

# METAL THEFT

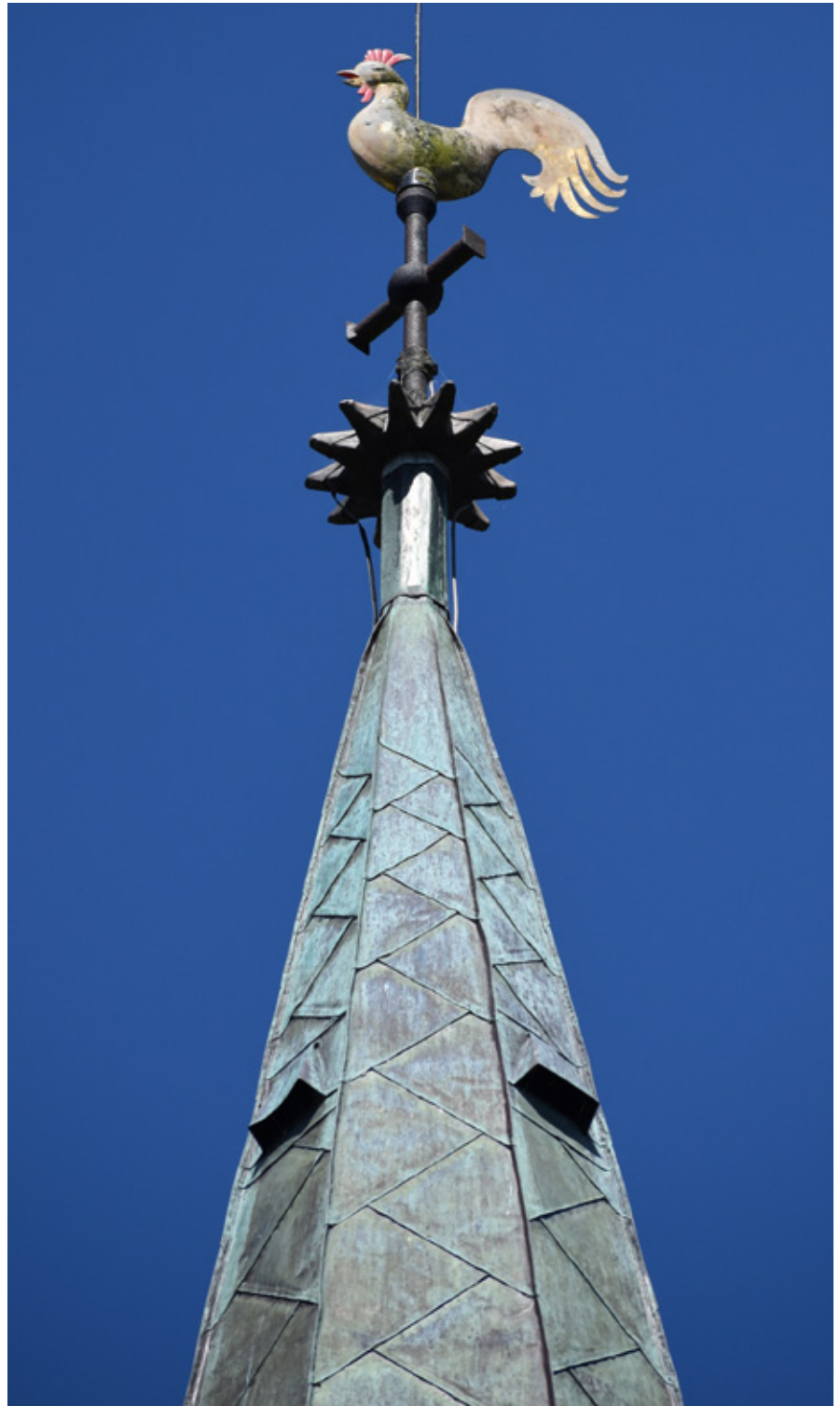
Angus Brown

**T**HROUGHOUT THE past decade metal prices have progressively risen. Despite efforts and legislation to thwart the sale of stolen metals, copper and lead are now especially desirable commodities for thieves due to their availability, value and ease of recycling.

Lead is an easily worked and corrosion-resistant metal which has been used since Roman times for pipes, pewter and paint. It has also been used in lead glazes for pottery and much more recently, in insecticides, hair dyes and as an anti-knocking additive for petrol. All of these uses have now been banned, replaced or discouraged as lead is known to be detrimental to health, particularly that of children. However, lead is still widely used for car batteries, pigments, ammunition, cable sheathing, weights for lifting, weight belts for diving, lead crystal glass, radiation protection and in some solders. It is still widely used in architecture, for roofing and in stained glass windows. Demand for lead worldwide is expected to grow, largely because of increased consumption in China, which is being driven by growth in the automobile and electric bicycle markets.

Copper is used in electrical and heating equipment because its properties make it such a useful conductor. It is used in electric car motors, household pipes, electrical installations, and many other things we use every day. Like lead, copper is so easily recyclable that most of the copper on earth remains in the ground. It is estimated that only about 12 per cent of all copper on earth has been mined throughout human history and a high proportion of it remains in circulation.

However, there is a group of commodity analysts warning about a copper shortage with dire consequences for the world economy. During 2021 investment bank Goldman Sachs published advice calling copper 'the new oil' and more importantly, the bank said copper prices could double in the next few years.



*Although lead is the most common metal roofing material used historically, copper was widely used for decorative effect, as here on the steeple of St Mary's, West Harptree. (Photo: Jonathan Taylor)*



*St Mary the Virgin, Kirtlington, Oxfordshire, with neatly rolled up sheets of lead left by in a hurry by the burglars (Photo: Angus Brown)*

Wall Street believes copper will play a huge role in two major trends; electric vehicles and decarbonisation. If not enough copper is being mined from underground deposits or coming from scrap yards to feed the coming demand, this could lead to a severe copper shortage when all the big car companies start making more electric vehicles.

The feared copper shortage isn't the world running out of copper, it's more about the current mining and recycling infrastructure not being able to meet a potential boom in demand. The last time copper prices peaked, just before the financial crisis in 2008 and 2009, people were stealing copper

wires out of the ground, copper pipes, sheet roofing and even lightning conductors, which are usually made of a heavy gauge, high quality copper. At All Saints Church in Little Staughton, Bedfordshire when thieves ripped down and stole a copper lightning conductor, they accidentally pulled down the church spire too. Masonry from the spire crashed to the ground during the raid, causing an estimated £50,000 of damage in the process.

Due to the rising value of scrap metal, churches remain under constant threat of lead or copper being stolen from the exterior of the building. Insurers and the security industry have seen a shift over the

years from these attacks being undertaken by lone, opportunistic individuals to more organised gangs. These gangs are marking easy targets and few places are as attractive as churches, for those who fear no divine retribution. Teams of thieves, many of whom may be experienced in the building trade, can strip a roof of sheet metal in a matter of hours. With correct technique, personnel and equipment, many tonnes of metal can be peeled or rolled and carted away. Some specialist church insurers are now reluctant to insure any churches with metal roofs.

One defining characteristic of metal theft is the motivation. Whereas other items are generally stolen for their extrinsic value, metals are stolen for their intrinsic value as raw material or commodities. Thefts often have negative consequences much greater than the value of the metal stolen, such as damage and destruction to listed buildings and internal damage to timber and plaster work when roofs are stolen.

At St Mary's, Kirtlington for example (see illustration), the thieves did not get away with much of the lead before a curious neighbour decided to call the police. Nevertheless, this clearly well-schooled gang was able to cause significant damage that will cost tens of thousands to put right, even if they didn't ultimately manage to take their spoils with them.

The increase in organised crime in this field carries on in spite of a clampdown on unlawful scrap metal dealers in 2013 when the *Scrap Metal Dealers Act* was introduced. This made it illegal for dealers to operate without a licence or to pay cash for scrap metal, and all sellers of scrap metal had to show ID. This may have resulted in opportunist thieves leaving this field of crime to the more organised criminal gangs. The churches now targeted have been carefully chosen. Well-disciplined teams of people have come in, working fast to remove large amounts of lead and copper sheet roofing and other components before disappearing.



*All Saints, Stretford, Manchester, stripped of its copper sheet roofing and (right) a close-up showing how they cut and removed the copper sheet (Photo: Angus Brown)*



As criminal activity develops, so does crime prevention technology. Within the security industry there are numerous products for protecting internal spaces and some for the protection of exteriors, but there was little available for the supervision of roofs, possibly due to the high costs of installing these systems in listed building settings and operating them in the long term. Furthermore, there was no national standard (nor is there still) to guarantee a police response to an alarm where the detection equipment is located exterior to any premises.

Ecclesiastical, a specialist church insurer worked with a number of firms to trial different systems which would best indicate and detect roof incursion while minimising nuisance alarms. Over a number of years a small number of companies demonstrated that their products could operate sufficiently well in order for risk to be minimised. Most church insurance companies now accept that where an approved alarm is installed they can provide full and unlimited insurance cover, thus shifting the risk of loss from the parish to a commercial insurer.

The roof alarm is one of a range of measures highlighted by Historic England in a new series of leaflets on metal theft from places of worship (see Recommended Reading, below). In particular, *Theft of Metal from Church Roofs: Prevention and Response* recommends starting with a risk assessment to identify the vulnerabilities and the measures which can be taken to make life difficult for the thieves. Measures include:

- Reaching out and engaging with the neighbourhood, whether or not they are members of the congregation, so everyone works together to keep an eye on the building
- Encouraging walkers, visitors and worshippers to pop into the building and churchyard at random times, so it does not have an air of abandonment
- Securing items that are easily removed, such as the lower section of lightning conductors
- Keeping gates secure so lorries cannot access the site, removing anything that helps people climb on to a roof and using anti-climb paint on drainpipes and gutters
- Making the roof visible by, for example, maintaining trees and installing security lights, particularly at roof level
- Using proprietary metal marking systems so lead can be identified if stolen
- Installing an alarm system and/or a CCTV system.



*St Bartholomew's, Colne; (left) the uplifting of the lead flashing and external lighting cables which had been ripped up, and (right) a close-up of the damage caused to flashing and stonework (Photo: Angus Brown)*

### THWARTING THE CRIMINALS AT ST BARTHOLOMEW'S

St Bartholomew's in Colne, Lancashire, which had an approved roof alarm system installed and monitored by E-Bound AVX Ltd, is a case that highlights how these systems can reduce the risk of metal thefts occurring.

Lead thieves struck the church on the morning of 6th May 2022. When the alarm receiving centre (ARC) received alerts indicating that there was movement on the roof of the building, it immediately alerted the previously agreed contact points at the church to warn them of the potential attack. In the meantime, a neighbour who had heard the sounding of the alarm called the police, resulting in the thieves being arrested on site with tools in hand. Although the intruders had lifted some of the lead flashing in areas, they were unsuccessful in actually removing any lead from the church building.

Six days later, the church unfortunately suffered a further attack. It is unclear if these were the same intruders as the previous incident, but again, the alarm activated, deterring the intruders who fled. This time no damage was caused to the church.

A few days later (15th May), the church suffered a third early morning attack. Like the two previous ones, alerts were received by the ARC and the church contacts were made aware, the alarm activated and the intruders fled. When E-Bound engineers visited the church the next day they discovered that one of the sensors had been physically tampered with, and it was clear that the cause of the alerts this time was the burglar's unsuccessful attempt to sabotage the system.

To conclude, the main purpose of a roof alarm is to deter intruders from stealing the metal sheet roofing, detect intrusion at the earliest opportunity and reduce the risk of a significant loss occurring. While St Bartholomew's did suffer repeated attacks over a short period of time, the damage suffered was minimal and the intruders did not succeed in removing any lead from the site.

### Recommended Reading

Historic England's guidance on 'Theft from places of Worship'

(see <http://bc-url.com/lead-theft>):

*Theft of Metal from Church Roofs: Prevention and Response*, Historic England, 2021 – This note deals with measures to prevent theft and how to respond if a theft has taken place.

*Theft of Metal from Church Roofs, Replacement Materials*, Historic England, 2021 – This note deals mainly with replacing lead and copper roofs on historic churches but also applies to other buildings with traditional metal roofs.

*Church Roof Replacement Using Terne-coated Stainless Steel*, Historic England, 2022 – This note collates current best advice for construction of new fully supported stainless steel roofing to replace stolen lead on historic churches.

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