was given to the world the long and splendid series of novels, commencing with *Waverley* and ending (when his mind had partially given way) with *Castle Dangerous*. We do not forget that a living French critic, whose admirable style makes even his paradoxes attractive, treats the Waverley Novels with little ceremony; they were taken, he says, for faithful copies of the antique world in Europe at a time when people knew no better; now we go to the original sources of information, and find that he distorts everything. But, in the first place, so far as the Waverley Novels consist of the skilful evolution of plots invented by the author, and of the contrasted play of characters created by him,—and not of historical pictures,—this criticism does not touch them at all. In *Peveril of the Peak*, for instance, where a peculiar zest attaches itself to the love of Julian Peveril for Alice Bridgenorth on account of the political and religious differences which divide their fathers, though Scott might be proved to have omitted some important features in his historic sketch of the Restoration, still the deep attraction of the story would not lose its charm. So again, in *Ivanhoe*, although the repulsion between Saxon and Norman—the concrete picture of which, presented in this novel, so deeply impressed the historian Thierry—be to some extent an exaggeration of the feelings which actually prevailed between the two races under Richard I., yet neither does this inaccuracy affect the substantial truthfulness and instructiveness of the historic *tableau*, nor, if it did, would the tragic passages which describe the siege of the castle of Front-de-Bœuf exercise an inferior fascination. But, secondly, the real meaning of M. Taine's charge is, not that Scott has mis-read history, but that he has not read it from the special philosophical standpoint of M. Taine. He did not read it in the conviction of the relativity of all events, nor regard it simply as the evolution of the Welt-Geist, nor believe that human society, through the stages of theology and metaphysics, advances inevitably to the bourn of positive science. But it remains to be proved whether these views of history will not prove more ephemeral than the simpler conceptions which possessed the mind of Sir Walter Scott.

Edinburgh Review

Reference was made above to the commencement of the *Edinburgh Review* in 1802. The tendencies of thought which distinguished its founders were of so remarkable a character,—exercised so marked an effect on the philosophy, the legislation, and even the literature of their times,—and are still so influential, that some attempt to analyse and describe them must be made. There were varieties of opinion among the writers for this celebrated review from the first; amongst them were mere Whigs and mere literary critics, but that which gave it a backbone was its being partially the organ of a party, known some years later by the name of "Philosophical Radicals." This school took its philosophy from Locke, Bentham, and Adam Smith. It held that the old systems which admitted the principle of authority were for ever ruined and discredited, that, as government was an affair of contract, so religion was an affair of evidence, and that, since the same evidence was estimated differently by different minds, the right course was, to confine religion within the domain of the individual conscience, tolerating all forms of it not anti-social, but giving political prominence to none. Coleridge, in an eloquent work published in 1829,[1] supported the theory of a national church, not as the channel for teaching religious truth, but as providing a machinery for diffusing culture and enlightenment, as well as teaching morality by example, through the length and breadth of the land. This view was too Platonic for the school we are now considering—which, however, did not attack the already existing established church, but contented itself with insisting that its clergy should be vigilantly controlled by the state, lest they should teach principles or practices inconsistent with the general good. Churches they regarded as decrepit and perishing institutions; it was the state which, in their eyes, flourished in immortal youth; and their hopes of future good were involved in the development of civilization under its auspices. They believed in the gradual advance and perfectibility of the race through the operation of wise institutions, furthering the free play of all the human faculties, while guaranteeing the order and stability of society. The happiness that would thence arise, consisting in the realization of "the greatest good of the greatest number," they regarded as the satisfaction of enthusiasm and the goal of effort. To political economy, that eminently *lay* study, and to the development of physical science, they looked for the measures and the means requisite for the attainment of this happiness. Moreover, since, from their point of view, there was nothing absolute in moral sanctions, it was ridiculous for a nation to hamper itself by adherence to engagements contracted by a former generation, on the plea of national honour, if such adherence was prejudicial to the interests of the living. Views of this kind, beginning even then to be propounded, drew from Burke the exclamation that the "age of chivalry was past," and that "that of sophists, economists, and calculators had succeeded." The study of social grievances, and of the means of removing them, assumed a prominent place among their objects, and gave rise to much laudable and beneficial activity. On humanitarian grounds they supported the agitation against slavery which Christian philanthropists like Clarkson and Wilberforce had commenced from a religious motive. Senior occupied himself with the evils of the old poor-law; Francis Horner became a great authority on finance; Sir Samuel Romilly took up the reform of our criminal jurisprudence; Ricardo, J. S. Mill, and M'Culloch studied the laws of the creation and distribution of wealth, and demonstrated the impolicy of restrictions on trade. The benefits of national education began to be seen and enforced; and Lancaster and Bell entered upon useful labours connected with the organization of schools and the supply of teachers. Harriet Martineau wrote popular tales, and Elliott "Corn-law Rhymes," in order to indoctrinate the multitude with sound views on economical questions. In short, all the good was done or attempted which men starting from the basis of empirical philosophy could do or attempt; whatever was outside the range of that philosophy was neglected.

There is something rather saddening in the contemplation of the careers of most of the eminent literary men of this epoch. Byron and Shelley were cut off in the flower of their days; Southey's overtasked brain gave way some years before his death, and the same fate befell Ireland's gifted singer, Thomas Moore. Scott, ruined through too much haste to be rich, literally worked himself to death to clear off the mountain of liability which his implication in Ballantyne's failure had thrown upon him. Coleridge, though he lived to old age, had weakened a will originally irresolute, and shattered nerves originally over-sensitive by the fatal practice of opium-eating; in the time of grey hairs he subsided into a dreamy talker about "sum-in ject" and "om-in-ject."[2] Wordsworth alone preserved to the last an unimpaired sanity of mind and body, for which he might thank the simplicity and serenity of his life in Westmoreland, where he settled on his return from France. Rapt in profound meditation, he communed among the mountains with the spirit of the universe; and the beauty of the crag, the tarn, the flower, transmitted itself, through the lips of nature's poet-priest, into verse of wondrous melody. When the period of inspiration was past, he quietly conformed to the religion and politics of his neighbours, and wrote much in support of them; but these later works are pitched in a lower key.

Since the death of Scott, the power of literature, combined with journalism, has been continually on the rise. The novelists, while describing, have modified our social customs; the essayists have been instrumental in bringing about political reforms; the poets have stirred,—generally to thoughts and desires of change,—the impressible hearts of the young. The power of art over the human mind, and its influence in determining the aspects of life, have been in all English-speaking countries, declining, while that of literature has been advancing. Whether this particular distribution of the master-influences that affect mankind will continue to prevail, or whether art is destined to regain among us a portion of its early power, and the sway of literature to be correspondingly restricted, is a question which the future must decide.

See Hallam's *Introduction to the Literature of Europe*; Warton's *History of English Poetry*; Morley's *English Writers*; Grein's *Bibliothek der Angel-sächsischen Poesie*; the Benedictine *Histoire Littéraire de la France*, with its continuations; Prof. Ward's *History of Dramatic Literature*; Collier's *History of English Dramatic Poetry*; Knight's *Shakspere: a Biography*; Spence's *Anecdotes*; Coleridge's *Literary Remains*. (T. A.)

[1] *Constitution of Church and State.*

[2] Carlyle's *Life of Sterling.*

Etymology.

ENGRAVING. The verb *engrave* is an old French word adopted by the English language, in which it bears at the present day but one signification, that of marking by incision. In old English the word was used in other senses, with which we need not now trouble the reader, and the verb *engravèr* in modern French, used for a boat when she runs her keel into the beach or for a cart when its wheels stick in the mud of a road or the sand of a river, is a different word, being derived from *grève*, the sands of sea or river, which comes from the Provençal *grava*, the bed of a torrent, and is nearly related to the English *gravel*. Our English verb *to engrave* belongs to a large family of words in many Western languages, the Anglo-Saxon form *grafan* being remarkable for its similarity to the Greek γράφειν. Littré affirms that the Latin words *scribere* and *scrobs* are also etymologically related to the verb *graver*, and it is evident that there is a close connection between *scrobs*, a furrow, and the hollow cuttings produced by an engraver with his tools. The *grave* in which the dead are buried is also connected with these words both by its meaning and its etymology. The idea of a furrow or cutting is essential to engraving, much more essential than any artistic idea. The rudest mark which is cut into the substance of anything is really an engraving, whilst the most admirable drawing which does not cut into the surface is not engraving at all. When Old Mortality deepened the inscriptions on the tombstones of the Covenanters he was strictly doing engraver's work, though of a coarse kind. In like manner the peoples of remote antiquity who chiselled their writing and drawing on slabs of stone, were in the strictest sense engravers, though the connection between their rude performance and the refined workmanship which is bestowed on a modern vignette may not at first sight be very obvious. On the other hand, a lithograph is not an engraving, neither is a photograph, nor a photographic autotype; but the applications of photography which are known as *héliogravure* and *photogravure* are really engraving, because in these processes the surface of the metal plate is eaten into or lowered. For the same reason etching may be correctly included under the generic term engraving, and an etcher is called in French a *graveur à l'eauforte*, an engraver by means of acid.

Engraving may then be defined as writing or drawing in which the marks are produced by removing a portion of the substance on which the writing or drawing is made, instead of by simply staining or discolouring it as ink and lead pencil do, or covering it with an opaque or transparent pigment as in oil-painting.

The idea of multiplication by printing, or by casting (as in seal engraving), is a mere accidental suggestion and not an essential part of the art. Engraving preceded printing

and is still much used without any connection with printing, as in the chased ornamentation of silver plate, fire-arms, jewellery, and other objects of luxury.

It is our intention, in the present article, to confine ourselves strictly to engraving as one of the fine arts. Its present position is almost universally secondary to painting. The engraver, in the fine arts, is almost invariably occupied in translating the works of painters, as by his intervention they can afterwards, at least in translation, be widely disseminated by the press.

There are several different varieties of engraving, the chief of which are—(1) Line engraving on metal plates, usually of copper or steel, in which the line is always incised; (2) Etching, usually on metal, in which the lines are corroded by means of acid; (3) Mezzotint, in which there are no lines whatever, but only shades produced by roughening the surface of the metal; and (4) Woodcut, in which the lines which print black have to be left in relief, whilst the surface round them is cut away.

These primary technical conditions have an irresistible influence even upon the mental qualities exhibited in the different kinds of engraving. Each kind is favourable to certain mental states, and unfavourable to others, each being in itself an artistic as well as a technical discipline. A line engraver will not see or think like an etcher, nor an etcher like an engraver in mezzotint; and the consequence of this difference is that the manner in which a line has to be cut has a great influence in determining the direction of artistic taste and feeling. Nor is this influence confined to the engravers themselves. The enormous multiplication of their works by printing makes engravers only second to writers in their power over public taste, which they can refine or vitiate by spreading refined or vulgar interpretations of pictures.

Engraving independent of painting.

There is no inherent reason why engraving should be used only to translate painting. The early engravers were often original artists who worked out designs of their own, but in course of time a commercial reason prevailed over originality. It was found that a well-known picture assured the sale of an engraving from it beforehand, whereas an engraving which stood entirely on its own merits came into the world without advantages, and had its own way to make. Besides this, the engraver who copied a picture saved himself all the trouble of thinking out and composing the design, which he found ready to his hand. The same reasons have prevailed against original etching in our own day. There has been a great revival of etching during the last fifteen or twenty years, especially on the Continent, and many artists have acquired very great skill in this mode of engraving. It was hoped, at first, that they would employ their skill upon original works, but the convenience, both of publishers and etchers, soon led them to employ etching, as engraving had been employed before, almost exclusively in translating pictures. We cannot but deplore this subordination of engraving to painting; and when we recur to the great engravers of past times who composed and invented their own works, it is with a feeling of regret that they have left so very few successors.

Although we mentioned the four chief kinds of engraving in the order of what is usually considered to be their relative importance, putting line engraving in the first place and woodcut in the last, this is not the chronological order of their discovery. Woodcut is the oldest kind of engraving from which impressions were printed, and must therefore be taken first in a paper of this kind, which proposes to deal only with engraving for the press.

Wood Engraving.

It is natural that wood engraving should have occurred first to the primitive mind, because the manner in which woodcuts are printed is the most obvious of all the kinds of printing. If a block of wood is inked with a greasy ink and then pressed on a piece of paper, the ink from the block will be transferred at once to the paper, on which we shall have a black patch exactly the size and shape of the inked surface. Now, suppose that the simple Chinese who first discovered this was ingenious enough to go a step further, it would evidently occur to him that if one of the elaborate signs, each of which in his own language stood for a word, were drawn upon the block of wood, in reverse, and then the whole of the white wood sufficiently cut away to leave the sign in relief, an image of it might be taken on the paper much more quickly than the sign could be copied with a camel-hair brush and Indian ink. No sooner had this experiment been tried and found to answer than block-printing was discovered, and from the printing of signs to the printing of rude images of things, exactly in the same manner, the step was so easy that it must have been made insensibly. Wood engraving, then, is really nothing but that primitive block-cutting which prepared for the printer the letters in relief now replaced by movable types, and the only difference between a delicate modern woodcut and the rude letters in the first printed books is a difference of artistic skill and knowledge. In Chinese and Japanese woodcuts we can still recognize traditions of treatment which come from the designing of their written characters. The main elements of a Chinese or a Japanese woodcut, uninfluenced by European example, are dashing or delicate outlines and markings of various thickness, exactly such as a clever writer with the brush would make with his Indian ink or vermilion. Often we get a perfectly black blot, exquisitely shaped and full of careful purpose, and these broad vigorous blacks are quite in harmony with the kind of printing for which wood engraving is intended.

The earliest European wood engraving.

It has not hitherto been satisfactorily ascertained whether wood engraving came to Europe from the East or was rediscovered by some European artificer. The precise date of the first European woodcut is also a matter of doubt, but here we have certain data which at least set limits to the possibility of error. European wood engraving dates certainly from the first quarter of the 15th century. It used to be believed that a cut of St Christopher, very rudely executed, and dated 1423, was the Adam of all our woodcuts, but subsequent investigations have shaken this theory. There is a cut in the Brussels library, of the Virgin and Child surrounded by four saints, which is dated 1418, but the composition is so very elegant and the drawing so refined and beautiful, that one has a difficulty in believing the date, though it is received as authentic. The Virgin and Child of the Paris library is without date, but is supposed, apparently with reason, to be earlier than either of the two we have mentioned; and M. Delaborde has proved that two cuts were printed in 1406. The Virgin and Child at Paris may be taken as a good representative specimen of very early European wood engraving. It is simple art, but not bad art. The forms are drawn in bold thick lines, and the black blot is used with much effect in the hollows and recesses of the design. Beyond this there is no shading. Rude as the work is, the artist has expressed exquisite maternal tenderness in the pressure of the Virgin's cheek to that of the Child, whilst the attitude of the Child itself, with its foot in its hand and its arm round the mother's neck, is most true to nature, as is the pose of the other foot against the mother's arm, and also the baby-like bending and twisting of the legs. The Virgin is crowned, and stands against a niche-like decoration with pinnacles as often seen in illuminated manuscripts. In the woodcut this architectural decoration is boldly but effectively drawn. Here, then, we have real art already, art in which appeared both vigour of style and tenderness of feeling.

The very earliest wood engraving consisted of outlines and white spaces with smaller black spaces, but shading is rare or absent. Before passing to shaded woodcuts we may mention a kind of wood engraving practised in the middle of the 15th century by a French engraver, often called Bernard Milnet, though his name is a matter of doubt, and by other engravers nearer the beginning of that century. This method is called the *criblé*, a word for which there is no convenient translation in English. It means, *riddled with small holes*, as a target may be riddled with small shot. The effect of light and dark is produced in this kind of engraving by sinking a great number of round holes of different diameters in the substance of the wood, which, of course, all come white in the printing; it is, in short, a sort of stippling in white. When a more advanced kind of wood engraving had become prevalent the *criblé* was no longer used for general purposes, but it was retained for the grounds of decorative wood engraving, being used occasionally in borders for pages, in printers' marks, and other designs, which were survivals in black and white of the ancient art of illuminating. Curiously enough, this kind of wood engraving, though long disused for purposes of art, has of late years been revived with excellent effect for scientific purposes. It is now the accepted method of illustration for astronomical books. The black given by the untouched wooden block represents the night sky, and the holes, smaller or larger, represent in white the stars and planets of lesser or greater magnitude. The process is so perfectly adapted to this purpose, being so cheap, rapid, and simple, that it will probably never be superseded. The objections to it for artistic purposes are, however, so obvious that they were soon perceived even by the untrained critical faculty of the earlier workmen, who turned their attention to woodcut in simple black lines, including outline and shading. In early work the outline is firm and very distinct, being thicker in line than the shading, and in the shading the lines are simple, without cross-hatchings, as the workmen found it easier and more natural to take out a white line-like space between two parallel or nearly parallel black lines than to cut out the twenty or thirty small white lozenges into which the same space would have been divided by cross-hatchings. The early work would also sometimes retain the simple black patch which we find in Japanese woodcuts, for example, in the Christmas Dancers of Wohlgemuth all the shoes are black patches, though there is no discrimination of local colour in anything else. A precise parallel to this treatment is to be found in a Japanese woodcut of the Wild Boar and Hare given by Aimé Humbert in his book on Japan, in which the boar has a cap which is a perfectly black patch though all other local colour is omitted. The similarity of method between Wohlgemuth and the Japanese artist is so close that they both take pleasure in drawing thin black lines at a little distance from the patch and following its shape like a border. In course of time, as wood engravers became more expert, they were not so careful to spare themselves trouble and pains, and then cross-hatchings were introduced, but at first more as a variety to relieve the eye than as a common method of shading. In the 16th century a simple kind of wood engraving reached such a high degree of perfection that the best work of that time has never been surpassed in its own way. We intend very shortly to render full justice to the highly developed skill of modern wood engravers; but it is undeniable that in the 16th century the art stood more on its own merits than it does now, respected itself more, and affirmed itself without imitating other arts.

Wood engraving in the 16th century was much more conventional than it is in the present day, and this very conventionalism enabled it to express what it had to express with greater decision and power. The wood engraver in those days was free from many difficult conditions which hamper his modern successor. He did not care in the least about aerial perspective, and nobody expected him to care about it; he did not trouble his mind about local colour, but generally omitted it, sometimes, however, giving it here and there, but only when it suited his fancy. As for light-and-shade, he shaded only when he wanted to give relief, but never worked out anything like a studied and balanced effect of light-and-shade, nor did he feel any responsibility about the matter. What he really cared for, and generally attained, was a firm, clear, simple kind of drawing, conventional in its indifference to the mystery of nature and to the poetic sentiment which comes to us from that mystery, but by no means indifferent to fact, of a decided and tangible kind. The wood engraving of the 16th century was a singularly positive art, as positive as carving; indeed, most of the famous woodcuts of that time might be translated into carved panels without much loss of character. Their complete independence of pictorial conditions might be illustrated by many examples. In Dürer's Salutation the dark blue of the sky above the Alpine mountains is translated by dark shading, but so far is this piece of local colour from being carried out in the rest of the composition that the important foreground figures, with their draperies, are shaded as if they were statues in plaster of Paris. Again, the sky itself is false in its shading, for it is without gradation, but the shading upon it has a purpose, which is to prevent the upper part of the composition from looking too empty, and the conventionalism of wood engraving was so accepted in those days that the artist could have recourse to this expedient in defiance alike of pictorial harmony and of natural truth. In Holbein's admirable series of small well-filled compositions, the Dance of Death, the firm and matter-of-fact drawing is accompanied by a sort of light-and-shade adopted simply for convenience, with as little reference to natural truth as might be expected in a stained-glass window. There is a most interesting series of little woodcuts drawn and engraved in the 16th century by J. Amman as illustrations of the different handicrafts and trades, and entitled The Baker, The Miller, The Butcher, and so on. Nothing is more striking in this valuable series than the remarkable closeness with which the artist observed everything in the nature of a hard fact, such as the shape of a hatchet or a spade; but he sees no mystery anywhere—he can draw leaves but not foliage, feathers but not plumage, locks but not hair, a hill but not a landscape. In the Witches' Kitchen, a woodcut by Baldung Grün of Strasburg, dated 1510, the steam rising from the pot is so hard that it has the appearance of two trunks of trees denuded of their bark, and makes a pendant in the composition to a real tree on the opposite side which does not look more substantial. The clouds of steam round about the jet are like puddings. Nor was this a personal deficiency in Baldung Grün. It was Dürer's own way of engraving clouds and vapour, and all the engravers of that time followed it. Their conceptions were much more those of a carver than those of a painter. Dürer actually did carve in high relief, and Grün's Witches' Kitchen might be carved in the same manner without loss; indeed it has the appearance of an *alto-rilievo* with the ground tinted darker than the carvings. When the engravers were rather draughtsmen than carvers, their drawing was of a decorative character. For example, in the magnificent portrait of Christian III. of Denmark by Jacob Binck, one of the very finest examples of old wood engraving, the face and beard are drawn with few lines and very powerfully, but the costume is treated strictly as decoration, the lines of the patterns being all given, with as little shading as

Dürer's Salutation.

Holbein's Dance of Death.

Amman's handicrafts.

Baldung Grün.

possible, and what shading there is is simple, without cross-hatching.

The perfection of simple wood engraving having been attained so early as the 16th century, the art became extremely productive, and has been so ever since. During the 17th and 18th centuries it still remained a comparatively severe and conventional form of art, because the workmen shaded as much as possible either with straight lines or simple curves, so that there was never much appearance of freedom. Modern wood engraving is quite a distinct art, being based on different principles, but between the two stands the work of an original genius, Bewick, who cannot be overlooked. He was born in 1753, and died in 1828. Although apprenticed to an engraver in 1767, he was never taught to draw, and got into ways and habits of his own which add to the originality of his work, though his defective training is always evident. His work is the more genuine from his habit of engraving his own designs, which left him perfect freedom of interpretation, but the genuineness of it is not only of the kind which comes from independence of spirit, it is due also to his fidelity to the technical nature of the process, a fidelity very rare in the art. The reader will remember that in wood engraving every cutting prints white, and every space left untouched prints black. Simple black lines are obtained by cutting out white lines or spaces between them, and crossed black lines have to be obtained by laboriously cutting out all the white lozenges between them. In Bewick's cuts white lines are abundant and are often crossed, but black lines are never crossed; he is also quite willing to utilize the black space, as the Japanese wood engravers, and Dürer's master Wohlgemuth used to do. The side of the frying-pan in the vignette of the Cat and the Mouse is treated precisely on their principles, so precisely indeed that we have the line at the edge for a border. In the vignette of the Fisherman, at the end of the twentieth chapter of the *Memoir*, the space of dark shade under the bushes is left quite black, whilst the leaves and twigs, and the rod and line too, are all drawn in pure white lines. Bewick, indeed, was more careful in his adherence to the technical conditions of the art than any of the primitive woodcutters except those who worked in *criblé* and who used white lines as well as their dots. Such a thing as a fishing-net is an excellent test of this disposition. In the interesting series by J. Amman illustrating the crafts and trades of the 16th century, there is a cut of a man fishing in a river, from a small punt, with a net. The net comes dark against the light surface of the river, and Amman took the trouble to cut a white lozenge for every mesh. Bewick, in one of his vignettes, represents a fisherman mending his nets by the side of a stream. A long net is hung to dry on four upright sticks, but to avoid the trouble of cutting out the lozenges, Bewick artfully contrives his arrangement of light and shade so that the net shall be in light against a space of black shade under some bushes. This permits him to cut every string of the net in white, according to his practice of using the white line whenever he could. He used it with great ability in the scales of his fish, but this was simply from a regard to technical convenience, for when he engraved on metal he marked the scales of his fish by black lines. These may seem very trifling considerations to persons unacquainted with the fine arts, who may think that it can matter little whether a fishing-net is drawn in black lines or in white, but the fact is that the entire destiny of wood engraving has depended on preserving or rejecting the white line. Had it been generally accepted as it was by Bewick, original artists might have followed his example in engraving their own inventions, because then wood engraving would have been a natural and comparatively rapid art; but since the black line has been preferred the art has become a handicraft, because original artists have not time to cut out thousands of little white spaces. The reader may at once realize for himself the tediousness of the process by comparing the ease with which one writes a page of manuscript with the labour which would be involved in cutting away, with perfect accuracy, every space, however minute, which the pen had not blackened with ink.

The two centuries in which wood engraving has developed itself most remarkably are the 16th and the 19th. We have described the character of 16th century work, which was easy, as the work of that time had a limited purpose and a settled character. It may not appear so easy to describe the various and unsettled work of our own time, but it is animated by a leading idea, which is universality. Wood engraving in the 19th century has no special character of its own, nothing like Bewick's work, which had a character derived from the nature of the process; but on the other hand, the modern art is set to imitate every kind of engraving and every kind of drawing. Thus we have woodcuts that imitate line engraving, others that copy etching and even mezzotint, whilst others try to imitate the crumbling touch of charcoal or of chalk, or the wash of water-colour, or even the wash and the pen-line together. The art is put to all sorts of purposes; and though it is not and cannot be free, it is made to pretend to a freedom which the old masters would have rejected as an affectation. Rapid sketches are made on the block with the pen, and the modern wood engraver sets himself patiently to cut out all the spaces of white, in which case the engraver is in reality less free than his predecessor in the 16th century, though the result has a false appearance of liberty. The woodcut is like a polyglot who has learned to speak many other languages at the risk of forgetting his own. And, wonderful as may be its powers of imitation, it can only approximate to the arts which it imitates; it can never rival each of them on its own ground. It can convey the idea of etching or water-colour, but not their quality; it can imitate the manner of a line engraver on steel, but it cannot give the delicacy of his lines. Whatever be the art which the wood engraver imitates, a practised eye sees at the first glance that the result is nothing but a woodcut. Therefore, although we may admire the suppleness of an art which can assume so many transformations, it is certain that these transformations give little satisfaction to severe judges. We are bound, however, to acknowledge that in manual skill and in variety of resource modern wood engravers far excel their predecessors. A Belgian wood engraver, Stéphane Pannemaker, exhibited at the Salon of 1876 a woodcut entitled La Baigneuse, which astonished the art-world by the amazing perfection of its method, all the delicate modelling of a nude figure being rendered by simple modulations of unbroken line. Both English and French publications abound in striking proofs of skill. The modern art, as exhibited in these publications, may be broadly divided into two sections, one depending upon line, in which case the black line of a pen sketch is carefully preserved, and the other depending upon tone, when the tones of a sketch with the brush are translated by the wood engraver into shades obtained in his own way by the burin. The first of these methods requires extreme care, skill, and patience, but makes little demand upon the intelligence of the artist; the second leaves him more free to interpret, but he cannot do this rightly without understanding both tone and texture. The wood-cuts in Doré's *Don Quixote* are done by each method alternately, many of the designs having been sketched with a pen upon the block, whilst others are shaded with a brush in Indian ink and white, the latter being engraved by interpreting

Pannemaker.

the shades of the brush. In the pen drawings the lines are Doré's, in the brush drawings the lines are the engraver's. In the night scenes M. Pisan has usually adopted Bewick's system of white lines, the block being left untouched in its blackness wherever the effect permitted. Modern English wood engraving shows to great advantage in such newspapers as the *Illustrated London News* and the *Graphic*, the best of their kind in the world, and also in vignettes for book illustration, which English artists usually execute with delicacy and taste. A certain standard of vignette engraving was reached by Mr Edmund Evans in Mr Birket Foster's edition of Cowper's *Task*, which is not likely to be surpassed in its own way, either for delicacy of tone or for careful preservation of the drawing. An important extension of wood engraving in modern times has been due to the invention of compound blocks. Formerly a woodcut was limited in size to the dimensions of a block of boxwood cut across the grain, except in the primitive condition of the art, when commoner woods were used in the direction of the grain; but in the present day many small blocks are fitted togther so as to form a single large one. They can be separated or joined together again at will, and it is this facility which has rendered possible the rapid production of large cuts for the newspapers, as many cutters work on the same subject at once, each taking his own section.

Process of modern wood engraving.

The process of modern wood engraving may be briefly described as follows. The surface of the block is lightly whitened with Chinese white so as to produce a light yellowish grey tint, and on this the artist draws either with a pen if the work is intended to be in line, or with a hard pointed pencil and a brush if it is intended to be in shade. If it is to be a line woodcut the cutter simply digs out the whites with a sharp burin or scalpel (he has these tools of various shapes and sizes), and that is all he has to do; but if the drawing on the wood is shaded with a brush, then the cutter has to work upon the tones in such a manner that they will come relatively true in the printing. This is by no means easy, and the result is often a disappointment, besides which the artist's drawing is destroyed in the process, so that it is now customary to have the block photographed before the engraver touches it, when the drawing is specially worth preserving. This was done for Mr Leighton's illustrations to *Romola*.

Copper and Steel Plate Engraving.

Engraving on plates of copper and steel is the converse of wood engraving in method. In line engraving it is the line itself which is hollowed, whereas in the woodcut, as we have seen, when the line is to print black it is left in relief, and only white spaces and white lines are hollowed. There was no difficulty about discovering the art of line engraving, which has been practised from the earliest ages.

Prehistoric engraving.

The prehistoric Aztec hatchet given to Humboldt in Mexico was just as really and truly *engraved* as a modern copper-plate with outlines after Flaxman or Thorwaldsen; the Aztec engraving is of course ruder than the European, but it is the same art. The important discovery which made line engraving one of the multiplying arts was the discovery how to print an incised line, which would not occur to every one, and which in fact was hit upon at last by accident, and known for some time before its real utility was suspected. Line engraving in Europe does not owe its origin to the woodcut, but to the chasing on goldsmiths' work. If the reader will look at any article of jewellery in which the metal is ornamented with incised designs, he will there see the true origin of our precious Dürers and Marcantonios. The history of the first plate-printing is as follows. The goldsmiths of Florence in the middle of the 15th century were in the habit of ornamenting their works by means of engraving, after which they filled up the hollows produced by the burin with a black enamel made of silver, lead, and sulphur, the result being that the design was rendered much more visible by the opposition of the enamel and the metal. An engraved design filled up in this manner was called a *niello*, and our modern door-plates are really *nielli* also, for in them too the engraved lines are filled with black. The word comes from *nigellum*, and simply refers to the colour of the enamel. Whilst a niello was in progress the artist could not see it so well as if the enamel were already in the lines, and on the other hand, he did not like to put in the hard enamel prematurely, as when once it was set it could not easily be got out again. He therefore took a sulphur cast of his niello in progress, on a matrix of fine clay, and filled up the lines in the sulphur with lampblack, thus enabling himself to judge of the state of his engraving. At a later period it was discovered that a proof could be taken on damped paper by filling the engraved lines with a certain ink and wiping it off the surface of the plate, sufficient pressure being applied to make the paper go into the hollowed lines and fetch the ink out of them. This was the beginning of plate printing, but nobody at first suspected the artistic and commercial importance of the discovery. The niello engravers thought it a convenient way of proving their work, as it saved the trouble of the sulphur cast, but they saw no further into the future. They went on engraving nielli just the same to ornament plate and furniture; nor was it until the next century that the new method of printing was carried out to its great and wonderful results. Even in our own day the full importance of it is only understood by persons who have made the fine arts a subject of special study. There are, however, certain differences between plate printing and block printing which affect the essentials of art. When paper is driven *into* a line so as to fetch the ink out of it, the line may be of unimaginable fineness, it will print all the same; but when the paper is only pressed *upon* a raised line, the line must have some appreciable thickness, so that the wood engraving can never be so delicate as plate engraving. Again, not only does plate printing excel block printing in delicacy; it excels it also in force and depth. There never was, and there will never be, a woodcut line having the power of a deep line in a plate, for in block printing the line is only a blackened surface of paper, whereas in plate printing it is a *cast* with an additional thickness of printing ink.

Artistic importance of plate-printing.

Having limited ourselves in this article to engraving for the press, we do not stay to enumerate the niello engravers, but pass at once to the art of line engraving for prints; and first let us describe the process, which is as simple in theory as it is difficult in practice. The most important of the tools used is the burin, which is a bar of steel with one end fixed in a handle rather like a mushroom with one side cut away, the burin itself being shaped so that the cutting end of it when sharpened takes the form of a lozenge. Burins are made in many varieties to suit individual tastes and the different uses to which they are applied, but most burins resemble each other in presenting the shape of a more or less elongated lozenge at the end where they are sharpened. The burin acts exactly like a plough: it makes a furrow and turns out a shaving of metal as the plough turns the soil of a field. The burin, however, is pushed while the plough is pulled, and this peculiar character of the burin as a pushed instrument at once establishes a wide separation between it and all the other instruments employed in the arts of design, such as pencils, brushes, pens, and etching needles. The manual difficulty which has to be overcome by the engraver is in making himself master of the burin, and in order to