

Unearthing an air-raid shelter at Edgware Junior School

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Introduction

In the summer of 2005 the edge of a concrete structure was uncovered on the playing field of Edgware Junior School. The site was cordoned off, and the school contacted archaeologists. Staff at the school had been aware for some time that air-raid shelters had been built there during the Second World War, but their precise location had remained a mystery. Thus, in a freezing cold and very wet week in February 2006, a team of excavators from UCL and the Hendon and District Archaeological Society set out to unearth one of the air-raid shelter that lay beneath the playing field (Fig. 1).

The project had a number of aims: the school hoped to use the shelter as a teaching resource for the Second World War sections of the history curriculum. For the archaeologists the dig offered a chance to introduce the school children to the principles and methods of archaeology, as well as a rare opportunity to compare the history, archaeology and living memory of a site.¹

The site was located at Edgware Junior School, Heming Road, Edgware; to the south of Edgware underground station and close to Watling Street. The National Grid Reference for the shelter in question is TQ 1947 9151; the site reference is EJS06. The school dates back to the 1890s; the most recent block, now the Infant School, was built in the 1930s.

In the autumn term the Year Six classes study the Second World War including work on evacuation, the Blitz and visits to the nearby RAF Museum. While archaeology is not part of the national curriculum, Ancient Egypt and Greece are popular options, and this project gave us the opportunity to integrate archaeology into a curriculum subject, taking care to emphasise the

wide and varied scope of archaeological work beyond recent historical sites.

Historical background

The argument for building air-raid shelters in schools dates back to the mid-1930s, when local authorities were encouraged to build public shelters and make other preparations for Civil Defence.² Public fears of aerial bombing with explosives, gas or chemical weapons were exacerbated by horrific reports from the Italian campaign in Abyssinia and the German intervention in the Spanish Civil War,³ as well as by Stanley Baldwin's grim prediction that "the bomber will always get through".⁴ *The Air Raid Precautions (ARP) Act 1937* led to the formation of the volunteer Air Raid Wardens Service, and within a year more than 200,000 had joined. The Munich crisis of 1938 following the German invasion of Czechoslovakia led to the mobilisation of these volunteers, and more shelters and trenches began to be constructed in parks and playing fields for public use.⁵

After the outbreak of war, Edgware School was closed for a time, and

classes were taught in pupils' homes and in church halls in the area until sufficient shelters could be provided at the school.⁶ In October of 1939 Hendon Borough Council accepted the tender of Messrs. Lavender, McMillan Ltd. of Worcester Park to build air-raid shelters in schools in the borough. The council paid £258 17s 10d per shelter, with a £9 16s 0d surcharge for the minority of shelters which were built of concrete rather than steel.⁷ Work commenced immediately and by the end of November the first shelter at Edgware School was completed, and classes gradually recommenced.⁸ Each shelter had a limited capacity, as the Board of Education stipulated that "In times of danger children should not be assembled in groups of more than 50 in any one protected room".⁹ The records show that the shelters were fitted with electric lighting, wooden seating and chemical toilets. A year later heating, ventilation and better lights were installed so that teaching could continue in the shelters uninterrupted.¹⁰

The pupils at Edgware practiced air-raid drills and gas mask drills assiduously, and frequently had to take



Fig. 1: excavation begins – removing the slabs of concrete

cover when the sirens sounded in earnest. The school log reveals the interruption to the school day caused by repeated alerts, some lasting several hours. In November 1940 the school was damaged by a bomb landing nearby, presumably aimed at the railway terminus to the north. Windows and roof tiles were shattered, and several doors were blown open. Luckily this was after school hours, so no-one was injured. Four years later in October 1944 the school was again nearly hit, this time by a V1 'doodlebug' flying bomb which damaged several classrooms.¹¹

In 1945, following the end of hostilities in Europe, the shelters were no longer needed and the wood, glass and electrical fittings were stripped out and sold for scrap. In September 1946 the records show that thirteen air-raid shelters at Edgware School were sealed up with reinforced concrete.¹²

The historical research opened up a number of possible questions for the archaeological work to address. Where were the thirteen shelters at the school located? Were they constructed of steel or concrete – and in what manner? Various types of shelters were available at the time, built from prefabricated segments or panels, or else cast on-site.¹³ How many fittings such as benches had remained intact? Are the structures even stable enough to excavate and examine? We began our evaluation with all of these questions in mind.

Archaeological work

The first stage of the archaeological fieldwork was a resistivity survey of the school playing field. This produced a promising readout, showing several clear elongated rectangular areas of high resistance, and a few possible others (Fig. 2). One of them was clearly associated with the entrance that had been found, and on closer inspection it was possible to make out a raised area of the field that corresponded to the readout, made clearer by the white lines of the football pitch painted over it. This technique revealed at least two more shelters parallel to the first.

The first and principal area of excavation was the clearing out of the staircase, which had been filled to the top with earth and rubble (Fig. 3). Wary of the reinforced concrete plug described in the documents, we had equipped ourselves with a sledge hammer and a mighty steel rod. In the event we found the concrete in fragments, with no piece larger than about 40 kg, mixed in with the soil. As the project took place within a school, our health and safety considerations were particularly stringent throughout the dig.

In addition, a small 2 m by 1 m trench was opened across the raised area of turf to examine the exterior of the shelter. This was partly to examine the waterproofing of the roof, partly to aid surveying, and also a fallback in case we were unable to gain access to the interior of the shelter. We found that the shelter was only 0.52 m below the soil, and that the roof had been painted



Fig. 3: clearing the staircase

with tar to prevent water dripping in. Interestingly, there was no clear indication of the modular construction that was so obvious from the inside. This smaller trench produced a number of interesting finds, including a halfpenny dating from 1862, and a fragment of post-medieval green-glazed earthenware.

The excavation of the staircase continued apace, and it became clear that it was a single piece of concrete, either cast nearby or delivered as a preformed unit. A casting mark running at an angle of about 20° made it unlikely that it was cast in place. Tree roots had shifted the staircase slightly, so it was no longer exactly in alignment with the shelter. Two of the visible walls of the shelter were observed to be built from preformed panels of reinforced concrete approximately

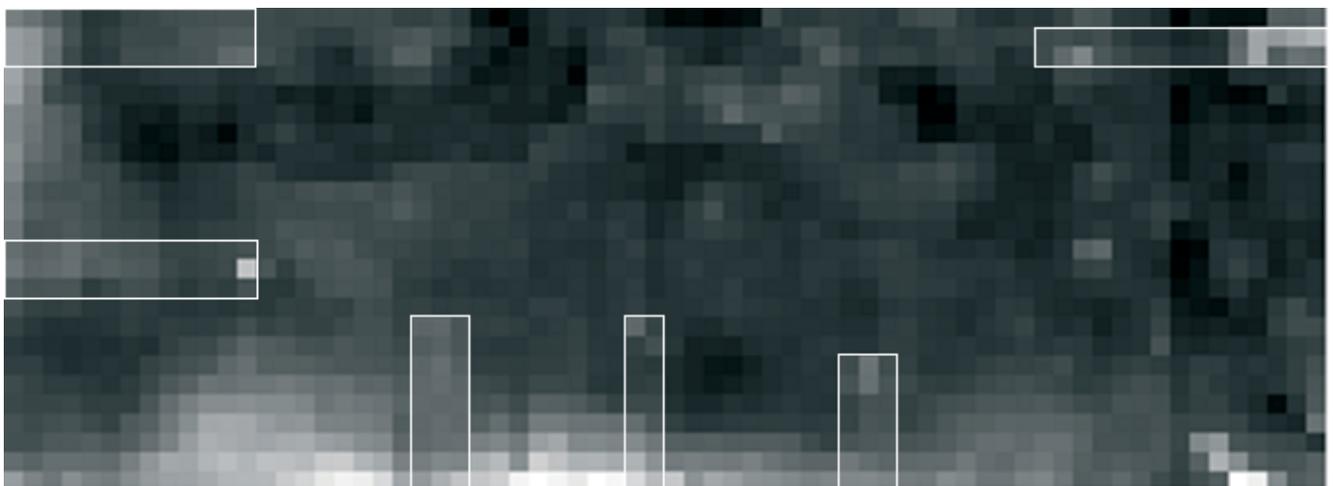


Fig. 2: resistivity results for the school playing field, with interpretations



Fig. 4: lamp or heater buried inside the shelter

0.45 m wide and 2 m high, while the partition to the right of the entrance was a half-brick wall.

Finally, when enough of the soil and loose rubble had been removed and the structure deemed stable and safe, we were able to make our first tentative steps through the open doorway of the shelter. This was the Howard Carter moment we had been anticipating: having cleared the entrance stairs, to hold a lamp up to the darkness within and announce that we could see “Things! Wonderful things!”.

The first impression was of size: the shelter felt longer below ground than it had appeared in outline on the surface; it was almost 15 m long. The ceiling was covered in condensation and the floor was wet and slimy. Despite our hope for wonderful things, the shelter was rather bare: the benches had been removed, as had the chemical toilets (mercifully, I think). The two toilet cubicles remained, one at each end. At the far end there was a metal ladder leading up to an emergency exit, sealed with a concrete plug.¹⁴ A quantity of scrap metal, builders’ rubble and other rubbish had been piled below this, presumably thrown down. However, there were several remnants of the original contents: a fire bucket with flakes of red paint remaining, a hurricane lamp and an inkwell hidden in the corner. Some fragments of the electrical wiring remained, including the brackets for the distribution panel and several bakelite covers. A large, freestanding gas lamp/heater was found

buried at the bottom of steps and painstakingly excavated (Fig. 4).

We had hoped to find graffiti on the walls, perhaps including the names of children who had sheltered there. In the event only one was found, a rather whimsical rendition of a sailing ship in yellow chalk, with a cross on the sail (Fig. 5). The toilet partition wall at the far end of the shelter revealed a whole series of maths problems chalked on the bricks, presumably the remains of a lesson meant for the children to copy down. The freshness and preservation of these ephemeral marks on the wall was remarkable, and it is hoped that they can be preserved. The shelter has been surveyed and recorded in detail, although the detailed examination of the interior for graffiti and other features can be an ongoing process, as the shelter is being kept open and accessible for the time being.

Remembering the shelters

Shortly after we completed the geophysical survey, I had placed an appeal in the local paper for anyone who attended the school during the war to contact me and pay a visit to the site. By the start of the excavation we had received one reply, and so Mrs Tessa Smith visited the school on the second day of the excavation (Fig 6). From the archaeological perspective, one of the most interesting things she told us was

that the shelters she had used, as well as two or three others, were under an area of the playground now under tarmac that we had not considered in our initial survey as we could not use a resistivity meter on it. This revelation made a total of thirteen shelters seem much more feasible. She described rows of children packed so close that their knees were touching, suggesting that there may have been three rows of benches in the larger shelters rather than just one against each wall as we had assumed.

Mrs Smith described going into the shelters: walking briskly out of the classrooms and across the field (but *not* running), taking a pencil and notebook as well as a reading book. In the shelters work, games and songs passed the time until the all-clear was sounded: “We chanted our tables, we did our spellings, we played hangman ... we took books to read and we sang patriotic songs, so we could have filled an hour reasonably cheerfully”. The smell of the shelter was particularly evocative: “It wasn’t an unpleasant smell, but it was a cementy, sand-baggy smell – if you know what a sandbag smells like – a musty smell as you went in.”¹⁵ In total I recorded over an hour of interviews with Mrs Smith. Since the dig several other former pupils have been in contact, and further visits to the school are being arranged.



Fig. 5: graffiti of a sailing ship chalked on the wall



Fig. 6: Mrs Smith telling curious students about the school in wartime

Mrs Smith also spoke to a Year Six class who had studied the Second World War, telling them about her early years living in the area, and about the experiences of a wartime childhood. She answered their questions on the shelters, on her school days and on the war in general. The enthusiasm and curiosity of the children was remarkable, and this was reflected in the questions they asked, often drawing on things they had learnt in class or heard from elderly relatives who had lived through the war. Overall Mrs Smith's visit was of great value from both an interpretive perspective and an educational one, for the archaeologists and the school children, adding real-life colour to the stark concrete structure we had revealed.

Education

During the excavations, each class in the school was brought over to the dig by their teachers to observe (from a safe distance), and to be shown the artefacts we were uncovering. We described what the shelter was and why it was

built, and how we were finding out about it from the excavations. We pointed out the earthworks visible on the surface, and explained how we used geophysics to see under the ground.

Towards the end of the week Sarah Dhanjal and Jenny Stripe from the Institute of Archaeology Widening Participation Team gave a presentation to the entire school on *What is Archaeology?* explaining why we dig under the ground to find things that tell us about people's lives in the past. This assembly helped lay the foundation for further archaeological work at the school, which will mainly focus on processing and studying the artefacts recovered from the excavation, and fitting them into the changing story of the site over time. We are also planning to involve the children in further oral history interviewing of local residents who attended the school during the war, to build up a more complete story of the school and its air-raid shelters in the war.

Conclusions and after

The air-raid shelter excavation was a valuable and rewarding exercise in combining history, archaeology and memory in the examination of a site. The location within a school allowed us to begin to integrate our work into the teaching and learning of history, and encouraged us to explain and justify our methods as transparently as possible. Perhaps the best measure of our success is that despite seeing us slaving away covered in mud through rain, hail and snow, several children announced to us that they wanted to be archaeologists when they grow up.

What next for the air-raid shelter? The school hopes to turn it into a mini museum, to be used by the Year Six children learning about the Second World War. To do so, the shelters will need numerous expensive modifications to comply with building and safety regulations. If the money can be found in grants and sponsorship, this will be a fantastic resource that can benefit other schools in the area as well as the wider community.

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6. Edgware School Logbook, 29th November 1939.
7. Hendon Education Committee Minutes, 3rd October 1939.
8. Edgware School Logbook, 29th November 1939.
9. Board of Education Circular 1467, 27th April 1939. HMSO.
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11. Edgware School Logbook, 18th November 1940; 6th October 1944.

12. Hendon Education Committee Minutes, 10th September 1946.
13. D.H. Lee *Design and construction of air raid shelters in accordance with the civil defence act, 1939, and for unspecified areas and other purposes*. (1940) London: Concrete Publications Ltd.
14. For an isometric plan of such a shelter see B. Lowry (ed) *20th Century defences in Britain: an introductory guide* (1996) 68. York: CBA.
15. Interview with Mrs Tessa Smith, 21.2.06.