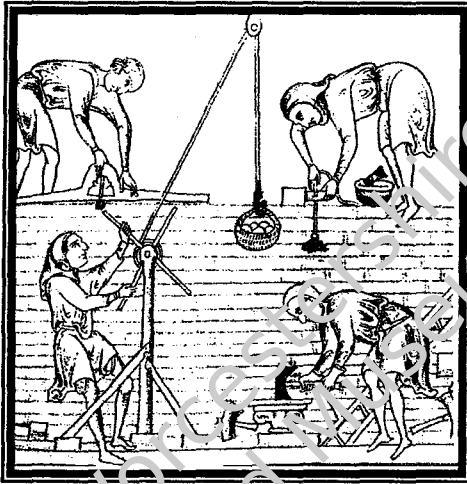


# OH WONDERFUL MASONS!

*(Seeking the Medieval Stonemason in a Modern Lodge)*



(Illustration by permission of Quatuor Coronati)

## A Masonic Lecture

by

W. Bro. Clive Moore LGR

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# **OH WONDERFUL MASONS!**

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## **INTRODUCTION**

- Medieval city dwellers lived in the shadow of the greatest manmade structures of their time, the soaring Gothic cathedrals that still fill us with wonder today. This lecture is about the masons who built them and the tangible reminders of their working lives still to be found in a modern speculative lodge.
- Despite the famines and plague of the 14<sup>th</sup> century the middle ages were a period of growing prosperity and stability. The population more than doubled, commerce flourished and the church grew increasingly wealthy as William the Conqueror had given them a quarter of all the land in England.
- The resulting building boom demanded well constructed aesthetically pleasing structures, not the crude utilitarianism of the previous millennium. The biggest commissions still came from royalty or clergy but public bodies and wealthy individuals also began to instigate projects, not just churches but all types of municipal and private works. The cathedrals are the undoubted gems of this new era but there were also great monasteries, castles and bridges.

## **THE MASTER MASON**

- The middle ages encompass the evolution of Gothic architecture, a technically demanding style that prompted both new construction techniques and the rediscovery of ancient skills. Masons had been regarded as crude artisans but those with the necessary technical and organisational abilities now took on the role of both lead contractor and architect.

- They were called master masons but unlike our generic degree this was a special distinction, as in addition to managing the masons they would prepare designs, solve technical problems and liaise with other crafts and suppliers. On some projects the master mason would appoint undermasters or wardens to supervise the masons and a clerk of works might take on administrative tasks such as bookkeeping, this freed the master mason to run more than one project and visit others to give advice or gather new ideas.

### **WORKING MASONS**

- Trained masons other than masters were called fellows. The designation of freemason does not appear until the late 14<sup>th</sup> century and despite later connotations it was probably a contraction of the term freestone mason; freestone was the best stone for carving so was worked by the more skilled masons.
- A mason's work was hard and dangerous, they constantly breathed in stone dust and many were injured by falls from scaffolding. Pensions are recorded for master masons but most masons had to rely on charity if they could not work, our almoner's jewel depicts the scrip purses worn by medieval masons.
- Masons learnt their skills in the quarries, on site and in the lodge; often these were passed down through families, formal apprenticeships first appear in the late 14<sup>th</sup> century. The most skilled working masons were the stone hewers and carvers, the best might become 'imaginators' or sculptors as we now call them; less skilled were the stone layers or setters and the rough masons who built walls and working alongside the quarrymen cut the stone into rough blocks.

## **HOURS & WAGES**

- Many masons were journeymen who moved between sites as required. They worked a 6 or 5 ½ day week, a normal working day was from sunrise to sunset with breaks for refreshment and an afternoon rest; our opening and closing ceremonies still refer to the rising and setting sun.
- They had no annual holidays as such but could have up to 40 often unpaid days off for religious festivals, when they sometimes feasted together at festive boards. In winter most outdoor work had to stop so many masons were laid off, those kept on worked in the lodge or other sheltered areas but the days being shorter their wages were cut.
- A working mason's earnings depended upon his skill and output, some were paid on a piecework basis and we can still find the identifying marks they cut on stones. In the mid 14<sup>th</sup> century the average wage for a skilled working mason was about 5d a day, at that time a butcher or baker made about 3d a day. Masons were often paid wages and bonuses in kind such as accommodation, food or clothing, working masons might receive gloves or aprons but the master mason would get a fur lined robe.
- Master masons were paid considerably more than other masons, the best were on a par with educated lawyers and physicians; a few even became master masons to the King. Increasingly from the 13<sup>th</sup> century they were employed under contract, these could include the supply of labour and materials as well as penalties for failure.

## **THE LODGE**

- The lodge was a temporary shelter erected at quarries and building sites where masons could work, eat and rest, the master or his warden would knock on the lodge door to call them from refreshment to labour.

- The masons associated with each lodge were collectively called the lodge and no doubt they often gathered around a work bench to eat or talk, just as masons gathered around tables in the early speculative lodges; pedestals were a much later innovation.
- Labour shortages following a series of devastating famines and plagues in the 14<sup>th</sup> century would improve the status of the medieval working man and this may have spurred masons to become better organised. Some well established lodges adopted written charges or constitutions to regulate their duties and behaviour; the Regius manuscript of c1390 and Cooke manuscript of c1410 still survive, they were probably written or copied for lodges by their ecclesiastical employers.
- The trade regulations in them would have reflected established practices and they also gave guidance on manners, moral and religious duties but most notable are the legendary histories they provided for the craft, these drew upon many sources and may have included some pre-existing masonic folklore.
- The charges were read aloud to masons before they took an oath to obey them and guard each other's secrets, such oaths are first recorded in the 1370s at York. Our modern book of constitutions still opens with a summary of the ancient charges that is read aloud to every master elect prior to his obligation.
- The medieval charges and contemporary wage statutes do mention general assemblies of masons but it seems unlikely that working masons would have travelled far to attend such gatherings. Indeed there is no direct evidence that they took place or for that level of masonic association having existed, although journeymen masons did provide informal links between lodges.

- Nor as a rule did medieval masons form guilds, even though guilds later had a major influence on speculative masonry. Medieval masons were generally wage earners and moved around too much to become part of the urban commercial world of the trade and craft guilds. The exceptions were in cities where a number of masons did become resident, as in London where there was a Masons' Company in the mid 14<sup>th</sup> century.

## **CLOTHING**

- Most working masons wore long leather aprons over their everyday tunics, the more skilled may have left the apron bib or flap down to show that they did not do the rough tasks that required its protection; in some speculative lodges apprentices still have to wear the flap up.
- Medieval carvings and illustrations show masons wearing hoods or skull-caps at work and in summer employers might provide straw hats. Some masons also wore gauntleted gloves, probably as protection from the lime mortar they used; made from un-dyed skins the gloves were naturally whitish in colour.
- Our speculative forebears adopted as their badge the operative's plain leather apron and also wore white gauntleted gloves. However, over the years our aprons have become smaller and apart from the entered apprentice's apron have been adorned with ribbons, rosettes and badges. We do still wear plain white gloves but only the principal officers' are gauntleted by embroidered cuffs.

## **MYSTERIOUS SECRETS**

- To medieval writers the word 'mystery' also meant a calling or skill not just that something was inexplicable. The special skills or mystery of a master mason were certainly beyond the understanding of most men but the better educated did discern the underlying geometrical principles. The 13<sup>th</sup> century Archbishop Robert Kilwardby wrote 'does not geometry teach how to measure every dimension, through which carpenters and stoneworkers work'? Indeed the actual title of the old Masonic Charge that we call the 'Regius' manuscript is 'The Constitutions of the Art of Geometry According to Euclid', whose 47<sup>th</sup> proposition became our Past Master's jewel.
- However, few operative masons would have studied theoretical geometry or mathematics, most learnt their skills from other masons and empirically. Nor did they study structural engineering they relied upon the inherent stability of well fitted stone blocks in compression but experience did lead them to build in safeguards such as flying buttresses. Even so vaults did crack and towers collapse, in 1210 high winds brought down towers at Bury St. Edmunds, Chichester and Evesham.
- Whilst their patrons may have been classically educated or have seen Islamic architecture the designs of the early master masons owed more to local traditions and skills. New ideas spread and develop more quickly when both patrons and masons began to travel more. As in the late 12<sup>th</sup> century when William of Sens became master mason at Canterbury Cathedral and brought from France the early Gothic style with its high pointed arches and rib vaulting. Developing increasingly ornate features such as large tracery windows and fan vaulting this style would become the embodiment of the medieval masons' skill.

- Patrons would outline their requirements to the master mason who might then prepare studio drawings showing the key features. Sometimes these were coloured to show how the stonework would be brightly painted, high status medieval buildings were extensively painted even if just with whitewash.
- The design approved working drawings or tracings were prepared, from which wooden templates known as 'moldes' were made for the working masons. These drawings rarely survive as most were incised on plaster covered floors or wooden tracing boards, the latter possibly gave their name to the boards our masters are charged to draw designs upon.
- The drawings often employed a technique we call constructive geometry that uses simple polygons and circles to define more complex shapes. They did not have scales but could give proportional ratios for each dimension relative to a set baseline such as a bay width, although master masons would have known some frequently used ratios without recourse to drawings.
- Most drawings were one dimensional but different levels or an elevation were sometimes superimposed on one drawing. Master masons had techniques for taking elevations from simple plans, such as drawing projecting arcs to determine the curvature of a vaulted ceiling; a masonic secret that literally involved finding the C. within a circle.
- Masons like other craftsmen were reticent about sharing their special know-how with outsiders but there is no evidence that they had any esoteric secrets or rituals. Some urban masons did take part in religious pageants called mystery or miracle plays and these have been likened to our rituals but they were public performances and not specifically masonic.



- Speculative masons would later adopt the charges, legendary history and many trappings of the medieval mason but our rituals, secret signs, grips and passwords derive from other periods and sources. Speculative lodges needed symbolic modes of recognition whereas the operative skills of a medieval mason were easily tested; only later did trades like stonemasonry need to develop their 'tramping' systems to identify and assist itinerant workers.

## **WORKING TOOLS**

- Since ancient times writers have used tools such as plumb lines and squares symbolically, some medieval religious texts depicted God as an architect with a pair of compasses. However, there is no evidence that medieval masons ever moralised upon their tools and the first records of speculative masons doing so do not appear until the 18<sup>th</sup> century.
- Operative masons used many different tools, the disposable ones such as axes and chisels were provided for them but they probably kept their own squares and compasses. We allocate just 3 tools to each degree, the first set are relevant to labour, the second to testing the stone and the third to design. Let's now consider these but in their original forms not our stylised versions.
- A medieval mason's wooden rule or straight edge did not fold and was not necessarily 24" long, they also used much longer measuring rods and lines. Standard linear measures were not fixed by law until the 14<sup>th</sup> century, they varied regionally and might even be site specific. Masons drew with a metal stylus called a lead point, although drawings might afterwards be inked or coloured in. A medieval pencil was a fine brush used by painters

not masons, graphite for the type of pencils we know was not discovered until the 1560s.

- Iron squares are recorded but most were made of wood, often from cask staves. They had arms of unequal length and like their compasses were usually much larger than our symbolic versions, being used not just for drawing but to mark out ground plans, prepare templates and test stones. When marking out ground plans they must have used a spool or skirret to feed out the line but it is not named or pictured in any surviving document, in fact the wording of our rituals suggests that the line itself should be the working tool.
- Operative masons used a variety of hammers and mauls. The dictionary defines a gavel as a setting maul but our rituals describe it as the scappling hammer or axe masons used to prepare the rough stone. Increasingly from the 12<sup>th</sup> century steel tipped chisels would replace axes as the mason's chief tool for dressing and carving stone, mallets not gavels were used to strike the chisels.
- Plumb lines and bobs were an essential tool of the medieval mason, some speculative lodges today have them as an extra working tool. Medieval masons used them not only as simple plumb lines but also mounted on straight edges or in wooden frames to form levels and plumb rules.

## **THE BUILDING SITE**

- Living and working accommodation had to be arranged for a sometimes very large workforce, such as when craftsmen were impressed to work on royal projects. At Harlech Castle in 1286 there were 227 masons, 115 quarrymen, 30 smiths, 22 carpenters and 546 general workmen or labourers, although just 4 clerks to do the paperwork!

- Organising the supply and carriage of building materials was also major task, the master mason had to find quarries with the right stone as well as ensuring supplies of other materials such as timber and lead. The works at Vale Royal Abbey between 1278 and 1280 needed 35,000 cartloads of stone!
- Construction started with the foundations, the ledgers at Vale Royal Abbey in 1278 record the levelling of 'a place on which the ground plan of the monastery was to be traced'. Using constructive geometry measuring poles and chalk lines the plan was marked out in the soil or with pegged ropes. The first speculative masons drew simple ground plans on their meeting room floors and our tracing boards developed from those drawings. The corner tassels depicted on our 1<sup>st</sup> Degree board and some lodge carpets may represent rope ends, indeed the chequered floor could be a grid for plotting designs.
- Churches were generally orientated east west and where possible construction commenced in the east but the foundation stone was not always laid in the NE corner. A rectangular mason's lodge erected alongside such works would also lie east west, just as we deem our lodges to do. This orientation also maximised the daylight coming into the lodge, medieval masons rarely worked by candlelight; our Junior Warden sitting mid way along the south wall would also enjoy the most daylight were our lodges open sided.
- Using measurements and templates provided by the master mason the hewers at the quarry and on site worked the rough stone into rectangular blocks called ashlar and other set shapes. Both an unfinished rough ashlar and a perfect or smooth ashlar are displayed in our lodges; the early

ritualists possibly confused perfect with perpend, a perpend ashlar was one dressed on two faces as it would be visible on both sides of a wall.

- When carving more elaborate features such as tracery windows the masons were guided by full sized drawings incised on wood or plaster tracing floors, one still survives at York Minster. They could take measurements from these drawings or test the stones directly upon them, each stone being marked to show its final location. Drawings might also be scratched on a convenient flat surface near the feature being constructed, these were later plastered or painted over but a 13<sup>th</sup> century example is now visible by a rose window in Byland Abbey.
- The carpenters erected hoists and scaffolding for the masons, including timber frameworks called centring to support the arches and vaults during construction. The scaffolding rose with the building or was laid upon beams slotted into the walls, it was reached by ladders or spiral staircases built into the rising walls. Jacob's ladder and a winding staircase both figure in our ritual, we depict the staircase as curved not spiral but Josephus the 1<sup>st</sup> century AD historian said that the original in King Solomon's temple was built into the thickness of a wall.
- Everything was carried or lifted into place using just manpower, a tread mill hoist still survives at Canterbury cathedral. Our smooth ashlar sits beneath a simple hoist with ropes attached to a hole in its top face by an iron crane called a lewis. Lewis holes are found in Roman and Saxon masonry but medieval masons generally used slings or metal scissor clamps that fitted over the stone, modern operatives call this an external lewis.

- Using trowels and heavy mauls, both present in our lodges, the layers bedded the stones in mortar whilst testing them with levels and plumb lines. Structural cavities were filled with mortared rubble and where necessary the masonry was reinforced with metal clamps or tie-bars, sometimes molten lead was used to strengthen joints.
- Even with a large workforce a project could take many years to complete, especially if funds ran out or a patron died. Typically it took 40 to 60 years to complete the main body of a cathedral but a tower or an elaborate west front might take much longer; the works were usually undertaken in stages so that completed parts could be brought into use progressively.

## CONCLUSION

- The golden age of the operative mason drew to a close in the 16<sup>th</sup> century as brick became more popular, ecclesiastical building declined and the number of specialist contractors grew. Also architectural design was no longer a predominantly operative skill, as a classical revival and sophisticated new drawing techniques were making it a scholarly profession.
- Gothic architecture came to be regarded as monstrous and barbaric, so our speculative forebears choose to eulogise about classical architecture but happily a few medieval Gothic masterpieces have survived that can make us exclaim as did King Solomon 'Oh Wonderful Masons'!
- In closing I must thank the many sources I have consulted, in particular the works of L.F. Salzman, Nicola Coldstream, Douglas Knoop and G.P. Jones, any errors or flawed assumptions are entirely my own. Thank you for your kind attention and I hope that you have enjoyed this talk.

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