

6_4_1_Deliberate_house-burning_(Stuart_Johnston)

Several of the previous house-burning experiments produced a good burn (e.g., Cotiuga 2009) but the majority failed to achieve complete combustion of the house. The key factor in the Nebelivka experiment was the addition of 30m³ of firewood to the house before combustion. This produced an excellent combustion over 5 1/2 hours, with all walls, floors, ceilings and thatched roof completely burnt. We consider the addition of so much fuel the critical element in the success of the burning. The implications are not only that Stevanović (2002) was correct in arguing that a standard Neolithic house did not have enough fuel in its own materials to produce complete combustion, but also that the planning and achievement of complete combustion requires much more organisation and materials than had been accepted before (an exception is Cotiuga 2009). According to our geophysical investigations [[ADS LINK TO SECTION 4_2](#)], two-thirds of the Nebelivka houses were well burnt, while the remaining third were either unburnt or poorly combusted. The experiment suggests that the latter may have suffered from insufficient fuel or poorly prepared fuel or poor organisation of the burning process.

However, an even more surprising result concerned the quantity of fuel required for a successful house-burning which produced remains comparable to those of a '*ploshchadka*', including large quantities of vitrified daub. The two-storey house was completely filled with a 30m³ stack of dry timber which enabled successful combustion. The quantity of fuel was estimated to be 5 - 10 times the amount of timber required to build the house. Even if such a large quantity of fuel was not actually required to produce complete combustion to vitrification, the conclusion is the same - house-burning was in itself a major consumer of woodland resources.