## MEDIEVAL SPITALFIELDS BURIAL GROUND; A GLOBAL DISASTER

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Excavations by MOLA throughout the period 1999 to 2002 on a site adjacent to the Augustinian priory and hospital of St Mary Without Bishopsgate (established in 1197) uncovered the remains of over 10,500 human skeletons. Part of the cemetery had been truncated by piling during the construction of the Victorian Spitalfields Fruit and Vegetable Market so there may have been around 18,000 burials in total.

Relatively few single burials, categorised as 'attritional' burials, were found in this cemetery; mostly in neat rows close to the priory church. The rest, categorised as 'catastrophic' burials, were in some 140 large pits, each containing from 8 to 40 skeletons, away from the church, close to the south and east boundary of the cemetery. From the position of the skeletons it was clear that the bodies had been placed carefully, not just dumped into the pits. These mass burials occurred in two phases. The first group of pits were roughly rectangular; the second group roughly square. The latter had been squeezed into gaps between the former and some of them had clipped the earlier pits, resulting in numerous limbs from the earlier corpses being reburied in the later pits. On excavation these limbs were found to be articulated, which implies that the two phases of burial could only have been separated by a few years.

So what fate had befallen the occupants of these mass graves?

Only about 0.1%, of the skeletons showed any sign of cranial trauma, which ruled out the possibility of battle injury. So what else could have necessitated the burial of such large number of bodies at the same time? The most obvious possibility was the Black Death (1348 - 1350) which killed 30 - 40% of the population. Another possibility was the Great Famine (1315 - 1317) during which 10 - 15% of the population died. Were there any tell-tale signs on the skeletons that would point to one or other of these disasters? Victims of the Black Death were killed quickly by micro organisms that leave no skeletal trace. People rarely die of starvation – famine reduces their ability to resist diseases which kill them. Whilst some diseases such as tuberculosis can leave their mark, famine doesn't leave a characteristic skeletal trace either!

Fortunately, unlike many other cemetery excavations, MOLA had the necessary funding to carry out extensive carbon dating. This technique gave dates of around 1250 (1230 - 1260 with a 95% probability which pre-dates both the Black Death and Great Famine by a considerable

margin).

There is documentary evidence of famine in 1252 and again in 1257/8. A Benedictine monk from St Albans Abbey called Matthew Paris recorded, amongst other things, his observations of the weather from 1250 to 1259. His entries for 1258 describe a long period where plants and crops didn't grow, resulting in such loss of life that large pits had to be dug in cemeteries to dispose of the bodies. Sounds familiar? So what could have caused such a famine?

Although there is uncertainty as to which volcano caused it, there is physical evidence around the world of a huge volcanic eruption, considerably larger than Krakatoa, that occurred around 1258. The climatic impact of such a huge eruption, including the phenomenon known as 'dry fog' which weakens sunlight and increases rainfall, could have caused the famine that necessitated the mass grave pits of Spitalfields. Such an eruption would have had impact over a huge part of the worlds surface and the lecturer is interested in working with a group in Berlin who have discovered a mass burial with a similar date to Spitalfields.

MOLA was funded by the Spitalfields Development Group that was undertaking a major rejuvenation of this, then dilapidated, part of London to the north west of Liverpool Street.