	13,5	Late post-medieval	5150
100291	Faience, chinese	1	6,5	Late post-medieval	5150
100295	Bone/flint china etc	2	3,5	Late post-medieval	5573
100296	Faience, brush painted	1	2	Late post-medieval	5573
100300	Late redware, slip	2	38	Modern time	5674
100301	Bone/flint china etc	2	2	Modern time	5674
Sum		**578**	**5 868**		

Table 2. Triangeln. Ceramic finds.

Figure 1. Triangeln. Prehistoric pot sherds (FO 100275) from topsoil layer S2092.

Figure 2. Triangeln. Stone Age flint flakes (FO 100303, 100294).

Figure 3. Triangeln. 18th and 19th century faience (top right: FO 100291, middle right: FO 100296, all others: a selection from FO 100235). Bottom right is a small sherd probably from a *Kellinghusen* pottery.

Only a few sherds are to be dated to the 18th century, namely some of the faience (fig. 3), late greyware (fig. 4) and late redware (fig. 5). The faience is probably of both Danish and European origin. One small sherd with orange and yellow brush painted decoration is likely to come from a pottery in the Holstein town Kellinghusen (fig. 3, bottom right), and it dates from the mid 19th century (Uldall 1961)

Most of the late greyware represents *jydepotter*, a blackish earthenware, that was produced in Jutland from the 16th to the 19th century, and was sold all over Denmark and to the neighbouring countries (fig. 4). The black colour is obtained by reducing the oxygen supply during firing. The surface is also burnished to give the impression of more precious metal vessels.

The redware represents a variety of pots, jars, dishes, bowls and pans etc. (fig. 5). Most of it belongs to the 19th or early 20th centuries, even though some items might be somewhat older, like a three legged cooking pot that probably dates from the 18th century (fig. 5, middle left). At the other end of the chronological scale is a “Bornholm faience” jar base (fig. 5, top left). Technically this ware isn’t faience, but yellowish earthenware with transparent lead glaze, influenced in style by the more renowned English Creamware, which was first produced in the second half of the 18th century. This type of ware was produced by several factories in northern Euroupe during the 19th and 20th centuries (e.g. Weimarck 1975, Hammer 1989). Furthermore, the material shows various examples of decoration, like slip decoration, sometimes with a marbelized pattern, and also brush painted and molded decoration. The redware has often a transparent lead glaze, but there are also examples of black, white, green and yellow glazes. Some items are unglazed,

typically flower pots. One terracotta flower pot has a molded, neoclassic style rim and an overall reddish oil paint decoration, copying an antique Greek vessel (fig. 6).

Only a few stoneware sherds were found (fig. 7). They are all salt glazed, and some of them also has molded and blue, brush painted decoration, probably of German Westerwald origin.

A special kind of stoneware is the black basalt ware that was developed by Josia Wedgewood in Staffordshire, England by the second half of the 18th century. Wedgewood's inspiration was the Portland vase (British Museum, London) which is a 2000 years old Roman cameo glass vase. The black basalt ware became very popular and was by the 19th and 20th centuries widely copied by several European factories. Most often it has neoclassic style molded decoration. One small fragment found at the excavation probably represents a molded tea pot or the like (fig. 8).

Porcelain is quite common in the material. Some of it is local production like e.g. the Royal Copenhagen *Musselmalet* pattern (fig. 9 top left), and some is foreign, e.g. Chinese import (fig. 9, centre).

Except for the redware the most common type of ceramics is the industrial wares (bone china, ironstone china etc.). These wares are typically tableware, both local and foreign, and there are both undecorated as well as transfer painted items. A common pattern during the 19th and 20th centuries is the Willow pattern (fig. 10). It is inspired by Chinese porcelain patterns, and was first established in England in the second half of the 18th century. The pattern was used by several English and European factories, when the transfer painting technique was developed by the early 19th century. Romantic fables were invented based on the elements of the design. A common one follows below (collected from **http://en.wikipedia.org/wiki/Willow_pattern**):

"Once there was a wealthy Mandarin, who had a beautiful daughter (Koong-se). She had fallen in love with her father's humble accounting assistant (Chang), angering her father (it was inappropriate for them to marry due to their difference in social class). He dismissed the young man and built a high fence around his house to keep the lovers apart. The Mandarin was planning for his daughter to marry a powerful Duke. The Duke arrived by boat to claim his bride, bearing a box of jewels as a gift. The wedding was to take place on the day the blossom fell from the willow tree.

On the eve of the daughter's wedding to the Duke, the young accountant, disguised as a servant, slipped into the palace unnoticed. As the lovers escaped with the jewels, the alarm was raised. They ran over a bridge, chased by the Mandarin, whip in hand. They eventually escaped on the Duke's ship to the safety of a secluded island, where they lived happily for years. But one day, the Duke learned of their refuge. Hungry for revenge, he sent soldiers, who captured the lovers and put them to death. The Gods, moved by their plight, transformed the lovers into a pair of doves (possibly a later addition to the tale, since the birds do not appear on the earliest willow pattern plates)".

A fragment of a bowl with the Willow pattern was found during the excavation at Triangeln. It shows parts of the willow tree and one of the doves (fig. 11, top left).

Figure 4. Triangeln. Late greyware, *Jydepotter,* 16th to 19th century (FO 100231).


Figure 5. Triangeln. 19th century, or slightly older, lead glazed late redware (selection from FO 100230).

Figure 6. Triangeln. 19th century oil painted terracotta flower pot rim with molded decoration (FO 100288).

Figure 7. Triangeln. 19th century Danish and foreign stoneware (FO 100232).

Figure 8. Triangeln. 18th or 19th century, probably English black basalt ware (FO 100236).

Figure 9. Triangeln. 19th century Danish and foreign porcelain (selection from FO 100233).

Figure 10. Late 19th century Willow pattern plate by the Swedish factory Gustavsberg (Private collection).

Building material

Within The Public Excavation several fragments of ceramic building material were collected, i.e. bricks, roof tiles (also slate), wall tiles and stove tiles. There was also found a piece of building facade decoration, namely a concrete column base or the like (fig. 12). It probably dates from the late 19th or early 20th century.

Clay pipes

Several stems and bowls from clay pipes were found during the excavation. Most of them are undecorated stems, but there is also a few with decorations and makers marks (fig. 13).

One bowl has a markers mark on the foot showing a trumpet below a crown (fig. 14). This pipe is probably made by the workshop of either Pieter Thoen (1739–1776) or Willem Thoen (1776–1788) from the Dutch town Gouda (http://kleipijp.home.xs4all.nl/kleipijp/Trompet.pdf). One stem has the name “IOANES KNECHT” written on opposing sides of the stem. This pipe probably originates from the town Grossalmerode in Hesse, Germany, where pipe makers with the surname “Knecht” are recorded between 1729 and 1855 (http://www.knasterkopf.de/htm/he07.htm). Another bowl bears a makers mark with the letter “D”, and one stem has decoration and the town name “GOUDA” written round the stem. These fragments couldn’t be further identified.

Figure 11. Triangeln. 19th century foreign ceramic industrial ware (bone china etc., selection from FO 100289). Top left is a fragment of a bowl with the famous Willow pattern.


Figure 12. Triangeln. Concrete column base (FO 100229).

Figure 12. Triangeln. Clay pipe fragments (FO 100238, bottom right FO100262).


Figure 13. Triangeln. Clay pipe from the Dutch town Gouda with crowned trumpet mark (FO 100238).

Glass

Most of the glass found represents either window glass or bottle glass (fig. 14), but there are also some small fragments of tableware and decorative objects, whereof a few molded glass and opaline glass items. The material doesn't reveal enough characteristic for more precise datings within the 19th and early 20th centuries.

Figure 14. Triangeln. Late 19th or early 20th century transparent glass bottle (FO 100304).

Other finds

The finds category Personal Items has only a few objects, namely two fragments of slate styli for waxed tablet writing and a mother-of-pearl button (fig. 15). They probably date from the 19th century, even though the possibility of an earlier date for the styli can't be excluded. The most recent finds at the excavation are a plastic Playmobil® horse and piece of a synthetic textile skipping-rope of late 20th century date.

There was also found some oyster shells and 2,8 kg of animal bones (domestic animals and fish). The material is supposed to be of fairly recent date and it hasn't been subjected to osteological analysis.

Figure 15. Triangeln. 19th century slate styli for waxed tablet writing and a mother-of-pearl button (from left to right: FO 100260, 100278, 100242).

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Willow pattern
http://en.wikipedia.org/wiki/Willow_pattern (december 2012)

Finds report - Iron

By Mikkel B. Siebken

At KBM 3841 Trianglen the registered number of iron remains is 1132, whereof 786 pieces of slag. The majority of the iron remains are building materials and production waste. Only a few tools have been found.

Several of the findings collected were found by children during the public excavation at the site (7th-27th of May 2012). For this reason they will be treated as bulk finds.

Material	Number	Weight (g)
Nails and bolts	233	2687,32
Nut, hexagonal	1	291
Iron rods, round	29	1100
Iron rods, flat	20	510
Iron tubes	7	960
Brackets	5	1000
Forged eye	1	80
Iron hook	1	232
Window hook	2	47,9
Foot for stove or furniture	1	138
Auger	1	6
Tool, wedge shaped? (pub. ex.)	1	173
Iron undefined	45	2899,3
Iron, production waste	1	6
Slag	786	12752,6
Total	**1132**	**22883,1**

Building material

Most of the iron artefacts are presumably from the second part of 18th-century until the second half of the 20th-century. This is supported by the fact that several of the coins found at the site dates from this period. The majority of the dated coins are from the second half of the 19th century. The non-ferrous metal objects dates from the same period.[7] For this reason the majority of the iron artefacts from the site most likely date from the second half of the 19th century.

Nails and bolts

Of the building materials nails, or fasteners, are the most typical artefact. The nails are mainly of the square type. There might be a few hand forged nails. Besides the normal type of nails a few horseshoe nails, bolts and a nut have been found.

Id	Name	Number	Type	Subclass
100105	Nails & bolts (Publ. excav.)	231	Nail	Building Materials
100218	Iron nail	1	Nail	Building Materials
100139	Nut, hexagonal (publ. excav.)	1		Building Materials
100299	Nail	1	Nail	Building Materials
Total		**234**		

[7] For information on coins see: Finds report – Coins and Non-ferrous metals from KBM 3841 Trianglen (TRG).

Hinge and hook

Two eye hinges were found at the Public Excavation. FO 100142 was combined with a forged hook. Both hinges and the hook were covered in rust and the details were for this reason difficult to observe. This type of hinge is very common.

Two hooks for windows were found. They are both of cast iron and resemble types used even today in combination with old windows.

Id	Name	Number	Type	Subclass
100133	Forged eye (publ. excav.)	1	Hinge	Building Materials
100142	Iron hook, forged (publ. excav.)	1	Hook	Building Materials
100144	Hook for window (publ. excav.)	2	Hook	Building Materials
Total		**4**		

Brackets

Five brackets have been found. Two of them are a typical corner brackets, one of them for a large window. Two are half strap hinges.[8] The function of the rest of the brackets cannot be determined.

Id	Name	Number	Type	Subclass
100127	Brackets (publ. excav.)	5		Building Materials
Total		**5**		

Scrap metal and undefined objects.

The rest of the building material is either scrap metal from construction, such as round and flat rods, tubes or undefined iron objects.

Id	Name	Number	Type	Subclass
100122	Iron rods, round (Publ. excav.)	29		Building Materials
100125	Iron rods, flat (Publ. excav.)	20		Building Materials
100129	Iron tubes (publ. excav.)	7		Building Materials
100131	Iron, undefined (publ. excav.)	36		Building Materials
Total		**92**		

Household Materials

Another find from the household category is a cast iron foot. It is well preserved and shaped like a lion's foot. It might have supported a stove, bathtub or some other type of metal furniture.

[8] The two half strap hinges, were earlier believed to be brackets. For this reason they are not registered as hinges.

Id	Name	Number	Type	Subclass
100191	Foot for stove or furniture, cast iron (publ. excav.)	1		Household Materials
I alt		**3**		

Tools

Two tools have been found at the public excavation. A small handle for a gimlet (?) and a wedge shaped item.

Id	Name	Number	Type	Subclass
100135	Gimlet (publ. excav.)	1		Tools
100148	Tool, wedge shaped? (publ. excav.)	1		Tools
Total		**2**		

Slag_metal

Id	Name	Number	Subclass	Type
100198	Slag	3	Slag_metal	
100099	Slag (publ. excav.)	781	Slag_metal	
100200	Slag	1	Slag_metal	
100203	Iron, undefined	4	Slag_metal	
100209	Iron, undefined	1	Slag_metal	
100213	Iron, undefined	3	Slag_metal	
100215	Iron, production waste	1	Slag_metal	Waste
100217	Slag	1	Slag_metal	
Total		**795**		

Metal finds discussion

100030 – Public Excavation

FO-numbers: FO 100099, FO 100105, FO 100122, FO 100125, FO 100127, FO 100129, FO 100131, FO 100133, FO 100135, FO 100139, FO 100142, FO 100144, FO 100148, FO 100191
Number of objects: 1111
Dating: 19th century – contemporary

There are several different types of nails presented (FO 100105): Spikes, common nails, finishing nails, horseshoe nails (fig. 1) and staples (not on photo). They were all marked by decay and rust. The majority of nails found at Trianglen were wire nails made from steel wire and produced mechanically. This method of producing nails became common from the late 19th century and continued until the present. Wire nails are in general produced with either a round or square cross section though they might have special features for specific kinds of work. In the present archaeological material all the nails have square cross-section.

Figure 1. The different types of nails and bolts from the Public Excavation.

One lager bolt and a nut (FO 100139) were found at the public excavation. Both the nut and the head of the bolt were hexagonal. In fig. 2 different types of bolt heads are shown. They are the types used by the end of the 19th century. Only the b-type has been found at Trianglen.

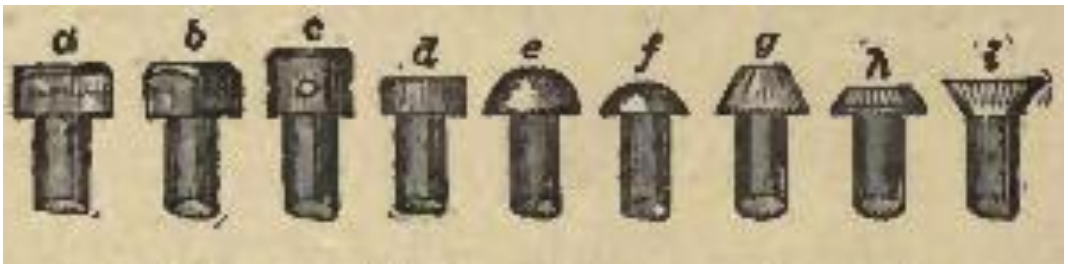

Figure 2. Varying types of bolt heads. The a- and b-types – square and hexagonal - are the most commonly used. *Richardson 1891*.

Figure 3. Hexagonal nut from Trianglen, FO 100139.

The bolt and nut from Trianglen were not found together. From the shape, they both resemble the parts for a cutter bolt – a standard bolt type to fasten parts together. The size suggests a rather specific purpose.

Two hinges were found at the Public Excavation. The hinges were different variations of an eye hinge. FO 100133 was the most typical - almost a circular forged eye. This type of hinge is made from an iron rod. The ends of the rod are tapered and the rod is bended to shape an eye of the desired size. The tapered ends are

sometimes welded together but in this case this is not clear because of the rust. An eye hinge as FO 100133 is typically fastened to a wooden post or beam, and it might still be seen in older buildings.

Figur 4. Eye hinge FO10033.

The other hinge is a variation of an eye hinge, but it has a characteristic U-shape and is fitted with a hook. The hinge and hook is seen in fig. 5. It is clear that the blacksmith has tried to forge the hinge into a shape fit for the hook to move freely in the hinge. The tapered ends are clearly seen and in this case they are not welded together.

The hook is flat and shaped roughly in J-shape. The rather flat cross-section might be related to the use of the hook. Usually a hook has the largest width in the line of the pull or else it might break under tension. The hook from FO 100142 seems to be shaped in a different way. The reason might be that it is a hook for a gate or something similar.

Figure 5. The hinge fitted with a hook, FO 100142.

Of the five brackets found at the Public Excavation four could be clearly distinguished. One is a rather large corner bracket and resembles the modern type used in modern construction (fig. 6). The other corner bracket is from a large window, probably a part of a rather prominent facade. The bracket is L-shaped with an upper part riveted to the lower part. Fig. 7 shows two sets of typical Danish window corner brackets. The pair designated “A” is typical found in the 18th century. The other pair designated “B” is typical of the late 19th century or the beginning of the 20th century. The corner bracket resembling the one designated “B”. The B-type is often cut of sheet iron. Earlier in the 19th century, the L-shaped bracket was welded in the corner and the bracket was also welded to the hinge as seen on fig. 8 - B.

To finish the bracket, a number of nail holes were punched and the surface and sides were probably cleaned up with a file and steel brush. Corner brackets from the 19th and 20th century are typically without chiselled or filed decorative elements like the A-type from the 18th century.

Two parts of strap hinges have been found and can be seen to the left in fig. 6. They are both typical in shape and seem to be of the same “simple” design as the L-shaped corner bracket.

Figure 6. Brackets FO 100127. Middle and top left: corner brackets. Left low: Unknown bracket? Right: remains of two strap hinge.

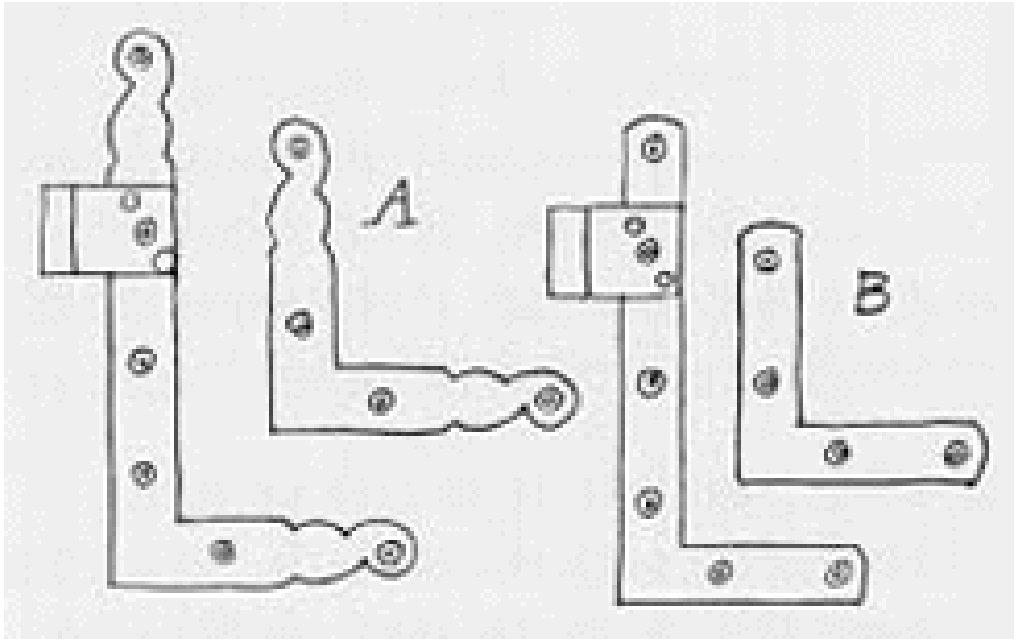

Figure 7. Corner brackets. A: 18th century. B: 19th century. *Kulturarv.dk*

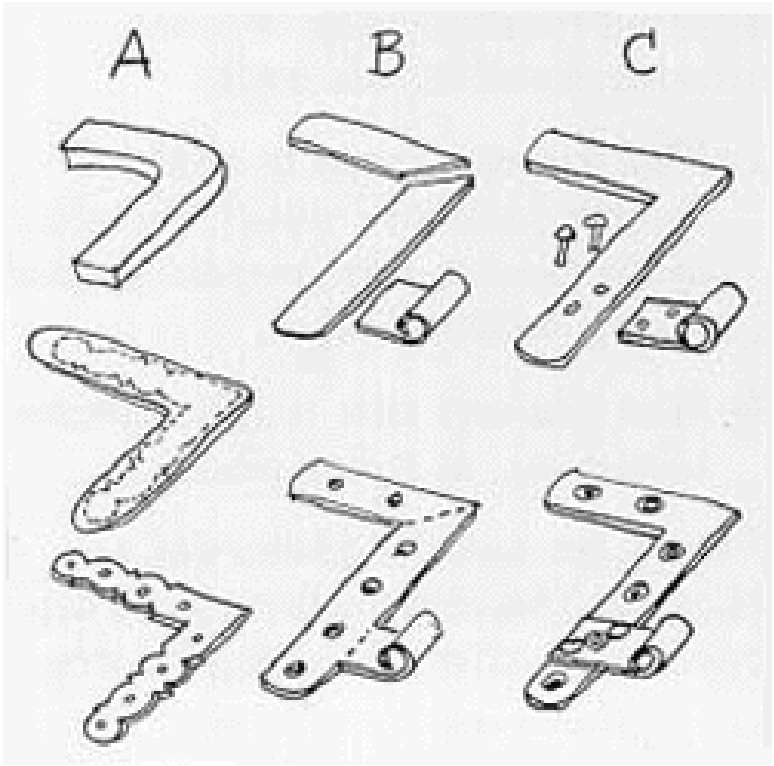

Figure 8. Corner brackets over time: A: 18th century. B: 19th century. C: 20th century. *Kulturarv.dk*

From the Public Excavation two hooks for windows (FO 100144) were found. They are probably made of caste iron and are almost identical in shape and size.

Figure 9. Hook for window. Only one is shown on photo. FO 100144.

One household item was found. It is a small cast iron foot (?) in the shape of a lions foot (FO 100191). It has probably been part of a table or bathtub or some other kind of furniture. The details in the casting are still visible and the foot was probably sand casted.

Figure 10. Cast lion's foot. FO 100144.

At the Public Excavation two fragments of what could have been tools were found. The first one is a small handle of iron. It is oval in shape and welted together. It might be from a small gimlet. It seems too thin to be a key handle. This type of tool was used to drill holes in wood to prevent splitting the wood. The gimlet is characterised by the screw shaped point.[9]

The purpose of the other wedge shaped object is uncertain (FO-100148). It might be a tool from a workshop.

Several fragments of scrap metal (FO 100122, FO 100125, FO 100127, FO 100129, FO 100131) was found at the Public Excavation. It consisted of round and flat iron rods of different sizes and several undefined smaller parts.

On slag from the Public Excavation, see the section above.

[9] Riley 1905, s. 122.

Figure 11. FO 100148.

1145, 5674 – The "Common horizon"
FO-numbers: FO 100198, FO 100215, FO 100299
Number of objects: 4
Dating: Second half 19th century
Only a single nail, iron waste products and slag have been found. The nail was covered in rust and small parts of wood were still preserved in the surface of the iron. The nail's shape and the rather round head, might suggest that it is a wire nail. Information on the slag, see the section above. Other types of finds from this horizon points to a dating of the second half of the 19th century.[10]

2061 – Felt 2 (test pit)
FO-numbers: FO 100200, FO100203
Number of objects: 5
Dating:
Only undefined iron waste products and slag have been found. Information on the slag, see the section above.

2067
FO-numbers: FO 100209
Number of objects: 1
Dating:
Only an undefined iron waste product was found.

2018
FO-numbers: FO 100213
Number of objects: 1
Dating:

[10] Finds report – Coins and Non-ferrous metals from KBM 3841 Trianglen (TRG) p. 4.

Only an undefined iron waste product was found.

5169
FO-numbers: FO 100217
Number of objects: 1
Dating: 1900-1950
Only slag was recovered from this context. The slag might be a sort of drain for a tree in Fælledparken. The layer of slag was found in connection to a hole with wooden boards on all four sides. This construction must from the time after the establishing of Fælledparken and older than the 1950 when the area was covered in construction debris.

5573
FO-numbers: FO 100218
Number of objects: 1
Dating:
Only one nail has been found. The other finds from the layer is dated to the late post-medieval period or modern times. It is covered in a layer of rust. For this reason the shape and type of the nail is not clearly visible. The nail probably belongs to the late post-medieval period. A narrower dating of FO 100218 is not possible.

Literature

Richardson, M. T.: *Practical Blacksmithing*, vol. IV. New York, 1891.

Riley, J. W.: *A Manual of Carpentry and Joinery*. London, 1905.

Internet

On brackets:
http://www.kulturarv.dk/information-om-bygningsbevaring/doere-og-vinduer/vinduesbeslag/
(accessed 17-12-2012)

Finds report - Coins and Non-ferrous metals

Figure 1 Metal detecting on Copenhagen's old pastures, The machine have scraped of the modern dump layer, revealing the soil layer that used to be the common pastures of Copenhagen. The photo is taken from the south west towards the road junction known as Trianglen. Københavns Museum, 2015.

From KBM 3841 Trianglen, there are a total of 93 non-ferrous metal finds distributed on 52 find numbers. The finds have a total weight of 921,1g. These have been registered in the IntraSIS database K2012:10.
There are 93 objects in various types of non-iron metals or alloys, including lead, copper, gold, silver and bronze (Table 1). The finds include an extremely varied collection both in terms of materials and object types. Several of the objects are personal artefacts, which have been fastened to clothes while other more anonymous objects are related to construction. There are quite a few special artefacts, e.g. a silver spoon, a small gold ring, a lead toy soldier and a brass pulley. Although it was not possible to fully classify the function of several items, they will be incorporated where possible in the discussion.
An intensive metal detector survey for non-ferrous materials across both the open trenches and of the spoil heaps resulted in the recovery of many of the objects described below. The metal detector was used as part of the recovery scheme within the last phase of the excavation in order to retrieve evidence of the area's potential years of usage, and perhaps suggestions as to the types of activities conducted. Ferrous objects were avoided during the survey because a large, representative sample had already been collected during the Open Archaeological Excavation.

Danefæ

All the coins will be submitted to the National Museum as treasure trove (Danefæ), since all soil found coins are treasure trove.

Material	Number	Weight (g)
Coins	15	65,1
Buttons	10	33,3
Cast waste	3	33,6
Lead seals	3	40,8
Lead	7	238,5
Objects of gold and silver	2	7,1
Copper alloys, other metals	52	502,7
Total	**93**	**921,1**

Table 1. Coins and non-ferrous metal finds from Trianglen.

Dating

The overall dating estimated for each context is stated in the section “Find Contexts”. The broad dating frame is from 1771 (coin find) to the second half of the 1900s. Most of the finds, including several dated coins, appear to be from the second half of the 1800s, with a few temporal pointers back and forward in time.
There is a single artefact, a small silver spoon, with a Master’s Mark (FO 100156).

Coins

Ten coins of small denominations were minted in Denmark, Sweden and Russia. Materials are bronze, copper, aluminium, and zinc. Two small coins of Swedish origin are of silver.

Id	Name	Number	Type	Material
100080	2 skilling, Rigsbanktegn, 1815	1	Coin	Copper
100081	2 øre, Chr IX 1874-1906	1	Coin	Bronze
100083	1 øre, Sweden, 1879-1905	1	Coin	Bronze
100096	2 øre, Chr IX 1874-1906	1	Coin	Bronze
100101	1 skilling, Fred VII, 1856	1	Coin	Bronze
100104	2 øre, Chr X, 1941	1	Coin	Aluminium
100115	1 øre, Chr IX 1874-1904	1	Coin	Bronze
100123	10 øre, Sweden, 1878	1	Coin	Silver
100138	2 skilling, Rigsbanktegn, 1815	1	Coin	Copper
100155	1 skilling, Chr VII, 1771	1	Coin	Copper
100164	2 øre, Fred IX, 1971	1	Coin	Zinc
100166	Unidentified coin, 28mm diam.	1	Coin	Copper
100168	2 kopek, Russia, 1812	1	Coin	Copper
100180	Unidentifed coin, 17-18mm	1	Coin	Copper
100185	10 øre, Sweden, 1882	1	Coin	Silver
Total		**15**		

Buttons

Buttons occur as two main types: buttons with shank (flat or domed) and flat buttons with 4-hole sew through. Most are simple buttons and only one has a more elaborate decoration.

Id	Name	Number	Type	Subclass
100082	Button, shank, domed, decorated	1	Button	Personal Items
100107	Button, shank, flat	1	Button	Personal Items
100116	Button, shank, flat	1	Button	Personal Items
100117	Button, shank, shallow dome	1	Button	Personal Items
100157	Button, 4-hole sew through, zinc alloy?	1	Button	Personal Items
100160	Button, shank, domed	1	Button	Personal Items
100173	Button, shank, domed	1	Button	Personal Items
100178	Button, 4-hole sew through, zinc?	1	Button	Personal Items
100182	Button, shank, flat	1	Button	Personal Items
100184	Button, 4-hole sew through	1	Button	Personal Items
Total		**10**		

Cast waste

While the identification of three pieces as cast waste is uncertain, it was found to be an appropriate term for two supposed bronze fragments and an unidentified metal fragment.

Id	Name	Number	Type	Subclass
100112	Bronze? fragment	1	Cast waste	Slag_metal
100162	Bronze? fragment	1	Cast waste	Slag_metal
100190	Metal, uidentified, cast waste?	1	Cast waste	Slag_metal
Total		**3**		

Lead seals

There are three lead seals, of which one is of Dutch origin. Lead seals such as cloth seals and bale seals were widely used in Europe between the 13th and 19th centuries as a means of identification and as a component of regulation and quality control.

Id	Name	Number	Type	Subclass
100108	Lead seal	1	Seal	Seal
100120	Lead seal	1	Seal	Seal
100150	Lead seal	1	Seal	Seal
Total		**3**		

Lead

Several pieces of sheet lead were found, of which some are of recent date. As an architectural metal, lead was a popular roofing material for centuries, used for roofing, flashing, gutters, downspouts, and conductor heads.

Id	Name	Number	Type	Subclass
100089	Sheet lead	1	Waste	Building Materials
100095	Flat lead figure	1	Toy	Personal Item
100114	Lead fragment	1	Waste	Slag_metal
100145	Lead cladding	1	Waste	Building Materials
100169	Sheet lead w rivet holes	2	Waste	Building Materials
100194	Lead sign w inscription, modern (ÅAU)	1	Waste	
100196	Sheet lead/copper (ÅAU)	1	Waste	Building Materials
Total		**7**		

Objects of gold and silver

Two quite unique finds of precious metals consist of a delicate, intertwined gold ring and a silver coffee spoon. Such objects are rarely found in archaeological assemblages in Copenhagen.

Id	Name	Number	Type	Subclass
100084	Allegiance ring?	1	Ring	Personal Items
100156	Tea- or coffeespoon, 0.826 silver	1	Spoon	Household Materials
Total		**2**		

1.10 Various metal finds

Id	Name	Number	Type	Subclass
100087	Metal, unidentified	1		Slag_metal
100092	Decorative stud, brass cast	1	Knob	Household Materials
100113	Bottle caps (Public Excavation)	31		Slag_metal
100119	Wire (Public Excavation)	10	Wire	Building Materials
100137	Pulley, brass, small	1		Slag_metal
100151	"Winding key", copper alloy	1		Household Materials
100170	Base of birdshot cartridge, brass	1		Personal Items
100171	Hydraulic brass socket	1		Slag_metal
100172	Copper alloy fragment	1		Slag_metal
100176	Brass bracket	1		Slag_metal
100177	Bracket w rivet holes	1		Slag_metal
100195	Copper fragment (ÅAU)	1	Fragment	Slag_metal
Total		**51**		

Find contexts

The “Commons horizon”

FO-numbers: FO 100080, FO 100081, FO 100083, FO 100084, FO 100087, FO 100089, FO 100092, FO 100095, FO 100101, FO 100107, FO 100108, FO 100112, FO 100114, FO 100115, FO 100116, FO 100117, FO 100120, FO 100123, FO 100137, FO 100145, FO 100182, FO 100184, FO 100185.
Number of objects: 24
Dating: Second half of the 1800s
Import/localities: Sweden

A total of seven coins were found. These may have been lost during fairs or family excursions to the Commons. The youngest coin is a Danish 2 skilling Rigsbank token of copper from 1815 (FO 100080). Rigsbanktegn (Rigsbank token) were issued in Copenhagen under Frederik VI in values of 2, 3, 4 and 16 rigsbankskilling from 1813-1815. Tokens were issued in difficult economic times, and this was during the national bankruptcy. Tokens were coin-like pieces not considered real coins, but credit coins, where the metal value was not a factor. In this way they may be considered similar to banknotes. They were issued either by the mint master or others on his behalf[11].
A skilling coin was minted under King Frederik VII in 1856 (FO 100101).
The six remaining coins are 1, 2 and 10-øre coins dated within a relatively narrow time bracket from 1874 - 1906. Three of the coins are small Swedish Oscar III silver øre coins (FO 100083, FO 100123, FO 100185). Two Danish 1 and 2-øre coins were minted under King Christian IX (FO 100081, FO 100115).

[11] http://www.danskmoent.dk/galster/galshist.htm

Figure 1. Coins mainly from “The Commons horizon”.

Figure 2. Swedish silver and bronze øre coins issued by Oscar III. From the “The Commons Horizon”.

A gold ring was found that consists of three intertwined, thin hoops that fit together to form one complete ring (FO 100084). It has a reeded or serrated decoration. Gimmal (latin: *gemellus*, twin) rings are traditionally seen as a Christian symbol and represent the Holy Trinity (Trinity rings). Although they can be seen in many different metals, the three rings are often produced in different tones of gold. Gimmal rings, popular in 16th and 17th century England and Germany, were used as betrothal rings[12], and intertwined rings were also used as Russian wedding bands to represent holy matrimony.

[12] **http://en.wikipedia.org/wiki/Gimmal_ring**

Figure 3. The slightly damaged looped gold ring (FO 100084).

A semi-flat cast lead figure represents a cavalryman on a horse, possibly Napoleonic or Prussian. The figure would originally have been mounted on a foot (FO 100095). The rider carries a sword at his left side but misses his head, and the horse misses the lower part of its legs. The figure appears unpainted but the colour may have worn off.

The first flat toys soldiers appears from 1730 in production series, when soldiers appeared to have gained a central place in the repertoire of toys. They were made of tin-plate and tin, produced in engraved slate-molds. German manufacturers later made half flat pieces that were more attractive and realistic. They were of tin and contained a bigger proportion of lead. In particular the body of the half flat figures was slightly more rounded with more out-standing detail. These pieces became popular in the second half of the 1800s, which is also the most probable date for FO 100095.

Figure 4. Half-flat lead lead toy figure in the form of a mounted cavalryman (FO 100095).

Two lead seals were found. A lead seal of the 'bulla' type dates to the 17-1800s (FO 100108). The bulla - a disc with a tunnel from side to side through which a string is passed - became a popular form of seal during the 18th century. It was found to be more versatile than the rivet-type seals hitherto used on cloth, as it could be attached to a wider range of goods, including the bags, bales and sacks in which they were distributed. The seal has been cast and impressed with dies. It probably originates from Leiden in Holland, and depicts the crossed keys badge of that city. There is a saltire between the keys at the top, and a letter “K” to the right of the keys. The reverse is blank. It is probably a cloth seal, as Leiden was an important centre of cloth production[13]. Lead seals such as cloth seals and bale seals were widely used in Europe between the 13th and 19th centuries as a means of identification and as a component of regulation and quality control. The other seal consists of two disc seals joined by a connecting strip (FO 100120). These were intended to be folded around each side of a textile and stamped closed, in a manner similar to that in which coins were stamped. No stamp could be identified on this seal.

Figure 5. Lead seal from Leiden of the “bulla-type” – from Trianglen (FO 100108).

Of the same material are two pieces of sheet lead or lead cladding (FO 100089 and FO 100145) as well as an unidentified lead fragment (FO 100114).

Five buttons were found (FO 100107, FO 100116, FO 100117, FO 100182, FO 100184). Four are shank-buttons and one button is a sew-through (FO 100184).There is a decorative cast brass fitting or stud in the form of acanthus leaves or a palmette (FO 100092). The raised letters “SO” can be seen inside a circle on the side of the fitting. The diameter of the opening is 9,2mm and it becomes narrower towards the top. The remaining (rusty) part of an iron insert is visible.

Figure 6. Decorated brass fitting (FO 10092).

A small brass pulley was found during the metal detector survey. The wheel diameter is 18mm and width of the wheel is 5,3mm (FO 100137). It is not possible to say anything specific about its use.

Figure 7. The encrusted brass pulley (FO 100137).

Also found was a piece of bronze cast waste (FO 100112) and an unidentified piece of metal (FO 100087).

2092 – Test pit
FO-numbers: FO 100138, FO 100178
Number of objects: 2
Dating: 1815 -

To this context belong two metal finds. One is a Danish 2 skilling Rigsbank token of copper from 1815 (FO 100138). Rigsbanktegn (Rigsbank token) were issued in Copenhagen under Frederik VI in values of 2, 3, 4 and 16 rigsbankskilling from 1813-1815. Tokens were issued in difficult economic times, and this was during the national bankruptcy. Tokens were coin-like pieces that not considered as real coins, but credit coins, where the metal value was not a factor. In this way they may be considered similar to banknotes. They were issued either by the mint master or others on his behalf[14].
The other find is a 4-hole sew through button, possibly of zinc (FO 100178).

Z5558
FO-numbers: FO 100155, FO 100190
Number of objects: 2
Dating: 1771 -

As a stray find from this zone is a Danish 1 skilling copper coin from 1771 (FO 100555). The 1771 skilling is the most common Danish skilling coin and it was issued in almost 55 million pieces in Copenhagen, Altona and Kongsberg. Because of incrustations on the obverse side, it cannot be determined whether the coin is a sub-variant I or II[15].

[14] **http://www.danskmoent.dk/galster/galshist.htm**
[15] **http://www.danskmoent.dk/chr/c7h37.htm**

A piece of copper-alloy (bronze) is possibly cast waste, but this identification is uncertain (FO 100190).

Z2000
FO-numbers: FO 100096, FO 100104, FO 100150, FO 100151, FO 100156, FO 100160, FO 100162, FO 100164, FO 100166, FO 100168, FO 100169, FO 100170, FO 100171, FO 100172, FO 100173, FO 100176, FO 100177
Number of objects: 17
Dating:
Import/localities: Russia, Sweden

Unusual in a Danish archaeological context is a Russian 2 kopek from 1812 (FO 100168). Issued during the reign of Alexander I, this coin might have been acquired as a souvenir during the Napoleonic Wars and accidentally dropped during a visit to the Commons. A 2-øre from 1874-1906 was issued by Christian IX (FO 100096). There is also an unidentified coin of copper with a diameter of 28mm (FO 100166). The surfaces are corroded such that it is not possible to identify text that can be discerned on one side of the coin. The other side is also too corroded to be identified without conservation. The youngest coins from Trianglen are represented by a 2-øre from 1941 (FO 100104) and a 2-øre from 1971 (FO 100164).

Figures 8 & 9. Left: 2-kopek from Trianglen (FO 100168). Right: Similar coin from private collection.

Figure 10. 2-ører from 1941 (FO 100104) and 1971 (FO 100164).

From the spoil heap was retrieved a small, elongated coffee- or demitasse spoon (FO 100156). The spoon is a single-piece construction and has a thin, angular stem with an elongated bowl.

Unfortunately, the spoon is broken halfway up the stem.

Three intaglio-marks on the back of the spoon bowl indicate Maker's Mark, City Mark, and silver value. The "Three Tower Mark" was instituted in 1608 as the official city mark of Copenhagen. Other Danish cities (e.g. Aalborg, Aarhus, Odense, Viborg) had their own marks until 1893 when the Copenhagen Three Towers became the national mark for Denmark. This mark guarantees a silver purity minimum of 826/1000 (unless a higher standard mark is indicated).

The Three Towers were always marked in conjunction with the initial mark of the Assay Master, it was he who took final responsibility of guarantee. The use of both marks was discontinued by 1977. In 1893, a law was enacted in Denmark that standardized a new system of silver marking. Required were: Maker's Mark, Numerical Standard Mark, and Assay Mark (three towers). The minimum standard of silver purity was .826, this was amended to .830 in 1936 and .925 became the other official standard, although it had been commonly used before, especially on silver made for export. The use of the "Three Tower Mark" and the initial mark of the Assay Master were discontinued in 1977[16].
The spoon carries a maker's mark of "L.G.", and a search reveals that there were two active silversmiths in Denmark with these initials, namely Laurits Theodor Grün - Copenhagen (active 1942 – 1972) and L. Grønlund - Odense (active 1893 – 1937). The character of the spoon fits better with the earlier Grønlund production and should therefore probably be dated to 1893-1937.

Figure 11. The silver spoon (FO 100156).

Figure 12. Close-up of the backside of the spoon showing Maker's Mark, Numerical Standard Mark, and Assay Mark (Copenhagen Three Towers).

A birdshot cartridge brass head is marked with a “T” at the base, which indicates that it contained shots of a quite large diameter (FO 100170). It has two impact marks at the base. One may wonder about what the cartridge head is doing in an urban context, as hunting was not permitted on the Commons.
A hydraulic brass fitting may have been part of a municipality regime of artificial watering of flowerbeds in the outskirts of the Commons (FO 100171).

Figure 13 & 14. Birdshot cartridge (FO 100170) (left) and hydraulic brass fitting (FO 100171) (right).

Figure 15. Copper winding tool (FO 100151).

A small copper winding tool (FO 100151) resembles a winding key, but the end is attached to a broken-off wire and it cannot be turned in a clockwise manner. Its function is uncertain but it appears to be for light use as it is not a very sturdy object.
Also collected from this zone are two domed copper-alloy buttons with shanks (FO 100160, FO 100173), one piece of bronze cast waste (FO 100162), a copper alloy fragment (FO 100172), a brass bracket (FO 100176) and a bracket with rivet holes (FO 100177)
Finally, there is (cloth) seal consisting of two disc seals joined by a connecting strip (FO 100150). Although the size varies, it is reminiscent of FO 100120. Also of lead is a fragment of sheet lead with rivet holes (FO 100169)

Figure 16. Various types of buttons from Trianglen.

Figure 17. Possibly case waste, non-ferrous.

100030 – Open Archaeological Excavation (ÅAU)

FO-numbers: FO 100082, FO 100113, FO 100119, FO, 100157, FO 100180, FO 100194 – FO 100196.
Number of objects: 47
Dating: 1800s? - Contemporary

A single coin was found, but unfortunately it cannot be identified without further conservation (FO 100180). Two buttons were recovered. One is 4-hole sew through button (FO 100157), possibly of zinc, and the other is a richly decorated domed shank button (FO 100082). The latter is decorated with a central white-coloured square with inward-curved sides.
There are 30 generic crown cork bottle caps and one pull-off bottle cap (FO 100113). While the majority are in an advanced stage of decay and covered in rust, recognizable brands include Faxe Kondi, Carlsberg Pilsner, Albani Odense Classic, Tuborg Julebryg and Cult Shaker Energydrink. Bottle caps are usually made from tinplate, chromium plated sheet metal and tin-free steel.
There is a strip of lead with a technical designation in the form of digits and letters (FO 100194), two pieces of lead and copper fittings (FO 100195 and FO 100196) and an older electrical wire (FO 100119) covered by a spiral cable wire wrap.

Figure 18. Various lead and copper fittings. Three have holes for nails.

Figure 19. Contemporary crown cork bottle caps from Trianglen.

Figure 20. Isolated copper wires.

Literature

Mitchiner, M. 1991. *Jetons, Medalets and Tokens*, Volume 2. The Low Countries and France. Seaby.

3.2. Internet

Galster, G. Danske Mønter
http://www.danskmoent.dk/galster/galshist.htm [accessed 20.11.2012]

Gimmal ring
http://en.wikipedia.org/wiki/Gimmal_ring [accessed 5.12.2012]

Christian 7. 1 skilling
http://www.danskmoent.dk/chr/c7h37.htm [accessed 20.11.2012]

Online encyclopedia of Silver Marks, Hallmarks and Maker's Marks
http://www.925-1000.com/dm_Assay.html [accessed 20.11.2012]

List of Contexts

Id	Name	Subclass	Basic Interpretation	Suggested dating
20	Dobbelt trækors 1	Subgroup	Structural timbers	1800
21	Støttende pæle	Subgroup	Structural timbers	1800
22	Stopklodser	Subgroup	Structural timbers	1800
23	Underliggende træstøtter	Subgroup	Structural timbers	1800
24	Træpløk	Subgroup	Structural timbers	1800
25	Hjul og stejle nord	Group	Structural timbers	1800
26	Hjul og stejle træ (syd)	Group	Structural timbers	1700
27	Uforstyrrede Fællede	Group	Pasture	-10000-1800
28	Moderne Forstyrrelse	Group	Disturbance	
29	Træpæle	Group	Stake hole	Modern
30	Nedgravninger 8 stk	Group	Pit	1800-1900
31	Trækasse med slagge	Group	Cess	1800-1900
97	Vandrør der skærer anlæg	Group	Ditch	
98	Moderne rør	Group	Ditch	
99	Slaskgruppe for moderne	Group	Alluvial channel deposit	
1000	trærodsforstyrrelse	Deposit		
1016	Vej belægning	Deposit		
1145	Fælledparken fragment 1	Deposit	Topsoil	1690-1930
2018	Fælledparken fragment 2	Deposit	Topsoil	1690-1930
2031	Nedgravning til fjernelse af bunker	Cut		
2044	Moderne nedgravning	Cut	Topsoil	1970
2061	Felt 2	Deposit	Topsoil	
2067	Bund af testhul 1	Deposit		
2072	Træplanke	Timber Structure	Post	
2076	Optrukken planke felt 2	Cut		
2084	Lag i felt 3	Deposit		
2092	Fælledlag Testhul 1	Deposit		
2097	Fælledparken fragment 3	Deposit		
2200	Støttende pæle Ø	Timber Structure	Beam	
2223	Opfyld i trækonstruktion...	Deposit	Primary Construction Backfill	1750-1800
2256	Støttenden pæle vest	Timber Structure	Post	1780-1900
2292	Træplanke Ø-V	Timber Structure		
2299	Stopklods II	Timber Structure		
2303	Træpløk	Timber Structure		
2307	Undeliggende træstøtte II	Timber Structure	Wooden foundation	1800-1850
2311	Østlig Træplanke Ø-V	Timber Structure		
2322	stopklods I	Timber Structure		
2332	Østlig træplanke N-S	Timber Structure		
2349	Træplanke N-S	Timber Structure		
2353	Underliggende træstøtte I	Timber Structure		
5008	Nedgravning til Vandrør	Disturbance	Construction cut	1970+
5012	Moderne kabel.	Disturbance		
5016	Nedgravning til træ 1	Cut		
5029	Nedgravning til træ 2	Cut		
5047	Nedgravning til træ 3	Cut		
5052	Nedgravning til træ 4	Cut		
5061	Nedgravning til træ 5	Cut		
5092	Nedgravning til træ 6	Cut		
5096	Træpæl	Timber Structure		
5104	Træpæl	Timber Structure		
5111	Træpæl	Timber Structure		
5133	Træpæl	Timber Structure		
5150	Trækasse med slagge	Timber Structure	Wooden Well	1800-1900
5169	Slaggelag	Deposit	Foundation layer	1800-1900
5225	Moderne nedgravning	Disturbance		
5245	Skurvognsby	Disturbance		
5253	Nedgravning til rør	Disturbance		

5277	Profil Billede	Disturbance		
5279	Stabel af autoværn	Disturbance		
5307	Nedgravning til rør	Disturbance		
5328	Trærod?	Deposit		
5335	Sandlag, bunker	Deposit	Fill	
5380	Omrørt træplantering	Deposit	Fill	
5410	Moderne nedgravning	Disturbance		
5429	?	Timber Structure		
5442	Forstyrrelse Moderne	Disturbance	Structural cut	1970+
5453	Nedgravning til ældre kabel	Cut		
5457	Opfyld til moderne kabel	Deposit		
5461	Opfyld moderne kabel	Deposit		
5484	Kloak?	Disturbance		
5488	Nedgravning til kloark?	Cut		
5492	Nedgravning til træanlæg	Cut		
5525	Opfyld i v75 og nedgravning træanl.	Deposit		
5542	Fælledparken fragment 4	Deposit		
5573	Fyld med keramik	Deposit		
5577	Bundplanke til stjele træ	Timber Structure		
5581	Nedgravning til gasrør	Cut		
5593	Skråstiver til stejle	Timber Structure		
5597	Bundplanke til stejle	Timber Structure		
5602	Skråstiver til stejle	Timber Structure		
5606	Bundplanke til stejle	Timber Structure		
5610	Udgravet kvardrat	Deposit		
5614	Træ i flade	Timber Structure		
5626	Træ i flade	Timber Structure		
5630	3 sten	Stone/Brick Structure		
5644	Træplok fra gasrørsnedgravning	Timber Structure		
5648	Slettes	Cut		
5657	?	Cut		
5662	Træstykke	Timber Structure		
5674	Fælledparken fragment 5	Deposit		
5681	Træplanke der lå på marken	Timber Structure		
5696	?	Deposit		
5701	Moderne opfyld	Deposit		
5715	Moderne opfyld	Deposit		
5722	Pæl moderne	Timber Structure		
5736	Gasledning	Cut		
100003	Opfyld bunker	Deposit	Demolition layer	1950
100030	ÅAU	Deposit	Demolition layer	1900
100038	Fælled III	Deposit	Topsoil	
100219	Død naturgasledning	Disturbance	Disturbance	
100220	Kloakledning	Disturbance	Disturbance	
100221	Aktiv fjernvarme	Disturbance	Disturbance	
100222	Telekabel	Disturbance	Disturbance	
100223	Telekabel 2	Disturbance	Disturbance	
100224	Telekabel 3	Disturbance	Disturbance	
100225	Vandledning	Disturbance	Disturbance	
100226	Vandledning 2 v75 død	Disturbance	Disturbance	
100227	Kloakledning 2	Disturbance	Disturbance	
100228	Elkabel	Disturbance	Disturbance	

List of Finds

ID	Name	Material	N	W (g)	Dating	Stratigraphic object (Context)
100080	2 skilling, Rigsbanktegn, 1815	Copper alloy	1	2	Late post-medieval	1145
100081	2 øre, Chr IX 1874-1906	Copper alloy	1	4	Late post-medieval	2018
100082	Button, shank, domed, decorated	Copper alloy	1	3,8	Late post-medieval	Metal Detector Survey
100083	1 øre, Sweden, 1879-1905	Copper alloy	1	2	Late post-medieval	Metal Detector Survey
100084	Allegiance ring?	Gold	1	2,2		Metal Detector Survey
100087	Metal, unidentified	Metal undef.	1	119		5542
100089	Sheet lead	Lead	1	4,4		Metal Detector Survey
100092	Decorative stud, brass cast	Copper alloy	1	7,4	Late post-medieval	Metal Detector Survey
100095	Figure on horse	Tin	1	20,8	Late post-medieval	Metal Detector Survey
100096	2 øre, Chr IX 1874-1906	Copper alloy	1	4	Late post-medieval	5674
100099	Slag (Public Excavation)	Slag	781	12480		100030
100101	1 skilling, Fred VII, 1856	Copper alloy	1	3,8	Late post-medieval	Metal Detector Survey
100104	2 øre, Chr X, 1941, Aluminium	Copper alloy	1	1,2	Modern time	Metal Detector Survey
100105	Nails & bolts Public Excavation	Iron	231	2660	Modern time	100030
100107	Button, shank, flat	Copper alloy	1	5,2	Late post-medieval	5674
100108	Lead seal	Lead	1	13,9		Metal Detector Survey
100112	Bronze? fragment	Copper alloy	1	6,9		Metal Detector Survey
100113	Bottle caps (Public Excavation)		31	120		2000
100114	Lead fragment	Lead	1	3,8		Metal Detector Survey
100115	1 øre, Chr IX 1874-1904	Copper alloy	1	2	Late post-medieval	Metal Detector Survey
100116	Button, shank, flat	Copper alloy	1	5,6	Late post-medieval	Metal Detector Survey
100117	Button, shank, shallow dome	Copper alloy	1	2	Late post-medieval	Metal Detector Survey
100119	Wire (Public Excavation)	Copper alloy	10	140	Modern time	100030
100120	Lead seal	Lead	1	18,8		Metal Detector Survey
100122	Iron rods, round (Public Excavation)	Iron	29	1100	Modern time	100030
100123	10 øre, Sweden, 1878	Silver	1	1,45	Late post-medieval	Metal Detector Survey
100125	Iron rods, flat (Public Excavation)	Iron	20	510	Modern time	100030
100127	Brackets (public excavation)	Iron	5	1000	Modern time	100030
100129	Iron tubes (public excavation)	Iron	1	960	Modern time	100030
100131	Iron, undefined (public excavation)	Iron	36	2760	Modern time	100030
100133	Forged eye (public excavation)	Iron	1	80	Modern time	100030
100135	Auger (public excavation)	Iron	1	6	Modern time	100030
100137	Pulley, brass, small	Copper alloy	1	11,5	Late post-medieval	Metal Detector Survey
100138	2 skilling, Rigsbanktegn, 1815	Copper alloy	1	2	Late post-medieval	2092
100139	Nut, hexagonal (public excavation)	Iron	1	291	Modern time	100030
100142	Iron hook, forged (public excavation)	Iron	1	232	Modern time	100030
100144	Hook for window (public excavation)	Iron	2	47,5		100030
100145	Lead cladding	Lead	1	19,9		Metal Detector Survey
100148	Hardie for anvil? (pub. ex.)	Iron	1	173	Modern time	100030
100150	Lead seal	Lead	1	8,1	Late Medieval	2000
100151	"Winding key", copper alloy	Copper alloy	1	3,4	Late post-medieval	2000
100155	1 skilling, Chr VII, 1771	Copper alloy	1	11,7	Late post-medieval	5558
100156	Tea- or coffeespoon, 0.826 silver	Silver	1	4,9	Late post-medieval	2000
100157	Button, 4-hole sew through, zinc alloy?	Copper alloy	1	1,3	Late post-medieval	100030
100160	Button, shank, domed	Copper alloy	1	6,9	Late post-medieval	2000
100162	Bronze? fragment	Copper alloy	1	10,6		2000
100164	2 øre, Fred IX, 1971	Copper alloy	1	3,2	Modern time	2000
100166	Unidentified coin, 28mm diam.	Copper alloy	1	11,1	Late post-medieval	2000
100168	2 kopek, Russia, 1812	Copper alloy	1	13,4	Late post-medieval	2000
100169	Sheet lead w rivet holes	Lead	2	51,9		2000
100170	Base of birdshot cartridge, brass	Copper alloy	1	8,9	Late post-medieval	2000
100171	Hydraulic brass socket	Copper alloy	1	43,4	Modern time	2000

100172	Copper alloy fragment	Copper alloy	1	1,8		2000
100173	Button, shank, domed	Copper alloy	1	2,9	Late post-medieval	2000
100176	Brass bracket	Copper alloy	1	4	Late post-medieval	2000
100177	Bracket w rivet holes	Copper alloy	1	17,2	Late post-medieval	2000
100178	Button, 4-hole sew through, zinc?	Copper alloy	1	1,7	Late post-medieval	2092
100180	Unidentifed coin, 17-18mm	Copper alloy	1	1,8	Late post-medieval	100030
100182	Button, shank, flat	Copper alloy	1	2,1	Late post-medieval	Metal Detector Survey
100184	Button, 4-hole sew through	Copper alloy	1	1,8	Late post-medieval	2018
100185	10 øre, Sweden, 1882	Silver	1	1,45	Late post-medieval	Metal Detector Survey
100190	Metal, unidentified, cast waste?	Copper alloy	1	16,1		5558
100191	Foot for stove or furniture, cast iron	Iron	1	138	Late post-medieval	100030
100194	Lead sign w inscription, modern (ÅAU)	Lead	1	157	Modern time	100030
100195	Copper fragment (ÅAU)	Copper alloy	1	5,3		100030
100196	Sheet lead/copper (ÅAU)	Lead	1	1,5		100030
100198	Slag	Slag	3	160		1145
100200	Slag	Slag	1	3		2061
100203	Iron, undefined	Iron	4	36		2061
100209	Iron, undefined	Iron	1	1,3		2067
100213	Iron, undefined	Iron	3	102		2018
100215	Iron, production waste	Iron	1	6		1145
100217	Slag	Slag	1	109,6		5169
100218	Iron nail	Iron	1	27,32		5573
100229	Column base	Undefined	1	4300	Modern time	100030
100230	Late redware	Ceramic	179	2498,5	Late post-medieval	100030
100231	Late greyware	Ceramic	8	87,5	Late post-medieval	100030
100232	Stoneware	Ceramic	11	177,5	Late post-medieval	100030
100233	Porcelain	Ceramic	92	421	Modern time	100030
100234	Bone china etc	Ceramic	152	1002,5	Modern time	100030
100235	Faience	Ceramic	12	135,5	Late post-medieval	100030
100236	Basalt ware	Ceramic	1	4	Late post-medieval	100030
100237	Ceamic. building material	CBM	99	3414	Late post-medieval	100030
100238	Clay pipes	Pipeclay	21	46,5	Late post-medieval	100030
100239	Window glass	Glass	113	258,5	Late post-medieval	100030
100240	Bottle glass etc	Glass	217	1607	Late post-medieval	100030
100241	Oyster shells	Shell undef.	2	126	Late post-medieval	100030
100242	Mother of pearl button	Bone undef.	1	2	Modern time	100030
100243	Plastic pearls	Plastic	2	1	Modern time	100030
100244	Playmobil horse	Plastic	1	19,5	Modern time	100030
100245	Multicoloured rope	Textile	1	21,5	Modern time	100030
100246	Animal bones	Animal bone	110	2670	Late post-medieval	100030
100247	Late redware, slip dec.	Ceramic	1	42,5	Late post-medieval	1145
100248	Late redware, leadglaze	Ceramic	5	23,5	Late post-medieval	1145
100249	Porcelain, musselmalet	Ceramic	4	7,5	Modern time	1145
100250	Bone china	Ceramic	1	1,5	Modern time	1145
100251	Clay pipe	Pipeclay	2	2	Late post-medieval	1145
100252	Glass sherds	Glass	3	5	Modern time	1145
100253	Animal bones	Animal bone	5	34	Late post-medieval	1145
100254	Late redware	Ceramic	6	41	Late post-medieval	2018
100256	Bone/flint china	Ceramic	26	41,5	Modern time	2018
100257	Stoneware, saltglaze	Ceramic	1	33	Late post-medieval	2018
100258	Glass bowl, blue	Glass	2	11,5	Modern time	2018
100259	Bottle glass, brown	Glass	1	0,5	Modern time	2018
100260	Slate stylus(?)	Slate	1	2,5	Modern time	2018
100261	Animal bones	Animal bone	4	59	Late post-medieval	2018
100262	Clay pipe, IOHANES KNECHT	Pipeclay	1	3	Late post-medieval	2061
100263	Bone/flint china	Ceramic	1	17,5	Modern time	2067
100264	Blue glass	Glass	1	1,5	Modern time	2067

100265	Animal bone, cows teeth	Animal bone	1	3	Late post-medieval	2067
100266	Late redware	Ceramic	4	5	Late post-medieval	2061
100267	Porcelain	Ceramic	2	3,5	Modern time	2061
100268	Bone/flint china	Ceramic	14	10,5	Modern time	2061
100269	Stoneware, Westerwald	Ceramic	1	8,5	Modern time	2061
100270	Stoneware, saltglaze	Ceramic	1	3,5	Late post-medieval	2061
100271	Clay pipe	Pipeclay	1	2,5	Late post-medieval	2061
100272	Bottle glass	Glass	13	47	Modern time	2061
100273	Window glass	Glass	2	4,5	Modern time	2061
100274	Animal bones	Animal bone	7	17	Late post-medieval	2061
100275	Prehistoric pottery	Ceramic	2	23	Late Bronze age	2092
100276	Late redware	Ceramic	2	14,5	Late post-medieval	2092
100277	Bone/flint china	Ceramic	3	5	Modern time	2092
100278	Slate stylus(?)	Slate	1	2,5	Modern time	2092
100279	Bone/flint china	Ceramic	2	1	Late post-medieval	2223
100280	Porcelain, brush painted	Ceramic	1	1	Late post-medieval	2223
100281	Bottle glass	Glass	1	5,5	Late post-medieval	2223
100282	Late redware, slip dec.	Ceramic	1	7,5	Late post-medieval	5016
100283	Bone/flint china	Ceramic	4	10	Late post-medieval	5016
100284	Royal Copenhagen, Musselmalet	Ceramic	1	9,5	Late post-medieval	5016
100285	Clay pipe	Pipeclay	1	5	Late post-medieval	5016
100286	Late redware	Ceramic	16	871,5	Late post-medieval	5150
100287	Late greyware	Ceramic	1	7	Late post-medieval	5150
100288	Terracotta, red painted	Ceramic	1	96	Late post-medieval	5150
100289	Bone/flint china	Ceramic	11	191	Modern time	5150
100290	Porcelain	Ceramic	3	13,5	Late post-medieval	5150
100291	Faience, chinese	Ceramic	1	6,5	Late post-medieval	5150
100292	Glass, opaline	Glass	1	1	Modern time	5150
100293	Slate, roof tile	Slate	1	54	Late post-medieval	5150
100294	Flint flake	Flint	1	8	Stone age	5328
100295	Bone/flint china	Ceramic	2	3,5	Late post-medieval	5573
100296	Faience, brush painted	Ceramic	1	2	Late post-medieval	5573
100297	Bottle glass	Glass	2	3,5	Modern time	5573
100299	Nail	Iron	1	12	Modern time	5674
100300	Late redware, slip	Ceramic	2	38	Modern time	5674
100301	Bone/flint china	Ceramic	2	2	Modern time	5674
100302	Window glass	Glass	2	1,5	Late post-medieval	5674
100303	Flint flake	Flint	1	5,5	Stone age	5052
100304	Glass bottle	Glass	1	45,5	Late post-medieval	100030
100327	Roof tiles	CBM	24	835	Late post-medieval	100030

List of photos

Id	Name	File Name	Photographer	Date of Image	Remark	Facing	NR.	Type of Motif
100004	116_1286	DSC_1286.JPG	ABH	31.05.2012	Workshot	N	1	Overview
100005	116_1288	DSC_1288.JPG	ABH	31.05.12	Workshot	N	2	Context
100006	116_1289	DSC_1289.JPG	ABH	31.05.2012	Workshot	N/A	3	Context
100007	116_1293	DSC_1293.JPG	ABH	04.06.2012	Workshot	W	4	Context
100008	116_1294	DSC_1294.JPG	JLM	04.06.2012	Workshot	NW	5	Find
100009	116_1297	DSC_1297.JPG	ABH	06.06.2012	Workshot	SE	6	Find
100010	116_1298	DSC_1298.JPG	ABH	06.06.2012	Workshot	SE	7	Find
100011	116_1299	DSC_1299.JPG	ABH	06.06.2012	Workshot	W	8	Context
100012	116_1301	DSC_1301.JPG	ABH	06.06.2012	Workshot	W	9	Context
100013	116_1302	DSC_1302.JPG	ABH	06.06.2012	Workshot	N	10	Work image
100014	116_1304	DSC_1304.JPG	ABH	07.06.2012	Workshot	N	11	Overview
100017	116_1324	DSC_1324.jpg	ABH	08.06.2012	Workshot	N	14	Find
100018	116_1354	DSC_1354.jpg	ABH	08.06.2012	Workshot	E	15	Find
100021	116_1332	DSC_1332.jpg	ABH	08.06.2012	Workshot	S	18	Find
100022	116_1334	DSC_1334.jpg	ABH	11.06.12	Workshot	S	19	Context
100023	116_1335	DSC_1335.jpg	ABH	11.0.12	Workshot	S	20	Context
100024	116_1337	DSC_1338.jpg	CHA	11.06.12	Workshot	E	21	Find
100025	116_1338	DSC_1338.jpg	CHA	11.06.2012	Workshot	E	22	Find
100026	116_1340	DSC_1340.jpg	ABH	11.06.2012	Workshot	E	23	Find
100027	116_1349	DSC_1349.jpg	ABH	11.06.2012	Workshot	E	24	Context
100028	116_1350	DSC_1350.jpg	ABH	11.06.2012	Workshot	E	25	Context
100031	117_1836	Cam117_1836.jpg	JLM	16.10.12	Workshot	N/A	26	Context
100032	117_1838	Cam117_1838.jpg	JLM	16.10.12	Workshot	E	27	Context
100033	117_1837	Cam117_1837.jpg	MBS	16.10.12.	Workshot	N/A	28	Work image
100034	117_1840	Cam117_1840.jpg	JLM	16.10.12	Workshot	W	29	Context
100035	117_1850	Cam117_1850.jpg	JLM	17.10.12	Workshot	W	30	Context
100036	117_1854	Cam117_1854.jpg	JLM	17.10.12	Workshot	W	31	Context
100059	116_1836	DSC_1836.jpg	JLM	17.10.12	Workshot	N	32	Context
100060	116_1838	DSC_1838.jpg	MBS	17.10.12	Workshot	E	33	Context
100061	116_1848	DSC_1848.jpg	JLM	17.10.12	ST5138	W	34	Context
100062	116_1850	DSC_1850.jpg	JLM	17-10-12	ST5138	W	35	Context

100063	116_1854	DSC_1854.jpg	JLM	17-10-12	slagge	N/A	36	Find
100064	116_1855	DSC_1855.jpg	JLM	17-10-12	SD5178	S	37	Context
100065	116_1859	DSC_1859.jpg	MBS	17-10-12	SD5176	N/A	38	Context
100066	116_1862	DSC_1862.jpg	JLM	17-10-12	Proil SM5277	W	39	Overview
100067	116_1865	DSC_1865.jpg	JLM	19-10-12	SD5328	W	40	Context
100068	116_1867	DSC_1867.jpg	JLM	22-10-12	SD5380	NW	41	Overview
100069	116_1870	DSC_1870.jpg	MBS	22-10-12	SD5335	E	42	Overview
100070	116_1872	DSC_1872.jpg	JLM	23-10-12	ZT5433, SM5442	S	43	Overview
100071	116_1874	DSC_1874.jpg	JLM	23-10-12	5453	N/A	44	Context
100072	116_1883	DSC_1883.jpg	JLM	23-10-12	5453 (Detail)	N/A	45	Context
100073	116_1889	DSC_1889.jpg	JLM	23-10-12	SC 5492	SW	46	Context
100074	116_1891	DSC_1891.jpg	JLM	23-10-12	SC 5492	SW	47	Overview
100075	116_1897	DSC_1897.jpg	JLM	23-10-12	SC 5492	SW	48	Overview
100085	116_1908	DSC_1908.jpg	CRO	24-10-12	SD 5542	SW	49	Overview
100086	116_1909	DSC_1909.jpg	CRO	24-10-12	SD 5542	SW	50	Overview
100088	116_1912	DSC_1912.jpg	CRO	24-1012	SD 5542	NW	51	Overview
100090	116_1919	DSC_1919.jpg	MBS	24-1012	ST 5593	W	52	Context
100091	116_1921	DSC_1921.jpg	CRO	24-10-12	ST 5593	W	53	Context
100093	116_1923	DSC_1923.jpg	MBS	25-1012	ST 5577	N	54	Context
100097	116_1927	DSC_1927.jpg	MBS	25-10-12	ST 577, ST 5597	W	55	Context
100098	116_1937	DSC_1937.jpg	MBS	25-10-12	ST 5602, ST 5606	W	56	Context
100100	116_1940	DSC_1940.jpg	NHA	26-10-12	ZT 5558	S	57	Context
100103	116_1944	DSC_1944.jpg	NHA	26-10-12	ST 5593, ST 5597, ST 5602, ST 5606	N	58	Overview
100106	116_1946	DSC_1946.jpg	NHA	26-10-12	ZT 5558	W	59	Overview
100109	116_1947	DSC_1947.jpg	JLM	30-10-12	ZT 5726	E	60	Overview
100111	116_1948	DSC_1948.jpg	SDW	31-10-12	Claus Rohden Olesen forsker	SE	61	Work image
100140	116_1839	DSC_1839.jpg	MBS	16-10-12	SC 5052	E	62	Work image
100147	116_1840	DSC_1840.jpg	JLM	16-10-12	ST 5096, ST 5104	W	63	Context
100149	116_1842	DSC_1842.jpg	MBS	16-10-12	Udgravning af trækonstruktion	E	64	Work image
100152	116_1847	DSC_1847.jpg	JLM	17-1012	ST 5138, SD 5169	W	65	Context
100153	116_1852	DSC_1852.jpg	JLM	17-10-12	ST 5138, SD 5169	W	66	Context
100154	116_1861	DSC_1861.jpg	JLM	18-10-12	SM 5277	W	67	Overview
100158	116_1863	DSC_1863.j	JLM	19-10-12	SD 5328	W	68	Context

		pg						
100159	116_1864	DSC_1864.jpg	JLM	19-10-12	SD 5328	W	69	Context
100161	116_1865	DSC_1865.jpg	JLM	19-10-12	SD 5328	W	70	Context
100163	116_1868	DSC_1868.jpg	MBS	22-10-12	Grøft?	NW	71	Overview
100165	116_1871	DSC_1871.jpg	JLM	23-10-12	Eksempel på håbløs fotoestetik	N	72	Work image
100167	116_1872	DSC_1872.jpg	MBS	23-10-12	ZT 5433, SM 5442	S	73	Overview
100174	116_1873	DSC_1873.jpg	JLM	23-10-12	ZT 5467, 5453, 5457	N/A	74	Overview
100175	116_1876	DSC_1876.jpg	JLM	23-10-12	ZT, 5453, 5457	N/A	75	Context
100179	116_1880	DSC_1880.jpg	JLM	23-10-12	ZT 5467, 5453, 5457	N/A	76	Context
100181	116_1888	DSC_1888.jpg	JLM	23-10-12	SC 5492	W	77	Overview
100183	116_1892	DSC_1892.jpg	JLM	23-10-12	SC 5492	W	78	Overview
100186	116_1896	DSC_1896.jpg	JLM	23-10-12	SC 5492	W	79	Overview
100188	116_1898	DSC_1898.jpg	JLM	23-10-12	5581	E	80	Overview
100189	116_1901	DSC_1901.jpg	JLM	23-10-12	5581	E	81	Overview
100201	116_1914	DSC_1914.jpg	CRO	24-10-12	SD 5542	N/A	82	Overview
100204	116_1917	DSC_1917.jpg	MBS	24-10-12	SC 5492	W	83	Context
100205	116_1926	DSC_1926.jpg	MBS	25-10-12	ST 5577	N	84	Context
100207	116_1930	DSC_1930.jpg	MBS	25-10-12	SC 5577	W	85	Context
100208	116_1933	DSC_1933.jpg	MBS	25-10-12	ST 5601, ST 5606	W	86	Context
100210	116_1941	DSC_1841.jpg	NHA	26-10-12	ZT 5558	S	87	Overview
100211	116_1945	DSC_1945.jpg	NHA	16-10-12	Trækonstruktion syd	E	88	Overview
100305	C116_1965	C116_1965.JPG	CHA	28-11-12	Find	N/A	89	Find
100306	C116_1966	C116_1966.JPG	CHA	28-11-12	Find	N/A	90	Find
100307	C116_1967	C116_1967.JPG	CHA	28-11-12	Find	N/A	91	Find
100308	C116_1968	C116_1968.JPG	CHA	28-11-12	Find	N/A	92	Find
100309	C116_1969	C116_1969.JPG	CHA	28-11-12	Find	N/A	93	Find
100310	C116_1970	C116_1970.JPG	CHA	28-11-12	Find	N/A	94	Find
100311	C116_1971	C116_1971.JPG	CHA	28-11-12	Find	N/A	95	Find
100312	C116_1972	C116_1972.JPG	CHA	28-11-12	Find	N/A	96	Find
100313	C116_1973	C116_1973.JPG	CHA	28-11-12	Find	N/A	97	Find
100314	C116_1974	C116_1974.JPG	CHA	28-11-12	Find	N/A	98	Find
100315	C116_1975	C116_1975.JPG	CHA	28-11-12	Find	N/A	99	Find
100316	C116_1976	C116_1976.JPG	CHA	28-11-12	Find	N/A	100	Find
100317	C116_197	C116_1977.	CHA	28-11-12	Find	N/A	101	Find

	7	JPG						
100318	C116_1978	C116_1978.JPG	CHA	28-11-12	Find	N/A	102	Find
100319	C116_1979	C116_1979.JPG	CHA	28-11-12	Find	N/A	103	Find
100320	C116_1980	C116_1980.JPG	CHA	28-11-12	Find	N/A	104	Find
100321	C116_1981	C116_1981.JPG	CHA	28-11-12	Find	N/A	105	Find
100322	C116_1982	C116_1982.JPG	CHA	28-11-12	Find	N/A	106	Find
100323	C116_1983	C116_1983.JPG	CHA	28-11-12	Find	N/A	107	Find
100324	C116_1984	C116_1984.JPG	CHA	28-11-12	Find	N/A	108	Find
100325	C116_1985	C116_1985.JPG	CHA	28-11-12	Find	N/A	109	Find
100326	C116_1986	C116_1986.JPG	CHA	28-11-12	Find	N/A	110	Find

Dendro report

LUND UNIVERSITY

DEPARTMENT OF QUATERNARY GEOLOGY
KVARTÄRGEOLOGISKA AVDELNINGEN
HANS LINDERSON

21 oktober 2012

Nationella Laboratoriet för Vedanatomi och Dendrokronologi, rapport nr 2012:51
Hans Linderson and Johannes Edvardsson

DENDROCHRONOLOGICAL ANALYSIS OF WOOD SAMPLES FROM TRIANGLEN, COPENHAGEN, DENMARK

Constituent: Køpenhavns Museum, Absalonsgade 3, 1658, Køpenhavn V (Jacob Mosekilde)
Area: Trianglen, Copenhagen **Sample Id:** 60236
Number of samples: 1
Dendrochronological object: Pole

Results:

CATRAS nr	CON-STRUC-TION PD	Species	Years; No of radiis	Character (Sp) Sapwood (W) Wane (B) Bark	Dating, outermost tree-ring	Tree felling (V) Winter (E) After	Remark	Min Own Age	Max own age
60236	2ST2200	Pine	86;4	Sp 32, no W	(1763)*	(1771-1811)	(mellersta Norge)	100	150

W (wane), vankant, barkring
Splintstatistiken på provet är 60±20

Kommentarer till den dendrokronologiska analysen

Påle eventuellt i anslutning till ett stegelhjul
Virket är av tätvuxen fura. Kärnveden är intakt och täcker 52 årsringar. Splintveden är ganska enhetligt eroderad runt hela stammen. Det finns dock små rester kvar intill grenutskotten så att sammanlagt 86 årsringar kunde inläsas. Den högsta korrelationen och visuella anpassningen görs med dendrokronologiska serier från Syd-Tröndelag i centrala Norge och föreslår att yttersta årsring dateras till 1763*. Detta resultat uppnår dock inte normal standard för en säker datering.
Eftersom man kunde förutse svårigheterna med denna uppgift försåg uppdragsgivaren mig med det tidsfönster som är aktuellt för uppdraget, 1748-1822. Det saknas enligt splintstatistiken 8-48 årsringar i provet, man kan därför fokusera på korrelationer som hamnar efter år 1700.
Huvudsakligen har tall-kronologier från nordeuropa testats. Virket bär inte regionens prägel med avsende på tillväxt. Jag har ändå kört provets data genom 100-tals recenta och subrecenta kronologier (många från mitt eget P.h.D. arbete) huvudsakligen från de skandinaviska länderna utan att få någon korrelation. Många täcker större delen av 1800- och 1900-talet. Detta är naturligtvis en negativ bevisföring men ytterligare en indikation på att provet är äldre än år 1800.

Förslag om kompletterande undersökning
Det är möjligt att bekräfta dateringsförslaget med hjälp av två C14 prover på två specifika platser på provets årsringsserie. Detaljer om detta kan jag återkomma med om det är önskvärt.

Hans Linderson