Early Documentary Evidence Relating to Ceramic Production; Interpretation and Evaluation.

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Introduction.

Having read a newspaper or text book we like to believe that it contains an accurate version of an idea or ideas arising out of the author's research or experience. It is, however, occasionally the case that this cannot be a universally applicable assumption for reasons ranging from individual bias to errors in interpretation. As a general principle if the subject under consideration is otherwise well documented and occurred within living memory, it will possibly prove more readily acceptable, and accordingly in less need of close scrutiny. In contrast, personalities and events from the distant past will have attracted the attentions of later historians and generated critical analysis, in some cases leading to statements and beliefs that do not endorse their sources.

In the sections to follow I have focused on a selection of writings on the subject of an area of history which has occupied my time and interest over several decades. It is also relative to my home county of Staffordshire, specifically its once principal industry of ceramic manufacture..

The Eighteenth century and earlier. +

Pictorial representations and accounts of pottery making were extremely rare prior to the invention of printed books, and even following i the appearance of published works it was a subject that lacked wide attention because pot making was not believed to warrant serious consideration, with some important exceptions, until the sixteen hundreds. Unlike precious metal items its essential raw materials, basically different types of clay, possessed a low economic value. Even its underlying technology, prior to the sixteenth century, was mainly limited to considerations surrounding firing. It is, therefore, significant that a manuscript compiled by Cipriano Piccolpasso in circa 1548, to which he gave the title, Three Books of the Potter's Art, is widely recognized as the most important document of its type to exist from the period before circa 1700. The importance of Piccolpasso's Treatise is its descriptions of practices underlying the production of what many acknowledge to be the most impressive category of European earthenware available at the time, a ware known as Italian maiolica. Maiolica, with origins which preceded its first appearance in Italy in the fifteenth century was based on practices first developed in the Near East at an uncertain point in the eleventh to twelfth centuries AD. Trade links between Persia, Turkey and North Africa carried aspects of its technology to regions in Southern Spain, giving rise to an impressive ware known as Hispano Moresque; leading centres of its production emerged at Malaga, Manises and Valencia. In due course a mercantile trade was developed between Southern Spain and the island of Majorca, resulting from the island's traders taking advantage of an affluent market in Renaissance Italy for a product of high quality. Incidentally, the link with Majorca is believed to have been the origin of the word maiolica out of uncertainty surrounding the ware's actual place of manufacture.

In evaluating these early Spanish lustre-painted wares it is enlightening to identify what potters in pre sixteenth century Italy and the rest of Europe were making. The later medieval period saw the appearance of largely hollow ware forms, principally jugs, partly coated with copper and iron-stained lead glazes. In comparison with the fine Spanish wares they might have been judged unsophisticated, and in some cases even crude. In view of the apparent simplicity of these essentially utilitarian vessels, their single colour glazes, which rarely covered more than half of the vessel's surface, hardly served a purely practical purpose their presence being mainly added for the purpose of a decorative effect; glazes that were also based upon readily available materials and elementary compositions. In comparison with Hispano Moresque wares, and Italian maiolica, it becomes immediately apparent that the traditions they each represent are totally different. On the one hand we have in the case of traditional medieval vessels an underlying relatively basic technology developed over generations and on the other a new approach to pottery making which emerged from a combination of imported influences and proto scientific thinking. Indeed, the rich and varied colours which characterize maiolica could not have been invented or rediscovered in the absence of documented experiments and chemically---based practices. It is, however, unfortunate that in the sixteenth century Piccolpasso was lone voice in the dissemination of any kind of analytical understanding of ceramic-related science, a void that was not filled until some two centuries later.

Piccolpasso's treatise did not appear in print until the nineteenth century. In this connection it is important to say that he was not motivated by a wish to make the subject available to a wide readership. Knowledge of a glaze opacified with tin oxide, the essential characteristic of maiolica, was later made available by a process that, unfortunately, we cannot precisely identify, while the decorative patterns associated with istoriato painting (history painting) are believed to have been copied from rare engraved illustrated books which began to appear in the fifteen hundreds, for example, a title by Titus Livius on Roman History. The painted

decoration on Italian maiolica wares, mainly dishes and platters, largely consisted of biblical themes and classical mythology, subjects that held and appeal for an educated and affluent elite.

Tin glazing which characterised maiolica gave rise to the emergence of regionally differing ceramic traditions throughout Europe. In Britain, for example, it appeared as delft ware or galley ware towards the end of the sixteenth century while later in the Rhinelands it was given the name faience. However, it was a stoneware known as salt-glazed ware that in its earliest form probably preceded maiolica and remained, until later, exclusively German. With the advent of a patents system inventors were provided with a means of protecting their discoveries from competitors, despite an unfortunate feature of patents' administration that the protection it conferred was limited, at least initially, to national boundaries. In practice this was a limitation which allowed others outside the control of its jurisdiction to imitate virtually without restriction.

The first known British potter to benefit by this loophole was John Dwight. Before becoming actively involved in making salt-glazed wares he was employed as a secretary to succeeding Bishops of Chester, an appointment which would probably have introduced him to the mineral deposits of North Staffordshire. Chester and the area we now identify as the Potteries are located less than forty miles apart. At this time he would also have been aware of salt-glazed wares being brought into the country from Germany and the Low Countries, and which were already well known here via their use as containers for Rhenish wines. Being unlike any contemporary British products they possessed a value, even when emptied of their alcohol contents, hence their survival to modern times. The ware's most characteristic form at this time (the 1670s) was what became the bellarmine, a name said to have originated in the use of an applied seal ornamented with a relief portraying Cardinal Bellarmine- a somewhat notorious cleric of the period, with a reputation for persecuting members of the Protestant faith. In view of Dwight's religious appointments he would probably have been very much aware of Cardinal Bellarmine's notoriety. It was, however, the commercial potential of salt-glazing that led to Dwight taking out of a competing patent in 1672.

While it was not the first British patent application registered for a purpose relating to ceramic innovations it certainly holds the distinction of being preeminent in being put into practice with tangible results. A second claim demanding clarification in connection with Dwight's patent concerns the use of terms which in isolation could prove misleading. For example, the word porcelain which, since the nineteenth century, has been interpreted as meaning a dense, usually white, translucent composition with its origins in a ware conforming to this description invented at an uncertain date in late thirteenth century China. Since the late medieval period potters in Europe had unsuccessfully attempted the exact replication of porcelain. The Chinese had succeeded in formulating a recipe made up from a clay we identify as kaolin or china clay which they combined with a flux consisting of a mixture of the said clay, and a mineral flux identified as petuntse or, in Europe, felspar or china stone. In the absence of a flux with a lower fusion point than felspar, porcelain required being subjected to temperatures in excess of twelve hundred degrees centigrade. It was not, however, until the eighteenth century that a European potter was able to claim a legitimate level of success in reproducing the characteristics of true, hard- paste porcelain, despite a small number of European potters having achieved a degree of success in creating translucency in a white-firing clay by substituting a glassy alternative for the much more refractory mineral felspar. That success in this connection was invariably the outcome of adequately funded experiments accelerating their progression was clearly beyond the means of most jobbing potters; patronage was clearly the required factor in taking part in the porcelain phenomenon.

It is in keeping with the above circumstances that we are able to attribute the distinction of being the first known successful porcelain maker in Europe to a relationship between an Italian nobleman named Francesco de Medici and Bernardo Buontalenti, described as an architect, sculptor and designer. Buontalenti developed his ability in making porcelain to an extent that led to him establishing a small workshop for this purpose under Francesco in Florence in 1575. That production was achieved on little more than an experimental level is borne out by the rarity of Medici wares; the number of examples we know to having survived numbering in total to less than sixty. In the context of the fifteen hundreds Buontalenti and his patron would have probably been pleased with the workshop's achievement. Although revealing certain differences from the Chinese wares, that were obviously the source of their inspiration, they were similarly painted in underglaze blue with patterns on some examples outlined in a manganese- derived magenta. Most important was that they were technically superior to anything of a comparable quality and description being then produced in Europe. It is beyond a coincidence that the proximity of Florence to Venice was probably the source of the glassy frit responsible for the essential characteristic of genuine porcelain, namely its translucency. However, a good level of achievement does not, of course, necessarily equate with commercial success. Other factors, which can be summarised as production capacity and merchandising had to be taken into consideration as they were then as now fundamental to the success of any commercial enterprise.

In the longer term the founding of the Dutch and other East India Companies was the development that satisfied European demand for fine porcelain. China and later Japan engaged in a guarded trade with European merchants prepared to confront hazardous voyages in the furtherance of trade. Furnishing a European home with porcelain and lacquered goods was dependent on wealth to an extent that would have exceeded the means of anyone outside the level of the most affluent in society. It was what was identified as the 'middling people' on whom John Dwight was dependent for a market for his products. A description which appeared in Dr Robert Plot's Natural history of Oxfordshire, published in 1677, was indicative of Dwight's emerging reputation as a maker and provider of what was clearly meant to be a cheaper alternative to Chinese porcelain;

'Let it suffice for things of this nature that the ingenious John Dwight, MA of Christ Church College Oxford hath discovered the mystery of the stone or Cologne wares such as D'Alva Bottles , Jugs, Noggins) heretofore made only in Germany and by the Dutch brought over into England in great quantities, and hath set up a manufacture of the same, which by methods and contrivances of his own, altogether unlike those used by the Germans, in three or four times he hath brought it to a greater perfection than it has attained where hath been used for many Ages, insomuch that the Company of Glass Sellers of London, who are the dealers for that commodity, have contracted with the Inventor to buy only of his English manufacture, and replace foreign. He hath discovered also the mystery of the Hessian wares, and makes Vessels for retaining the penetrating salts and spirits of the Chymists, more serviceable than were ever made in England, or imported from Germany itself.'

It is in a subsequent paragraph that Plot's claims on Dwight's behalf enter contentious territory, especially where he describes what by modern definition was not true porcelain;

'And hath found out ways to make an Earth white and transparent as Porcellane, and not distinguishable from it by the Eye, or by Experiments that have been purposely made to try wherein they disagree. To this Earth he hath added the colours that are usual in the