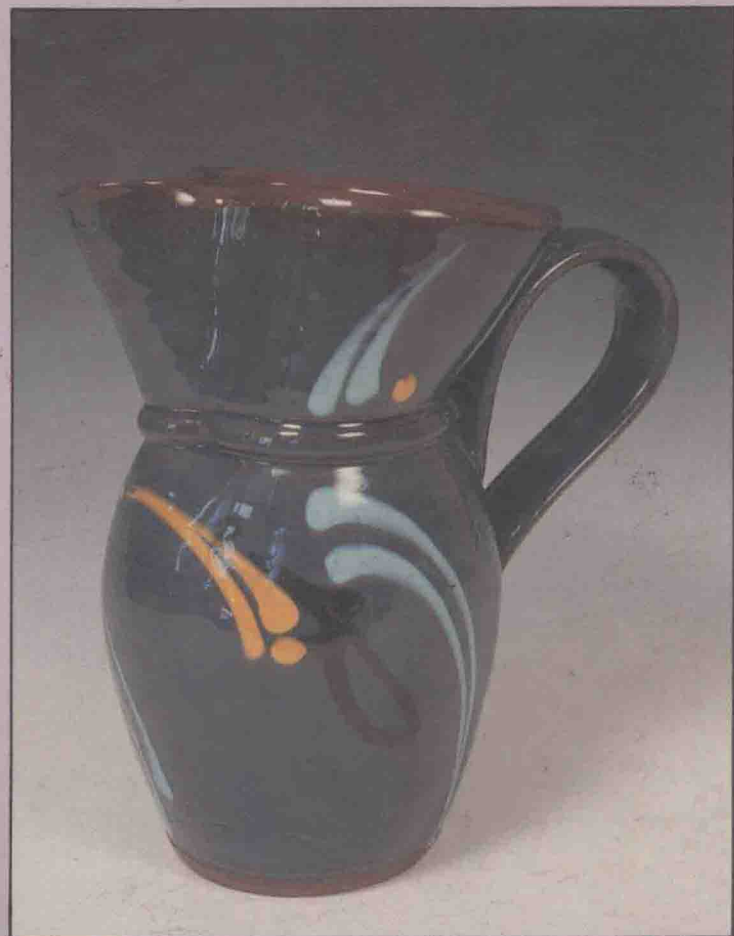


**THE COMPLETE POTTER**

# Slips and Slipware

Anthony Phillips

Series Editor: Emmanuel Cooper



THE COMPLETE POTTER:  
**SLIPS AND SLIPWARE**

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Large dish, Wanfried-an-der-Werra,  
Germany, 1590.

*This large dish with its sophisticated sgraffito and trailed decoration was made in a red earthenware clay. The decoration is white slip and splashes of copper over the surface add a mottled green to the red and white of the clays. (Fitzwilliam Museum, Cambridge).*

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ANTHONY PHILLIPS

SERIES EDITOR EMMANUEL COOPER

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*To Sara*

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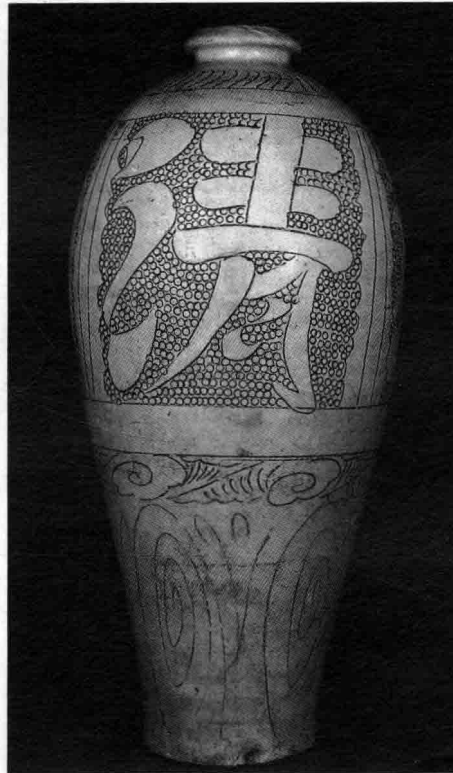
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# INTRODUCTION

Slip decoration is as old as pottery itself. Archaeological evidence shows that it did not take long for the earliest potters to learn to use different coloured clays to decorate their pots. Initially they would have used clays which were dug out from different seams in the ground; later they added vegetable and animal matter and various minerals to alter the colours. Slip remained the principal decorative medium for thousands of years wherever pottery was made: the potters of pre-Columbian America became immensely skilled in making and using coloured slips with burnished surfaces by the beginning of the first millenium AD; the Greeks mastered the art of oxidized and reduced slips to alter their colours between 750 and 300BC; Tzu-Chou pottery, made in China from the tenth century AD, was a beautiful expression of slip painting and sgraffito on stoneware, whilst the high point of European slip decoration was in the fifteenth and sixteenth centuries AD. By the middle of the twentieth century, however, it had more or less died out, except in isolated potteries that retained their old methods as everyone else moved on. It was



industrialization and mass-production that put an end to slip decoration.

In Britain the techniques of slip decoration were almost entirely abandoned by the end of the nineteenth century, and there has been very little continuity of tradition. Potters have had to rediscover the methods, and it has not always been easy. The rise of the artist-potter, particularly since the Second World War, revived interest in all the pre-Industrial Revolution techniques like slip decoration and salt-glazing, and has brought in new techniques from abroad like raku and reduced stoneware – methods which by their very nature must be done by hand rather than by machine.

Vase decorated with a sgraffito design of Chinese characters. Cizhou (Tz'u Chou) ware, North China probably Hebei or Hunan. 37.5 cms high. 11th–12th c. AD. The sgraffito decoration is incised through a white slip to reveal a black slip layer underneath on the upper part of the vase, lower down the sgraffito goes through to the grey clay body. (British Museum).

Of all the old methods the use of slip has, until recently, received little attention – surprisingly since it is such a simple material and can be used in so many ways to such varied effect. Perhaps the reason is that the twentieth-century pottery revival was based on the stoneware tradition, and slipware is part of the earthenware tradition. Even though there are now many potters using slip, few are using it on stoneware pottery.

One advantage of the break in tradition is that potters do not feel so restricted by convention and have been able to adapt methods to their ideas rather than their ideas to the method. The easy availability of materials and also the advent of new colours and materials have also helped.

It is impossible to write a truly comprehensive book on slip decoration, for one of the joys of ceramics is that it is always possible to find new ways of using old ideas. My aim has been to describe the main methods of slip decoration together with some pointers to new directions to encourage you to explore and devise your own processes.

I have also tried to give as much information as possible about the other aspects of pottery-making from clay to firing, in order to give an over-view to the whole process and enable you to get started. It also helps to show, I hope, that slip decoration is not a highly specialized technique requiring unusual materials or processes.

Inevitably there is insufficient room to



Puzzle jug, Donyatt, Devon, England, 1749. *Made in red earthenware clay and covered in a white slip, the bold decoration using a broad tool is free and yet clearly done by someone skilled in the art. It is typical of many made at the time. It is inscribed 'Fill me full Drink of me while ye wool'. (Fitzwilliam Museum, Cambridge).*

describe some areas of knowledge fully, and so the bibliography has been included to guide you to other books specializing in other areas of the art of pottery.



# 1 HISTORY OF SLIP DECORATION

Slips were used to decorate unglazed pottery from the earliest times, and today we find, not only from Mesopotamia (Iraq) and Egypt but also from Iran, Cyprus, Israel, Jordan, and Turkey, many examples of these ancient wares which were made for functional, decorative, and ceremonial needs.

Consignments of pottery from China which first reached the Middle East from the eighth century AD gave the spur to better-quality glazed wares using both lead and alkaline glazes.

## ISLAMIC

Islamic pottery is a continuation of the ceramic tradition of Mesopotamia and Egypt, a tradition which can claim the earliest-known pottery and goes back 7000 or 8000 years. One of the principal characteristics of Middle Eastern ceramics is the use of alkaline glazes often coloured with copper, which give the rich vibrant turquoises that are so striking.

In Eastern Iran, Afghanistan, Samarkand, and Nishapur lovely slip-painted dishes were



Shallow dish, 14 in. (35.5 cm) diameter, North Iran, 900–1300 AD  
*A richly decorated sgraffito dish showing a figure mounted on a rampant lion. The sgraffito decoration has been carved through a white slip layer revealing the red clay body underneath. Copper oxide has been painted on to create random blotches of green in the glaze. (British Museum, London).*

made from the ninth to the eleventh centuries; the decoration was often in black or reddish-brown on a white slip ground and covered in a colourless lead glaze. Some had simple Cufic inscriptions, others were much more elaborate.

In Northern Iran, in the regions of Mazenderan and Garrus, a separate style of sgraffito ware developed in the tenth century and lasted until the thirteenth century. Designs were incised through white slip to a dark red body underneath and covered in a clear glaze. Birds, animals, and human figures were favourite subjects and the background was often very elaborate.

During the occupation of Iran and much of Central Asia by the Seljuq Turks fresh attempts to imitate the Chinese porcelains were made by the use of alkaline glazes and a white body containing a large proportion of fritted glass. One very striking technique involved coating the white body in a thick black slip and then carving through, leaving a design in black on white. A turquoise or clear glaze was used. These date from the second half of the twelfth century. Thereafter

the attention of Islamic potters turned to underglaze painting with oxides.

## PRE-COLUMBIAN

No discussion of slip decoration can fairly exclude the beautiful pottery of the pre-Columbian era in the Americas. The unglazed and burnished ceramics painted in natural clay colours and made with such imaginative forms are a source of inspiration to any potter interested in using slips.

The first appearance of ceramics was in Central America at the beginning of the second millenium BC. From that time until the Spanish Conquest in the sixteenth century AD pottery flourished in all the many civilizations in the continent, with a great variety of styles in form and decoration. Methods of manufacture were pinching, coiling, and the use of moulds. Throwing was never used. Glazing was almost unknown, though some use was made of vitrified slips ('plumbate ware').

Pre-Columbian potters were experts and knew how to modify their clays with materials like mica, quartz, and crushed pottery to give them the right characteristics to work with and for firing. The pots were mostly covered with slip and then painted with slips, often coloured with animal or vegetable matter. They were then burnished and fired in an open fire or an earth oven (an underground oven spread with a layer of dried dung on which the pots were placed).



Kilns were sometimes used but only for special pots.

The pottery styles were diverse. Mochica pottery from Peru is well known for beautifully-modelled forms like stirrup vases and vividly descriptive paintings of daily life. On the south coast of Peru, Nazca pottery



Warrior figure and woman, Mochica, Peru  
*Two fine examples of Pre-Columbian pottery, probably made in the first millenium AD, though dating is difficult. They have been painted in several colours of slip and then burnished and fired unglazed. (Museum of Mankind, London).*

became very sophisticated with up to eight colours of slip used in stylized designs of mythical animals and plants. The stirrup-shaped vessel was common throughout Middle and South America as was the attraction to anthropomorphic forms. Cups in the shape of a human head, animal, and bird forms are a common development and are achieved with a feeling for three-dimensional form that is breathtaking.

The Mayans in Central America made a wide variety of excellent monochrome pottery followed later by polychrome ware painted with narrative scenes depicting ceremonial and daily life in a way that is reminiscent of Egyptian painting though in a very different style. At Teotihuacan in Mexico tripod vessels were made that were painted, inlaid, and had applied relief decoration.

Further north, in the south-western United States, some very fine burnished ware was made – Mimbres pottery being one of the most notable. Made in the period AD 1000 to 1200, it is characterized by designs painted mainly in black on white with human, animal, and insect forms as a basis for stylized geometric patterns which display a real skill in design and influenced pottery-making over a wide area.



Vessel with geometric design, Casas Grandes, Mexico  
*Painted in slip, burnished and unglazed (Museum of Mankind, London).*

## CHINESE SLIPWARE

Pottery in China began some time in the fourth millenium BC. In common with early pottery in other countries the first wares were low-fired and unglazed. There are fine examples of decorated pottery from Yang-Shao in Honan Province and Pan-Shan in Kansu, dated around 2000 BC, with beautiful bold decoration painted in swirls of red, black and white slips.

Glazes began to be used in the first millenium BC, and the use of slips died and is scarcely seen in the fine Chinese ceramics until the Sung dynasty (AD 960 to 1279). The north of China was a major stoneware-producing centre, and here in the tenth century they began to make stoneware vessels with slip decoration using sgraffito and painting techniques. This ware takes its name from the region of Tz'u-Chou in Hopei province. The clay varied in texture and colour from grey to buff to white. Over this was put a thick layer of white slip as a ground for the slip decoration, and over that came a glaze which was usually transparent and colourless, though green and later

Fragment of a vase, Cizhou (Tz'u-Chou) ware, north China, 1000–1200 AD

*The clay body has been covered first with a thick white slip and then a black slip. The decoration was done by sgraffito, using a point and a comb and by carving away larger areas of slip. (British Museum, London).*





Basin decorated with a fish. Chinese, possibly from Shaanxi province 12th–14th century AD. 34 cms diameter. The dish is painted with black slip. (British Museum).

turquoise glazes were also used. The ware was fired above 1200°C (2192°F).

The sgraffito technique was used from the late tenth century to at least the end of the fourteenth century. The decoration was scratched through the white slip layer to the darker clay body underneath. Excavations at Mi-hsien have revealed pots where a thin layer of an iron-bearing slip was put on the clay body underneath the white slip; this enabled a variation in colour in the incised lines, depending on how deep the sgraffito went. The technique was also extended to carving away areas of slip and clay, creating a decoration in high relief.

Painting on the white slip with black or dark brown slip was a widely-used technique. Designs were often very delicate with stark contrast between the dense black painting and the white background. A whole variety of subjects including floral sprays, birds, animals, and landscapes was used. A combination of painting and sgraffito was also in evidence. A thick layer of black slip was carefully painted on to form the basic decoration and then details added by incising through to the white slip underneath. In another technique using roulettes the pot was first covered in white slip then black slip was brushed on. A roulette wheel (a pattern carved in relief around the circumference) was rolled over the black slip creating white marks wherever it indented.

In the thirteenth century another slip technique sometimes known as ‘cut-glazed’



was in use. In reality this was sgraffito through a slip which vitrified on firing. A thick layer of a dark brown slip was put over the grey clay body, and the decoration incised and carved through. The pot was not glazed because the slip had a sufficiently low melting point to melt during firing, forming a glaze that was a rich semi-matt dark brown yet stiff enough not to run and obscure the sgraffito decoration.

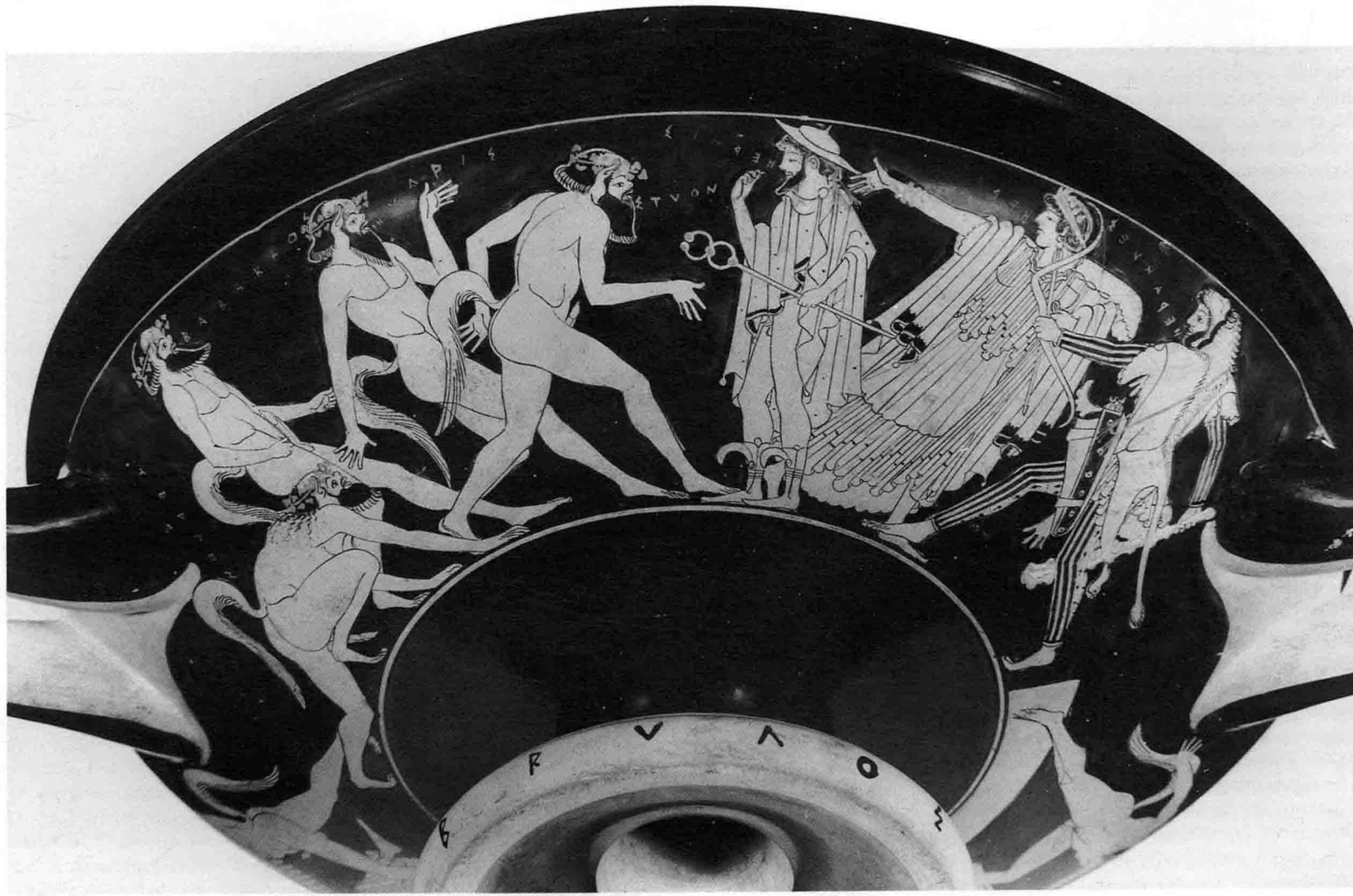
## GREEK

From neolithic times Greek potters knew about pottery and decoration using slips made from natural clays. Designs were mainly abstract but, during the Minoan civilization in Crete (second millenium BC), wonderful pottery with designs based on natural plant, sea and animal life was being made. The decoration, still in slip and unglazed, was bold and uninhibited, covering the whole surface of the pot and creating masterpieces which are distinctive and unsurpassed for their imaginative use of space.

*Detail from an amphora. Greece, sixth century, BC. Black figure decoration on red panels with fine sgraffito.*

*The detail shows Heracles and the Erymanthian boar. He is hurling the boar down onto Eurystheus who is hiding in a large pithos sunk in the earth. (British Museum).*





The fabulously sophisticated black and red vases of Athens and Corinth were made between about 750 and 300BC and represent a degree of skill in making, decorating, and firing which is astonishing. Up until the middle of the sixth century BC the decoration was of the technique known as 'black figure': black silhouettes were painted with a brush on a plain red or orange clay ground and details were added by sgraffito. In the sixth century 'red figure' work was developed; here the background was painted black around the figures, which were left red. The details of the figures were then painted in black, enabling much finer and subtler images to be created.

The vases were made on the wheel and, when leather-hard, were burnished and painted with slip and fired only once. Often a yellow ochre was used to intensify the reddish-orange colour of the natural clay. White and purplish-red slips were sometimes used with black in the decoration. The black slip is not a coloured slip but is a refined version of the basic red clay used to make the pots, turned black by the process of reduction during firing. The refining

Part of a kylix (cup). Greece, fifth century, BC. Red figure decoration with background and detailing painted in black slip. The scene is from a satyric drama. Four Seileni are advancing to seize Hera and are confronted by Hermes. On the right is Heracles. (British Museum).

technique involved separating out and using only the very finest particles in the clay. This process had the effect of increasing the proportion of iron, silica, and fluxes in the slip.

The firing involved three phases. In the first phase an oxidized atmosphere was maintained in the kiln as it was heated up to 800°C (1472°F). Both the clay body and the decoration stayed red. The second phase, 800–950°C (1472–1742°F) was sustained with a reducing atmosphere. In these conditions of lack of oxygen in the kiln, the iron in the clay body and slip (red iron oxide,  $\text{Fe}_2\text{O}_3$ ) was converted to black ferrous oxide ( $\text{FeO}$ ). Hence both pot and slip turned black. There is good evidence that they also introduced water vapour into the kiln, perhaps by using green wood. This encourages the formation of magnetic iron oxide ( $\text{Fe}_3\text{O}_4$ ) which is even blacker than ferrous oxide.

The kiln was cooled, still with a reducing atmosphere, and then in the third phase cooled from 900°C (1652°F) in an oxidizing atmosphere again. The clay of the pot turned back to red because  $\text{Fe}_2\text{O}_3$  is a more stable compound than  $\text{FeO}$ , but the painted slip stayed black because the fine slip had sintered (the iron particles had begun to fuse with silica). The ferrous oxide was thus locked in and could not change back to red iron oxide. The top temperature was fairly critical and depended on the type of clay used: too low, and the slip cannot sinter; too high, and it then becomes open to

oxidation again.

This technique of using reduction to change the surface colour of a pot has been used in many countries and at many times but there is no doubt that the Greeks mastered it to a degree far beyond anyone else. (See the section on terra sigillata for more information on refining slips.)

In the fourth century plain black wares became popular and the techniques of painted figure decoration died out.

## ROMAN

The most widespread type of Roman pottery was 'red-gloss' ware, made by dipping the pot in a fine-particled slip rich in iron, similar to the Greek slip, and firing in an oxidizing kiln. This style of pottery appeared in the first century BC around the Aegean. Arretium (Arrezzo) was the major centre of production in Italy from 30BC to AD30, where the very finest examples of this style were made. Extensive use was made of moulds with impressed and relief decoration. The figurative designs were classical and restrained. Black pottery was also made by the same process of firing in a reducing atmosphere without oxidizing on cooling.

Other techniques of decoration included carving, incising, and applied relief. Shapes often resembled those of metal forms. The skills of the Romans spread north with their conquests, whilst to the east their empire encompassed countries with their own skills



of glazing, and these too began to spread throughout the empire.

## **BRITAIN**

Pottery had been made in Britain before the Roman invasion, but, as with many arts and sciences, the superior knowledge of the Romans could soon be seen in pottery made after the first century AD. Particularly interesting was the development of slip-decorated wares in the second century at Castor near Peterborough in Northamptonshire. One characteristic style involved coating the pot with a dark slip and trailing a decoration over it in a white slip. The pieces were not glazed. Hunting scenes and gladiatorial combats were favourite themes. Thick slip was also used to create decoration in a relief under the dark slip coating. Production of 'Castor' ware continued until the late fourth or early fifth century AD. The New Forest was another centre of production in Roman times.

Once the Romans left Britain in the fifth century, pottery production declined both in quantity and quality; but it did not die out, and a slow revival began in the ninth century, influenced by the flourishing pottery manufacture in Germany. Decoration, when used, was usually either incised or applied by using coloured clay. In the thirteenth and fourteenth centuries there was a vogue for highly-decorated jugs, which were made all over England with strong regional

differences. The jugs were thickly made, often glazed with a green lead glaze and decorated by carving, modelling, or applying coloured clays and slips. Cooking pots, bowls, and all kinds of storage containers were made in clay but almost never tableware such as plates or cups.

The next major change in pottery production began in the sixteenth century when pottery drinking cups and other tableware became more fashionable, perhaps because production techniques had improved sufficiently to make cheaper, better-quality and more durable wares possible. 'Cistercian' ware (so named because it was once thought to have been made by monks in the great monasteries of Yorkshire) represents a marked improvement in the potters' skill. The pottery is mainly cups (tygs) in a wide variety of forms and with two or more handles. They were decorated with trailed slip or applied decoration (either in white clay on a red body or red on white) and covered in a dark iron-brown glaze.

Pottery was being made all over the country. Transport of such fragile ware was difficult, so every region had its local centres. Much of their production was for every-day use of the rural and city poor for cooking and food storage and so was not decorated. Decoration added an extra cost and was reserved for commemorative or special wares.

The first reliably-dated English slipware comes from Wrotham in Kent. Here potters

made a wide range of commemorative pottery in red earthenware with white decoration. Initially they used white clay pressed onto the surface, and later they also slip-trailed with white slip. The earliest dated piece is from 1612, the latest 1739. Cups with three or more handles were common and other forms include jugs, puzzle jugs, and candlesticks. The potters obviously took great pride in these pieces for they were often impressed with their own initials, and so it has been possible to identify several different potters.

The seventeenth century was the time in Britain when slip decoration was the pre-eminent form of decoration and when all the now traditional techniques were devised and fully exploited with great skill. Around Harlow in Essex 'Metropolitan' ware was made (originally found and thought to have been made in London). The slip decoration is mostly simple abstract motifs such as wavy lines, dashes, or herring-bone, and sometimes includes inscriptions of a very moral kind in keeping with the strict Puritan thinking of the area.

Castor ware vase, *Nene Valley, Great Britain, 100–400 AD*

*This is perhaps the earliest use of slip-trailing in Britain, made during the Roman occupation. White slip has been trailed over a black background slip and fired without a glaze. (British Museum, London).*