

STATE UNIVERSITY

The 59

Quarterly Notebook

VOLUME ONE



1916

KANSAS CITY

The Quarterly Notebook

VOLUME I

OCTOBER, 1916

NUMBER 3

RUSSIA THE INVINCIBLE

By ARTHUR SYMONS

It is not for the first time that I am saying, what I have invariably believed, after having travelled in Russia, that the Russians are invincible, unassailable, as they always were; and, as one imagines, always will be. Also, as the world knows, they are the greatest nation in the world.

I still feel the same thrill of excitement as when I left Fountain Court for a long journey. After Cologne, I went to Bayreuth, Prague, Warsaw, Moscow, Petrograd. It was at Bayreuth that I heard *Parsifal*. I cannot think of it except in terms of light. Light surges up out of it, as out of unformed depths; light descends from it, as from the sky; it breaks into flashes and sparkles of light, it broadens out into a vast sea of light. It is almost metaphysical music; pure ideas take visible form, humanise themselves in a new kind of ecstasy. This ecstasy has still a fever in it: these shafts of light sometimes pierce the soul like a sword; it is the unsatisfied desire of a kind of flesh of the spirit, and music is but a voice. And the lesson of *Parsifal* is the lesson that, in art, rhythm is everything.

After Prague, a city of contrasts, where the older parts of the town gave one a strange sensation of being still in the Middle Ages, that are sombre, at moments menacing, as one comes upon great archways leading into narrow alleys, or opening into vaulted inner rooms, or great courtyards, where even the music has a singular mixture of barbarism, of something savage and windy; after Warsaw (now, alas! how

SEVENTEENTH-CENTURY TYPE-MAKING

By DARD HUNTER

There has been much controversy as to who was the inventor of moveable types, but for the purpose of this article it is fortunate that it is not necessary to enter into the problem. By the term 'moveable type' is meant the single letters that are set together to form a page. Each letter being in relief on the end of a piece of wood or metal, called type from the Greek *τύπος*, meaning an impression or stamp.

It would be mere conjecture to attempt to outline any definite process of type-making as practiced in the first few years after the invention of printing from moveable types. Some writers have it that each piece of type was engraved on a piece of wood. This is quite doubtful. Others contend that the type was cast in sand or from a lead matrix. There is no mention in any of the incunabula regarding the method used in making the type from which the books were printed. One of the earliest representations of a type-foundry appears in 1548, but it is so crudely done that it is impossible to form any very concise idea as to the mode of operation. The next illustration showing a type-casting shop appears in the book of trades illustrated by Jost Amman and published in Frankfurt in 1568. In this wood-cut the caster is shown at work: on the shelves are seen moulds; and type already cast lies in a basket on the floor; but from a picture of this kind one can only surmise the actual process.

In the earliest book on typography in English, written by Joseph Moxon in 1683, there appears the first thorough treatise on type-founding. However, it is quite reasonable to believe that from the invention of moveable type, the punch, the matrix, and the mould were employed in some form as the means of producing the characters in relief. From the time

of Moxon to well into the nineteenth century there were but few changes in the process.

As the first book in English on type-founding appeared in the late seventeenth century, it would be fitting to describe the art as it was then practiced.



Fig. 1

There were three appliances used in the making of type,—the punch, the matrix, and the mould. Steel was used for the punches quite early, but in the beginning of letter-making in the fifteenth century, punches were doubtless cut in wood or lead. The punch (Fig. 1) represents the original letter, and there was a punch cut for every character of the alphabet. The matrix (Fig. 2) is the reverse impression of the letter on the punch.

The punch-cutting was the most difficult part of the procedure; the punch-cutter being, usually, a man of artistic ability and great skill as an engraver. In a tract written by Sir Anthony Panizzi it is stated that the cele-



Fig. 2

brated Bolognese goldsmith, medallist, and painter, Francia, was the craftsman who cut all the Aldus punches for making the beautiful type faces used by that early Venetian press. Moxon was a mathematical instrument maker, but his letters were never artistic. He endeavored to use his mathematics in relation to letter design; but beautiful type is not made from laid-down mathematical rules. Caslon I served his apprenticeship to an engraver of gun-locks and barrels in London, and at the end of his term followed this trade as a master some time before he took to the art of punch-cutting.

For the punch a flawless piece of steel was used, being cut

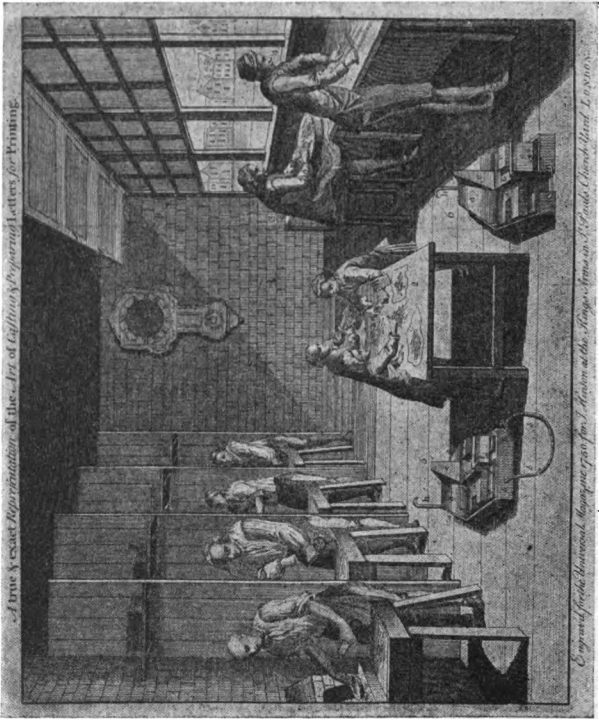
to about two inches in length. One end was made smooth and the letter engraved on it in relief, backward. The process of cutting the letter 'P' is shown in Fig. 3. The dia-



Fig. 3

gram marked *a* is a counter punch which is made of steel and hardened. This is driven into a blank punch and makes the polished end of the steel appear as in *b*. The other diagrams show the letter in different stages of evolution until, in *g*, it is finished. During the process of cutting, impressions were made by holding the letter-end of the steel in the flame of a tallow candle, which blackened the punch and it could then be impressed on a piece of damp paper. In cutting, great care had to be exercised to see that each letter was uniform and in perfect relation to every other letter. The depth to which the engraving was done depended altogether on the size of the character being cut. A man would produce one or two finished punches a day, depending on the nature of the letter. Characters like *i*, *l*, *t*, and *j*, could be made more quickly than the more complicated letters like *e*, *s*, *a*, or *g*. After the punches are graved (the cutter using small files and cutting tools) they were hardened and tempered and then polished with powdered emery mixed with olive oil.

The next step was the making of the matrix (Fig. 2), for which a piece of copper bar about two inches in length and a quarter inch in thickness was used. The width depended on the breadth of the letter. The copper bar was softened, laid on an anvil, the steel punch placed on it, letter-side next the copper, and struck a heavy blow. This would force the steel



A true & exact Representation of the Art of Calligraphy, & preparing Letters for Printing.

Engraved for the Historical Magazine, from an old Print, at the Kings Arms in St. Pauls Church Yard, L. 1750.

letter into the copper and form a sunken mould of the letter. The piece of copper then became a matrix. Next the matrices were justified to the casting-mould. This justification was a difficult work, as each matrix had to be the same depth and perfectly straight with the mould, else the type would not 'line up' in the printed page.

After the matrices were made the punches were usually laid aside as of little further use, being sealed in earthen jars to prevent rust. Before the time of Caslon, however, there was very little well-designed type made in England. The English printers would go to Holland and buy matrices struck from the Dutch punches and take them back and cast types from them. In such cases the punches were in use constantly.

For each size of type there was an adjustable sliding-mould, one mould serving for any character of a particular size of type. The mould, greatly enlarged in proportion to the figures, is shown at the bottom of the illustration of the interior of the Caslon (London) foundry in 1750. The spring (*b-b*) was used to hold the matrix in place at *g-g*. The two halves (*5* and *6*) went together and the metal was poured down the throat *d*. This part of the mould formed the 'jet' as shown on the piece of type in Fig. 5. The hook, at *h*, was used in extracting the cast type. Each time a piece of type was cast the mould had to be opened, the spring loosened, the matrix taken out, and the type released. The metal was poured in with a small ladle holding enough metal for a letter 'm'. Just as the hot metal entered, the mould was given a jerk upward with the left hand in which it was held. This forced the metal into every crevice of the matrix held at the bottom of the mould. In the engraving the casters are shown performing four different stages of the process.



Fig. 5

In Fig. 6 are shown the three different stages of the making of a piece of type and the printing from it. First, the punch, backward; then the matrix; from the matrix, the type, backward; and, fourth, the printed letter correctly placed.



Fig. 6

The 'jet' shown in Fig. 5 had to be broken off, leaving the type to stand on its 'feet'. This breaking off is being done by the children shown in the centre of the old print. The man seated is dressing the letters after they are cast, while the man standing appears to be dressing 'leads'. The metal used in the seventeenth century for type-casting is described by Moxon as being made of lead and iron. About twenty-five pounds of lead to three of iron, usually wrought-iron nails. Later, tin was used with lead, and then antimony was fused with the metals to give a desired quality. In both ancient and modern type-founding the metal is a very important factor.

The old method of type-making differs from the modern about the same as a painting differs from a photograph. In the old type the letter was sculptured in steel, the matrix made from this sculptured letter, and the type cast in the matrix. This made the type very closely connected with the original engraving of the punch. In this way the print from the type was almost the same as from the punch itself. In early printed books one gets very close to the hand-work of the artisan who cut the punches for the type. In modern type-founding there are so many stages between the large original pen-and-ink drawings of the letters and the time they become type, and later printing, that the printed page becomes impersonal and uninteresting as compared with the type composition found in the books produced in the early years of printing.