PLANT REMAINS FROM STEPNEY GREEN SHAFT (XRV10)

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THE PLANT REMAINS FROM STEPNEY GREEN SHAFT (XRV10)

1. Period 2

LATE MEDIEVAL AND TUDOR

1.1. Open Area 2

Fills of L-shaped ditch, S end

Fills of ditches, which tend to be open for long periods of time, are liable to include seeds and other plant material accumulated from a variety of sources, including dumped material and naturally dispersed seeds from the general neighbourhood as well as remains of plants growing in and immediately around the ditch. All of these can be seen in the four samples examined from the south ([283]{10},{5}) and north ([217]{3}, [218]{2}) ends of the L-shaped ditch.

The samples from the southern fills were much smaller than those from the north, producing correspondingly smaller plant assemblages. They included remains of plants from a variety of habitats including, in {5}, seeds of a number of plants often found in gardens and other cultivated land, including wild radish (*Raphanus raphanistrum*), parsley piert (*Aphanes arvensis*), sun spurge (*Euphorbia helioscopia*) and scarlet pimpernel (*Anagallis arvensis*). A few species from these two samples, notably ground ivy (*Glechoma hederacea*) and hedge woundwort (*Stachys cf. sylvatica*), suggested partially shaded, hedgerow habitats, and would perhaps have been found growing on the banks of the ditch, along with brambles (*Rubus* cf. *fruticosus* agg.) and elder (*Sambucus nigra*)

It is difficult to say whether the ditch regularly contained water, as although there were few aquatic/wetland taxa represented in either sample a large number of seeds from the aquatic duckweed (*Lemna* sp.) were present in {5}. Other taxa were more suggestive of damp, periodically flooded conditions which may perhaps have left pools of water long-term in lower lying parts of he ditch.

While the majority of the plant assemblages were representative of local habitats sample {5} included a number of fig (*Ficus carica*) seeds and very occasional charred grains, suggesting a very limited input of domestic waste.

N end of L-shaped ditch

Much fragmented wood charcoal and a large assemblage of charred cereal remains was found in fill [217]{3} of ditch [220]. This included up to 4000 grains, almost all of which appeared to be from free-threshing wheat (*Triticum aestivum/turgidum/durum*). Rachis fragments were relatively common, though in poor condition, and the majority of the identifiable examples resembled bread wheat (*Triticum aestivum* s.l.), suggesting that the grains too are likely to be from this species. Bread wheat was the most common and desirable wheat for baking, but in this case appears to have been burnt before it had been fully cleaned of its chaff. The sample also contained up to 250 charred peas (*Pisum sativum*), and may have come from stored products burnt in an accidental fire and dumped in the ditch. A much smaller charred assemblage was present in sample [218]{2} which did, however, include a small amount of domestic food waste, this time preserved by waterlogging and including occasional pips of fig (*Ficus carica*) and grape (*Vitis vinifera*), sloe (*Prunus spinosa*) stones and hemp (*Cannabis sativa*) seeds.

A great many small, twiggy wood fragments dominated sample {2} as well blackberry (*Rubus* cf. *fruticosus* agg.) seeds and numerous thorns, probably from the latter. These, together with seeds of hedgerow plants including bryony (*Bryonia dioica*), elder (*Sambucus nigra*) and hedge woundwort (*Stachys cf. sylvatica*) suggest the ditch banks here were overgrown with scrubby plants as were those further south.

Fills of moat

Environmental samples from moat sediments [277]{24} and [276]{23} and {22}were the richest from the site, with the most diverse assemblages of plant remains. They provided ample evidence that the moat held water, at least for much of the time, in the form of seeds from pondweed (*Potamogeton* sp.) and duckweed (*Lemna* sp.), both of which grow floating or submerged in water, as well as numerous remains of aquatic invertebrates including waterflea eggs (cladoceran ephippia), bryozoan statoblasts and larval cases of caddis flies (Trichoptera). Marginal wetland taxa, including narrow-leaved water-parsnip (*Berula erecta*), fool's watercress (*Apium nodiflorum*), celery-leaved crowfoot (*Ranunculus sceleratus*), gipsy-wort (*Lycopus europaeus*) and ragged robin (*Lychnis flos-cuculi*), which inhabit shallow water or marginal, regularly flooded ground would have grown on the banks.

Seeds from plants of disturbed (including cultivated) ground were abundant in all three samples, but those particularly characteristic of cultivated ground, such as stinking chamomile (*Anthemis cotula*), corncockle (*Agrostemma githago*), wild radish (*Raphanus raphanistrum*) and corn marigold (*Chrysanthemum segetum*) were found mainly in sample [277]{24}, suggesting that arable fields or gardens were close by. Further evidence for the agricultural nature of the surroundings was seen, again most clearly in sample {24}, in the number of grassland taxa, many of them such as hawkbit (*Leontodon*), yellow-rattle (*Rhinanthus* sp.), self-heal (*Prunella vulgaris*), pepper saxifrage (cf. *Silaum silaus*) and lesser stitchwort (*Stellaria graminea*) found mainly in managed meadows and pastures.

Domestic waste was very rare in these samples, comprising only very occasional fig (*Ficus carica*) seeds, plum (*Prunus domestica*) stones and hazelnut (*Corylus avellana*) shell, as well as a few grains of wheat and barley, but a large number of flax (*Linum usitatissimum*) seeds were found in sample {24}, together with occasional fragments of seed capsules from the same plant. Many seeds of black mustard (*Brassica nigra*) in the same sample, and a few beet (*Beta vulgaris*) fruits in samples {22} and {23} may all come from crops growing on land close to the moat. Gerard , writing at the end of the 16th century, states that beets, coleworts (brassicas such as cabbages), and mustard were all commonly grown in London gardens (Forsyth 1990, 59)

Moat backfill

Much smaller plant assemblages were recovered from samples {20} and {21}from the moat backfill [275]. They were generally similar in composition to those from the underlying deposits and, as in earlier layers, by far the most abundant seeds came from plants with broad habitat preferences. The majority of these can be found in disturbed, often nitrogen-rich, habitats, including cultivated ground and waste places, with the largest numbers from stinging nettle (*Urtica dioica*) and white horehound (*Marrubium vulgare*). A few seeds from plants of marginal,wetland habitats, and more numerous nutlets of sedges (*Carex* spp.), suggest that this fill remained damp, but there is no evidence from the plant remains that the moat contained standing water at this time.

2. Period 3

17TH- 18TH-CENTURIES

2.1. Building 1

Fill of brick cess pit set into moat fills

A wide range of plant food remains was recovered from the sampled fill [251]{31} of cesspit [251?] indicating the varied diet enjoyed by the inhabitants of Worcester House. In addition to the more commonly found fruit stones and pips from fig (*Ficus carica*), plum (*Prunus domestica*), cherry (*Prunus avium/cerasus*) and apple (*Malus domestica/sylvestris*), and fragments of walnut (*Juglans regia*) and hazelnut (*Corylus avellana*) shell, remains of marrow/pumpkin (*Cucurbita* sp), black mustard (*Brassica nigra*) and epidermal fragments of black pepper (*Piper nigrum*) were identified. Many of these foodstuffs may have been grown in orchards and gardens surrounding the house, whose presence is also attested by finds of hop (*Humulus lupulus*), often cultivated in gardens for flavouring home-brewed beer, and the ornamental plants marigold (*Calendula* sp.) and rose (*Rosa sp.*).

While pumpkins and marrows are South or Central American in origin, and thus relatively late introductions to this country 'pompions' (pumpkins) were being sold in London's street markets by the end of the 16th century (Weinstein 1990, 84). They were eaten stuffed and baked or made into pies (Wilson 1973, 343), used bulk up bread, or eaten boiled and buttered (Stuart 1987, 199). Fig (*Ficus carica*) seeds, and perhaps plum (*Prunus domestica*) stones, are likely to have come from further afield in the form of dried figs and prunes, both of which were regularly shipped from Southern Europe to London, and the black pepper must also have been an imported commodity. This would have arrived in London from India, probably imported by the East India Company, which had a virtual monopoly of the spice trade with Asia during the 18th century (Wilson 1973, 293).

Plants such as marigold, rose and violet would have been valuable in a garden of this period, not only for their attractive flowers but also for their medicinal and other uses. The aromatic leaves and bright orange flowers of marigolds were used as a flavouring, a vegetable dye in cheese and butter making and in tisanes (herb teas) and medicines (Stuart 1987, 157, Kiple & Ornelas 2000, 1788). An infusion of marigold petals in vinegar was used against the plague, and other preparations were said to cure toothache, smallpox, measles, warts and scrofula

In addition to the ubiquitous seeds of cultivated and/or waste ground plants, this sample contained very many wood and dicotyledonous leaf fragments, as well as seeds of hawthorn (*Crataegus* sp.) and fragmented acorn cups from an oak (*Quercus* sp.) tree suggesting that trees stood close to the moat during the 17th century.

3. Period 5

LATE 19TH- AND 20TH-CENTURIES

3.1. Open Area 4

Fill of well in yard to south of 20 Garden Street

Very many plant food remains, most preserved by mineralisation, were recovered from the early 19th century infill [204]{1} of well [198], suggesting that the disused well functioned, at least partially, as a cesspit. The majority of these remains came from common fruits, including fig (*Ficus carica*), grape (*Vitis vinifera*), wild strawberry (*Fragaria vesca*), blackberry/raspberry (*Rubus fruticosus/idaeus*) and apple (*Malus domestica/sylvestris*), but mulberry (*Morus nigra*) pips were also reasonably common and the most abundant remains came from gooseberry (*Ribes uva-crispa*) and possibly redcurrant (*R. rubrum*). Seeds of *Ribes* species are often abundant in samples from post-medieval London sites, and though native to this country, they did not become popular until improved cultivars were introduced during the 16th and 17th centuries, when Gerard describes how they were 'grown in our London gardens, and elsewhere, in great abundance' (Stuart 1987, 133). The majority of figs and grapes would have been imported as dried fruits, although Hope (2005, 119), in describing the growth in market gardening around London during the 18th century, states that there were areas specialising in the cultivation of 'strawberries, mulberries, figs (under glass?) and cherries'. Ripe mulberry fruits are soft and very easily damaged, so are not grown on a commercial scale today but were obviously consumed regularly in the past, often in preserves, pies or jellies (Kiple & Ornelas 2000, 1817).

The sample also included seeds of several spices, namely fennel (*Foeniculum vulgare*), black pepper (*Piper nigrum*) and allspice (*Pimenta dioica*). Allspice is the dried, unripe berry of a tropical tree, native to central America but later cultivated in British colonies in the West Indies (Wild 1995, 32). It is so named because its taste resembles a mixture of other spices, and it was used in pickling and baking (ibid, 33). It has previously been found from several London sites, including Holywell Priory (Davis 2011), St. Giles High Street (Davis 2011) and St Mary Spital (Davis 1997).

Despite the relatively lowly status of this area, it is evident that the household at no. 20 Garden Street enjoyed a relatively varied diet, and while many of the fruits and vegetables could have been grown in their own garden they were able to supplement these with dried fruits and nuts, as well as some exotic spices, to enliven their meals.

While a few seeds of opium poppy (*Papaver* cf. *somniferum*) and probable hellebore (cf. *Helleborus* sp) may have come from ornamental and/or medicinal plants also cultivated in the garden, very few remains of wild plants were recovered from this fill, suggesting either that the well was covered or that this deposit was rapidly buried with further backfill material, preventing seeds from the surrounding environment from entering.

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