

## Material cultures of urban knowledge communities, 1500-1800

### Abstracts

**Ann-Marie Akehurst:** *'Architecture and genealogy of place: excavating early modern York'*

The Romans established Eboracum, capital of Britannia Inferior, in 71 CE. Camden's *Britannia* (1586) – republished throughout the seventeenth century – and Widdrington's *Analecta Eboracensia* (c.1660) rehearsed knowledge of York's imperial past. From the Restoration of King Charles II, the Court's invocation of a new Augustan Age, with Rome a model of empire and urbanism, heightened interest in Eboracum. The York Virtuosi – an informal grouping engaged in empirical enquiry – focused around Dr Martin Lister VPRS, collector Ralph Thoresby FRS, and artists Francis Place and William Lodge. By 1697, York Minster became an intellectual hotspot when Thomas Gale, sometime Regis Professor of Greek at Cambridge, became Dean. His sons, Roger, and Samuel, and his son-in-law, William Stukeley FRS, FRCP, FSA – active early members of the Society of Antiquaries of London – constructed and disseminated antiquarian knowledge nationally well into the eighteenth century.

Bourgeoning interest might be illustrated by tracking one artefact: in 1638 a Roman altar was disinterred when digging a cellar. By the 1660s it was owned by Parliamentary general and antiquary Sir Thomas Fairfax. Ancient architecture was of interest to the early Royal Society: in 1683 Lister published an account and illustration of the altar in the *Philosophical Transactions* and it was subsequently published for an antiquarian audience in Gibson's edition of *Britannia* (1695). Drake's urban history *Eboracum* (1736) illustrated it alongside many other artefacts, confirming historical accounts, and reinforcing his argument of York's eminence by concretising its descent from Rome. Through such empirically constructed knowledge, York's identity developed as a touchstone of national collective memory. Artists and writers conceptualized York as an analogue of Rome, and its hinterland as the Campagna. Architectural construction begins with excavation: responding to such empirically constructed knowledge, architects Nicholas Hawksmoor, John Vanbrugh, and Earl Burlington FRS, FSA, produced innovative designs acknowledging local deep history.

**Veronica Balboni:** *'Scientific knowledge and material cultures in Ferrara in the second half of XVIth century: sources, models and building traditions in architecture'*

The historical city of Ferrara, placed in Italy at the junction of the Po delta plain and the alluvial plain fed by the Reno, shows an historical building tradition of great interest. These geographical features along with radical political changes and socio-economic history have had significant influence on the urban morphology of the city and its building typological process: the high costs of main building materials, such as wood and stone, encouraged some innovative construction systems based on bricks and, on the whole, an important enrichment of historical and constructive practices from medieval period to 18th century.

However, we are able to get a quite clear idea about material culture and scientific knowledge in the field of building science only from the 16th century, thanks to a greater availability of documentary sources related to building production. In particular, about the second half of the century, we have some written sources, one of which is unpublished, which gives us important information on building culture in Ferrara. The first in order of time, dated 1560, is an unpublished letter written by a court official to Duke Alfonso II d'Este concerning the construction practice of brick masonry in Ferrara. The second is an historical chronicle on the earthquake of 1570 in Ferrara, written by Pirro Ligorio, which provides us with information on the quality of the urban buildings. The third is Sebastiano Serlio architectural treatise (1537-1575), which has a great influence on the construction of the late sixteenth century. Finally, the document that index all the architectural property of the Duke at the time of the Devolution of Ferrara to the State of the Church in 1598, where are described materials and construction details. By analyzing these documents it's possible to give an overview on an Italian urban knowledge culture about architecture.

**Laia Portet i Codina:** *'Reading Pierre Pomet: An approach to the print and material cultures of early modern drugs'*

My research analyses the epistemologies and materials underpinning and produced by an early modern treatise of drugs. Written by a Parisian grocer-druggist in the second half of the seventeenth century and translated into German and English, the *Histoire Général des Drogues* (1694) became a book of reference to the urban communities and travelling individuals involved in the business of drugs in the first half of the eighteenth century. Lavishly illustrated and richly documented, Pierre Pomet's treatise is a testimony of the increasing embedment of the learned and commercial spheres of Paris through cites of knowledge and networks of information and exchange. By looking at the relationship between text, image and object, my paper discusses the importance of urban spaces – the marketplace, the Jardin du Roi, the drugstore, the cabinet of curiosities, and the apothecary shop – to the production and reception of "reliable/scientific" knowledge as well as the strategies deployed by Pierre Pomet to assert himself as an expert in the art and science of drugs.

**M Pilar Gil and Isobel Falconer:** *'Building an astronomical observatory in the knowledge community of St Andrews in the 17th century: a failed enterprise'*

The Papal Bull of Foundation of the University of St Andrews, issued on August 1413, stated that: "...we are led to hope that this city, which the divine bounty has enriched with so many gifts, may become the fountain of science...". However, despite Benedict XIII designs, sciences and mathematics did not flourish at the University for its first two centuries. During that time the students received instruction in the Arts, mainly in the study of Aristotle. The second half of 17th century witnessed a transition in cultural patterns in the knowledge community of St Andrews. Mathematical teaching and research at the University began in 1668 with the appointment of James Gregory as the first holder of the *Regius* Chair of

Mathematics. Gregory occupied the Chair for six years and carried out important work in the field of mathematics and astronomy. He corresponded with notorious mathematicians in England and the Continent, and introduced the ideas of the “Scientific Revolution” to the community of St Andrews.

While at St Andrews, Gregory planned the first civic astronomical observatory in Britain – predating Greenwich by two years. He left for Edinburgh in 1674, but construction of the observatory continued, though neither the building nor the instruments housed there were ever in operation. The structure became derelict in the eighteenth century and was demolished by the nineteenth. Although the observatory never fulfilled its purpose, it is not clear what that purpose was. This paper will analyze the planned observatory as a potential site of urban knowledge construction, by examining Gregory’s networks of communication and exchange, and using information derived from the books and instruments that he acquired to equip the observatory. The paper will contextualize the decision to build an observatory in St Andrews, exposing the reasons that led to its instigation and subsequent abandonment.

**Emma Hart:** *‘Learning how to Build a City: Expertise and the Creation of Colonial Cities in Eighteenth Century British America’*

How do you know the “right” way to build a city? This is a question that the Europeans who were part of colonial societies in Britain’s North American territories needed to find an answer to, if they were to realize their urban plans. In all of these seventeenth and eighteenth century colonial enterprises, cities were viewed as an essential vehicle of civilization, good government, and social and economic order. Hence, building towns was a major preoccupation of a wide range of European colonists.

This paper will focus especially on the experience of building the chief cities of Pennsylvania and South Carolina – Philadelphia and Charleston respectively – to explore how colonial elites obtained the knowledge to accomplish their task. Founding cities and laying out ground plans for them was overwhelmingly an elite pursuit. During the latter seventeenth century, when both towns were founded, elites across the British Atlantic world nurtured a new-found enthusiasm for town-planning and architecture, often viewed by historians as being stimulated by the rebuilding of London after the Great Fire of 1666. This enthusiasm encompassed the publication of new books and manuals, sponsored and purchased by those wealthy men with an interest in urban improvement. This was no less the case for colonial founders such as William Penn and Lord Anthony Ashley Cooper, Earl of Shaftesbury, who were instrumental in establishing Philadelphia and Charleston.

Nevertheless, this “book” knowledge would be of little use when it came to the practical job of actually building a city. Of primary concern here, therefore, will be the way in which craftsmen and provincial elites shared knowledge to build public edifices such as court houses and merchant exchanges that, for the most part, successfully conformed to contemporary ideas of what a good city should look like.

**Anna Kuslits:** *'Anatomical collecting in eighteenth-century Edinburgh: Practices, artefacts, knowledge'*

The Monro Collection – a small fraction of which still survives at the Anatomy Museum of the University of Edinburgh – was one of the largest anatomy collections in eighteenth-century Britain, boasting over two thousand objects in its heyday. As such, the Collection provides crucial insights into the material culture of eighteenth-century anatomical research and teaching at Edinburgh. In particular, my research explores (1) how Edinburgh anatomists adopted the skills and techniques of anatomical preparation largely originating on the Continent, while simultaneously transforming them in the local social, cultural, and institutional context, (2) what social and material networks facilitated the assembling of the Collection, (3) how anatomical artefacts were used to authenticate knowledge claims and raise the social prestige of anatomical work, and (4) what role preparations played in the making of a new body of pathological knowledge, based on the anatomical localisation of disease. Through these questions, the research aims to uncover the subtle relationships between anatomical preparation practices, the resulting artefacts, and the content of anatomical knowledge within the epistemic culture of eighteenth-century Edinburgh anatomy.

In this paper, I will outline some of the methodological challenges encountered in recovering eighteenth-century epistemic practices around anatomical collections from the various economies of meaning in which these artefacts have become embedded over their life course as museum objects, obscuring their historical character. In doing so, I will demonstrate how novel approaches to material culture in historical research can challenge the traditional linear progress narratives medical science has fashioned to recount its own origins.

**Alan Morton:** *'Capital Appreciation: the city and the steam engine 1769-1791'*

By the late 18<sup>th</sup> Century the steam engine had new applications in industry which had become technically feasible through the development of the double-acting rotative engine by James Watt. To promote their technology, Boulton, Watt and partners built the Albion Mill in London, an early application of steam power to flour milling. It burnt down in controversial circumstances in 1791. Earlier engines had been used to pump water out of mines. The translation of steam engines from the rural coalfields of the North East to a flour mill in the Capital illustrates how links between town and country changed in that period. This paper examines examples of these connections, attempts to standardise weights and measures, in granting patents, and accounting practices.

To safeguard their interests, Boulton and Watt had extended their Patent in 1775, a process which depended on Parliament for approval and the Courts for enforcement. There was also new thinking about the costs of steam engines. Initially Boulton and Watt did not supply complete engines. But payment just for parts they supplied would not have been lucrative. To make their business profitable, Boulton and Watt charged a premium to use their engine

design for mine drainage. The premium was in addition to any costs of construction paid by the owners of the mines. These premia encouraged changes in methods used in accounting for steam engines, the accounts used by merchants in towns replacing those used for coal mines on Estates (the formal concept of “depreciation” only entering into Accounting in the mid-19<sup>th</sup> century). This is part of a larger study about how ideas about human labour changed with the introduction of the steam engine.

**Edwin Rose:** *‘Joseph Banks and the publication of empire in late eighteenth-century London’*

The common consensus amongst historians of science has been that Joseph Banks (1743–1820) did not produce many publications. This was a result of Banks’s failure to publish the *Florilegium*, a series of copperplate images designed to depict the botanical discoveries made by Banks and Daniel Solander (1733–82) during the *Endeavour* voyage to the Pacific (1768–1771). In spite of this, Banks was responsible for producing at least six publications concerning the botany of Africa, Central America, India, Japan and China. Using Banks’s surviving collections of specimens, manuscripts, copperplates, printed books and correspondence; I will reconstruct the complex processes which went into the production and distribution of a work of natural history in late eighteenth-century London. This required an extensive network of individuals, from coppersmiths working on Shoe Lane, to artists and engravers who worked in the lower levels of Banks’s home on Soho Square, to printers, right the way through to global travellers and the highest ranks of the British political establishment. The main concentration of this paper will be on two of Banks’s publications; William Houston’s *Reliquiae Houstonianae* (1781), which depicts plants from the Caribbean, and *Icones Selectæ Plantarum* (1791), which depicts the plants collected by Engelbert Kaempfer in Japan, held by the British Museum. Unlike authors such as Thomas Pennant (1726–98), who took full advantage of the growing London commercial publishing industry, Banks never intended to sell a single publication. All of these works were financed by Banks, privately printed and distributed to a select group within the Republic of Letters, although Banks ensured that copies found their way to those undertaking fieldwork in the Caribbean and Asia.

**Simona Valeriani:** *‘Knowledge claims between centres and peripheries’*

This paper takes as a starting point the dispute arisen in Plymouth in the 1670es between a physician, William Durston, and the surgeon James Yonge around the curability of wounds to the brain. It analyses the strategies deployed to verify knowledge claims and expands to consider the knowledge networks in which the main actors were embedded, from local artisans to metropolitan and international connections. In particular it will concentrate on the tactile aspect of the arguments put forward and the importance of materiality alongside more conventional ‘academic’ references to published sources of knowledge.

Plymouth was gaining in political and strategic significance after the civil war and restoration. New institutions for knowledge formation such as a schools and the naval

hospital were being set up in a dialogue between civic and national powers. Durston and Yonge were heavily involved in these processes and represented different professional communities fighting for legitimisation, but also different social groups. Durston was the son in law of the Mayor of Exeter and, as a royalist, politically well connected regionally and nationally, while also enjoying connections to Dublin. Yonge was surgeon to the naval hospital and, eventually, mayor of Plymouth. His skills and connections to London allowed him to become a licentiate of the Royal College of Physicians and a member of the Royal Society. He had no academic background having trained on the seas. His diary and his publications offer a fascinating account of the ways in which he acquired different kinds of knowledge, that were brought to bear on his activities as a municipal figure and emerge in the dispute with Durston.

Following these figures and their strategies for knowledge formation and accreditation within the city and across regional and national borders will allow us to reflect on what specifically characterises civic epistemologies.

**Andrew Wells:** *'Freedom, Expertise, and Civic Identity: Debating the Reconstruction of Bristol Bridge, 1758-1763'*

This paper will investigate how a heated debate concerning the renewal of a bridge in Bristol shaped local civic identity in the mid-eighteenth century. The medieval bridge spanning the River Avon had become seriously unfit for purpose by the mid-1750s, and while most of Bristol's citizens were agreed that at the very least its alteration was necessary, there were major differences on almost every other aspect of the project. A number of actors played a role in the ensuing drama, including the citizens and Common Council of Bristol, architects, technical specialists, printers, and parliamentarians. Ever a fractious citizenry, Bristolians debated both the funding and form of the new bridge, and one major division concerned whether an entirely new structure with a single arch should be erected, or whether it would be best to re-use the old piers. Professional expertise was mobilised not merely for the content of this part of the debate, but also for its form: the controversy played out as much in print as in person, providing an opportunity for printers and pamphleteers to engage a wider public than had been the case with earlier urban controversies, to experiment with new forms of print media to this end, and above all to make money. By engaging Bristol's citizens in this manner, the debate and its printed and archival traces also testify to local concepts of civic freedom, as Bristolians sought to secure the future economic and commercial wellbeing of their city, deploying rival experts and legal mechanisms of financial coercion.