

# EARLY TYPOGRAPHY.

BY

WILLIAM SKEEN.

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COLOMBO: CEYLON.

1872.

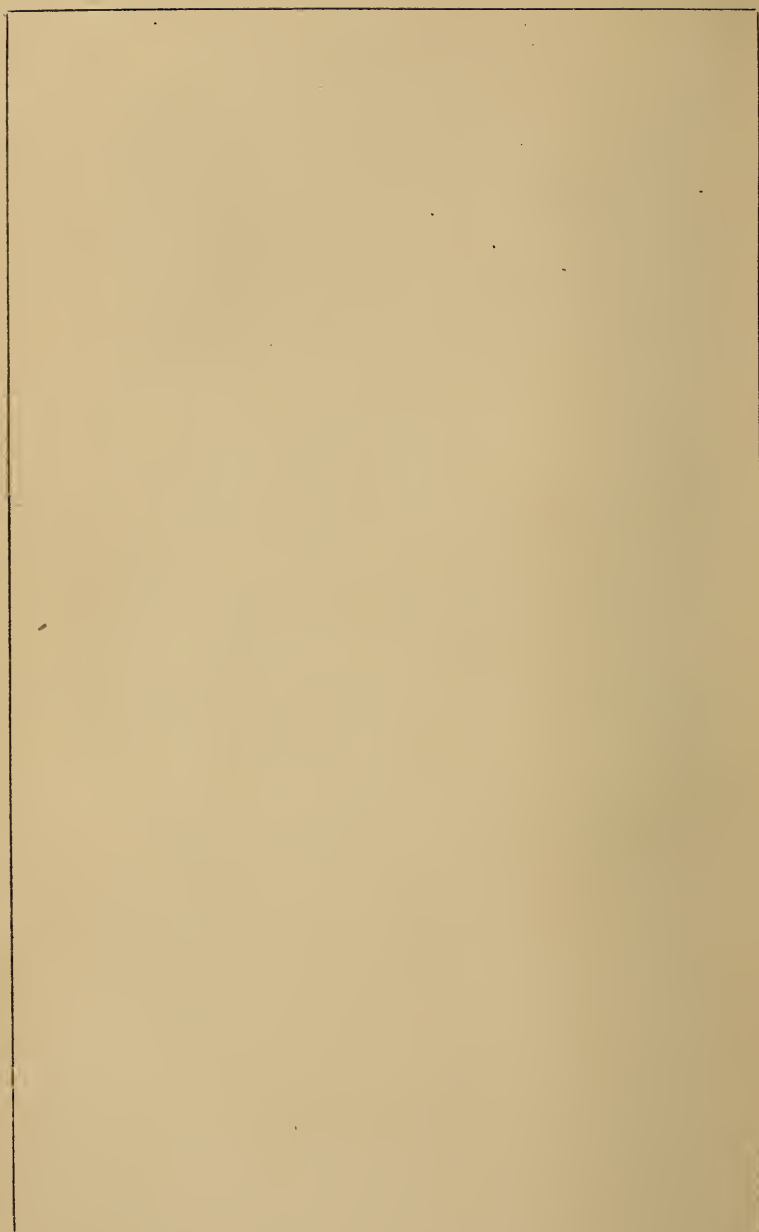
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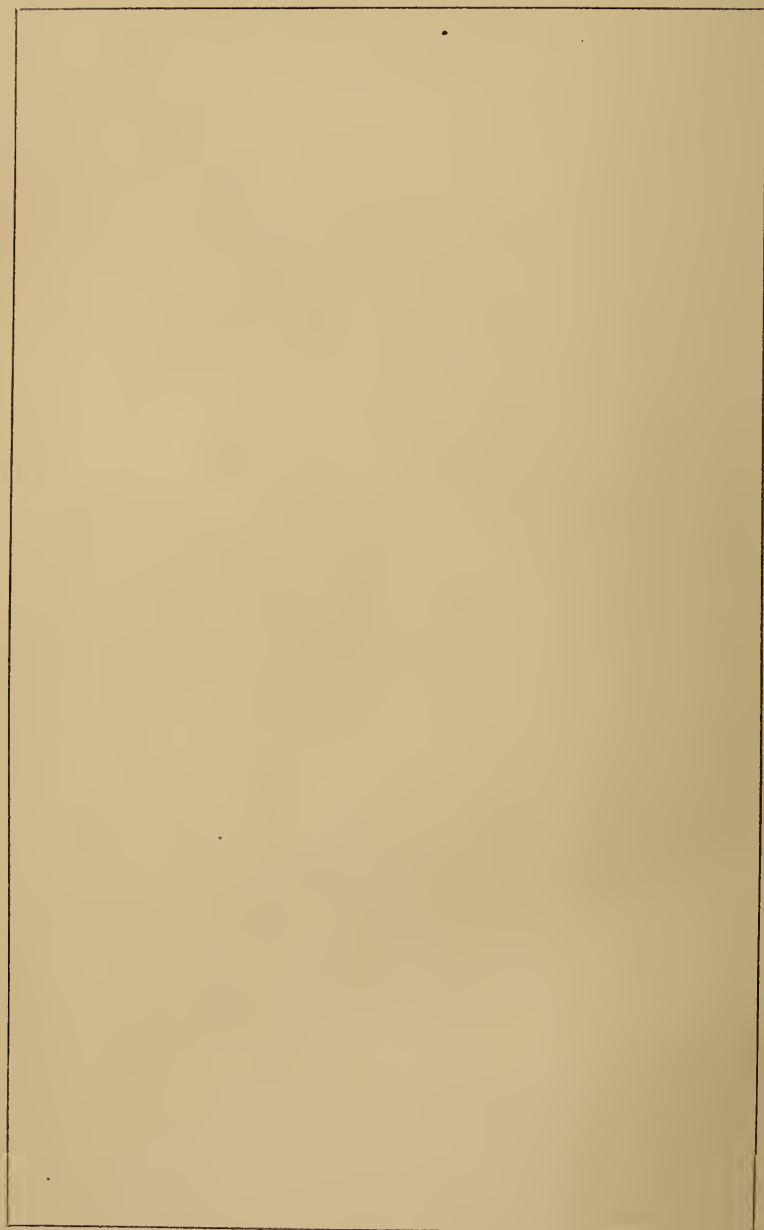
The accumulation of materials in the writer's hands in the course of the last twelve months, has induced him to depart from his original intention of limiting his labours to a single book. A sketch of the history of the spread of the Art, after the sack of Mentz in 1462, with notices of the most material improvements and recent inventions connected with it, will, consequently, form the subjects of a separate volume. It only remains for him now thankfully to acknowledge his obligations to Mrs. J. Ferguson, and Messrs. Iliff, Ronald, and Paatz, of Colombo, for their most kindly rendered assistance, by which he has been enabled to complete this portion of his work much earlier than he otherwise could have done.

*January 20, 1872.*





INVENTORS of the Art Sublime  
 Which Knowledge spreads thro' every clime;  
 Who far the fabled god excell'd,  
 Prometheus, from heaven expell'd.  
 Material fire *he* brought to earth,  
*They* flames of a diviner birth  
 Drew from the seven-fold source of light  
 Seen in the Patmos vision bright,  
 When, the celestial portals raised,  
 Man, on the Godhead's glories gazed.  
 Majestic Truth they thus reveal'd,  
 By powers of Darkness long conceal'd;  
 Op'd Freedom's doors to fetter'd Thought  
 And forces into conflict brought—  
 Mind against mind—an eager fray  
 That shall not cease till Time's last day;  
 That keener as the contest grows,  
 Truth greater, purer, mightier shews.  
 Thus Knowledge each successive age  
 Advances, wins an onward stage,  
 And gathers in one focus bright  
 Each fresh struck spark, each ray of light,  
 And clears the mists that still are found  
 Historic names and deeds around.  
 This light, that truth reveals, t' impart,  
 I seek, Disciple of the Art;  
 That to the famed Teutonic three  
 Just needs of praise may given be;  
 That all aright the men may know  
 To whom TYPOGRAPHY we owe;  
 The men whose names immortal ring,  
 Whose gifts transcendent blessings bring,  
 Whose monuments in every land  
 By wisdom rear'd, heart-honor'd stand,  
 Inscribed in tongues of every clime—  
 "INVENTORS OF THE ART SUBLIME!"



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## PREFACE.

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THE germ of the present work was a Lecture delivered by the writer before the Members of the Colombo Athenæum, on the 24th February 1853. That Lecture was fully reported at the time in the *Colombo Observer*, and a few copies were subsequently printed for private distribution. These having been disposed of, the writer's attention was directed to the preparation of a more extended essay upon the subject. The result of his labours is now submitted to the public. The work makes no pretension to the character of an exhaustive treatise; it is, in fact, but little more than a broad outline of the subject which

it ventures to describe; but it is hoped, that a fresh interest may have been imparted to some of the topics touched upon, and that they will be found placed in a light which, if not wholly new, is at any rate somewhat clearer than that in which they have hitherto been exhibited.

W. S.

*Colombo, Ceylon,*  
*April 29, 1871.*

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# Early Typography.

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## CHAPTER I.

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INTRODUCTORY.—LETTER-PRESS PRINTING THE “DIVINE AND NOBLE” ART—WHY SO TERMED.—FREEDOM OF THE PRESS—WHERE FIRST PROCLAIMED.—PRINTING KNOWN IN CHINA FROM TIME IMMEMORIAL.—METHOD OF CHINESE PRINTING.—BIBLIOGRAPHY AND PALÆO-TYPOGRAPHY.

PRINTING is the art of producing copies of engraved writings or designs, by pressure, either upon the inked surfaces of characters raised in relief, or on metal plates, the upper surfaces of which are polished, and the sunk engravings charged with colour. The most important, if not the oldest branch of this art, is that of **TYPOGRAPHY**, or **LETTER-PRESS PRINTING**. To this Art, as it was invented and perfected in Europe in the Fifteenth

century, the epithets DIVINE and NOBLE have not untruly been applied.

It is Noble, not merely because it is one of those arts or professions, the practice of which was permitted to the nobility of the German Empire, but because it is the nurse and preserver of all other arts and sciences; and is unquestionably the most important as well as the most beneficial invention the world has ever seen. It is the disseminator of every other discovery; the commemorator of all other inventions: it hands down to posterity every important event; immortalizes the actions of the great and good; and requires, moreover, in all who would thoroughly excel in its practice, the highest attainable combination of mental alacrity, educated intelligence, and expert manual dexterity.

It is Divine, inasmuch as it is one of the grand instruments in the hands of Providence for the regeneration of fallen humanity. By it the mightiest movement the world has ever



seen since the days when the Apostolic Twelve went about "turning it upside down,"—the Great Reformation of the Sixteenth century,—was mainly effected. Without it the Word of God could not have been diffused, as it has been, is being, and will continue to be, to every nation and tribe and people and tongue throughout the world: while but for it England and the Anglo-Saxon race, who owe it so much for the stability and uniformity it gave to their language,\* would

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\* "The multiplication of printed books and the consequent still greater multiplication of readers, created, what may be termed a literary public throughout England, and when the printed copies of a book from Caxton's press were spread throughout this public, each member of it used a copy that was uniform with the copies used by all the rest. But before printing was known, and while copies of a book could be made in manuscript only, the transcribers were apt to introduce changes of spelling, of syntax, and of phrase, according to the dialect of the part of the country to which each copyist belonged. And the dialects of different parts of England differed then from each other in a far greater degree than any amount of variation which can

never have attained their present proud pre-eminence amongst the nations of the earth.

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at present be detected by the most zealous philologist. Moreover, each author wrote in his own dialect, or to speak more correctly, in the pure native English of his own part of England. Hence the diction of an author of those times in many cases appears to us more archaic than the diction of his contemporaries, or even of some of his predecessors. But in proportion as men of letters became familiar in their reading with the nearly uniform English language of printed books, they followed or approached that uniform English in their own writings. The language continued to receive changes by the introduction of new words and phrases, and by the zeal for imitating Latin models, which grew to excess in many of our prose writers not long after the close of the Fifteenth century. Many more modifications of etymology, and some of syntax, took place before the modern English language can be said to have been substantially established throughout the country; but that amount of uniform establishment never could have been effected at all, without the intervention and the extended use of the art of printing.”—Sir Edward S. CREASY’S *History of England*. 8vo. 1870. vol. ii. pp. 556-7.

What the Art of Printing did in this respect for England, it likewise did in all other countries to which it was carried, in greater or lesser degrees, according to the amount of freedom it enjoyed, or of restriction to which it, and the people to whom it spoke, were subjected.

Religion, Arts, Sciences, Commerce, and Civilization, have had the greatest scope, and been most fully developed, wherever the Press has been the least restricted. Its free action is as necessary to the well being of a State, as the free action of the lungs is to the well being of the human body. This is well illustrated in the history of unhappy Poland, where the Liberty of the Press was first proclaimed in the Sixteenth century. But the narrow-minded bigots who succeeded the monarch who proclaimed it, beheld in it a portent foreboding evil to themselves; and they not only speedily abrogated it, but followed up that step with measures destructive of the most cherished privileges of the Polish nation.\* The result was fatal, as well to the country as to the kings who misruled it. Corrupted, crushed, enslaved,—every vent for

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\* *Vide* Reformation of Poland, by Count V. KRASINSKI, 2 vols. 8vo. *Nisbet*, 1838-40.

the expression of patriotic feeling choked up, —and the voice of the people stifled by the stern gripe of the strong hand of the despot,— the doom went forth, and the record against her was written as against Great Babylon of old,—“MENE, MENE, TEKEL, UPHARSIN.” “God hath numbered thy kingdom and finished it. Thou art weighed in the balances and found wanting. Thy kingdom is divided and given to the Medes and Persians.”

The Freedom of the Press is the birthright of the Anglo-Saxon race,—the hard-won palladium of all other rights; and yet, while there are few amongst that race who do not rightly appreciate the blessings flowing therefrom, the great majority are ignorant of the origin or the history of the Art, the privileges of which they so highly prize, and over which, with watchful jealousy, they guard against every thing that bears the semblance of encroachment. This ignorance is doubtless, in the main, owing to the expensive nature

and technical character of many of the works in which such information has been published. These works, forming of themselves a distinct class of literature, are neither few in number, nor wanting in interest. Some of the more important are indeed hardly procurable; and in the far East, where works of the kind must be imported for individual use, writing upon special subjects of European lore is beset with difficulties from which authors in the mother country are happily relieved.\* Acting however, on the maxim of Lord Bacon, "that every man is a debtor to his profession, from the which as men do, of course, seek to receive countenance and

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\* For assistance in this matter, I am much indebted to my father, Mr. ROBERT SKEEN, under whose able teachings I was thoroughly instructed in, and made a master of my craft—the Art of Printing. I have also to acknowledge, with thanks, the material aid received from Mr. H. W. CASLON, the eminent Type-founder, as well as from my publishers, Messrs. TRÜBNER and Co., of Paternoster Row.

profit, so ought they, of duty, to endeavour themselves by way of amends to be a help thereunto," I have spared no pains in this endeavour; and am not without hope of imparting to my readers some interesting particulars concerning the origin and history of the Noble Art

"That stamps, renews, and multiplies at will,  
And cheaply circulates through distant climes  
The fairest relics of the purest times,"—

thus creating "a moral atmosphere which is, as it were, the medium of intellectual life, on the quality of which, according as it may be salubrious or vicious, the health of the public mind depends."\*

Printing from surfaces of wood, engraved in relief, is an art which appears to have been known in China from time immemorial. Its origin there is hidden in the obscurity of

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\* SOUTHEY'S "Colloquies."



bye-gone ages: it may have been practised by the Chinese from the very commencement of their empire;\* or the idea may have been

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\* A reference can scarcely be avoided, in connection with this subject, to the exclamation of the patriarch Job (ch. xix. 23, 24), "Oh that my words were now written! Oh that they were printed in a book! That they were graven with an iron pen, and lead, in the rock for ever!" The book of Job is commonly supposed to have been written either by Moses, when residing amongst the Midianites about 1520 years before the commencement of the Christian era, or by Elihu, one of the speakers in the book, which would probably carry its antiquity a century and a half or two centuries further back. The word translated 'printed' does not, however, bear the meaning in the original, which is now generally attached to it. It evidently refers to the method of inscribing records on rolls, made of the skins of animals, for the purpose of preserving them for the benefit of future generations, or on such other substances as were then used for that purpose; and in the texts quoted the modes of writing and the instruments for inscribing are expressly referred to. Plates of metal, and prepared leaves of the talipot palm, are to this day engraved and inscribed on, in Eastern countries, with iron 'styles,' for purposes of record. Books of the laws of Buddha exist on plates of gold, as well as on the more common olas; and although we do not know upon what material MOSES

derived at a later period from blotting-paper impressions of writings, or from tracings or

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transcribed the Law, which God himself commanded him to write, and to place in the side of the Ark of the Covenant, we may be certain that it would be written on the most imperishable, as well as the most portable of substances adapted for such a purpose, Moses being learned in all the wisdom of the Egyptians, and having for his assistants the most skilful artisans of the age. The Ten Commandments we know were graven on tablets of stone hewn out of the rock. From tablets such as these, and from engraved plates, as well as from inscribed olas, copies and fac-similes might have been easily made by a process analogous to that of copper-plate printing; the only drawback being that in all such copies the printed characters would have been reversed. That the Hebrews must have been familiar with books, such as were referred to by Job, is clear. In Egypt, during the time of their residence in that country, Public Librarics existed:—"Over the mouldering door which led to the bibliothetical repository of the Memnonium, said to have been built about the time of Moses, Champollion read, written over the heads of Thoth and Sakh, (who were the male and female deities of arts, sciences, and literature), the remarkably appropriate titles of 'President of the Library,' and 'Lady of Letters.'" (Kitto's *Cycl. of Bibl. Literature*, Art. WRITING). The Egyptians probably derived their knowledge of writing from Misraim the son of Ham, as did the Canaanites from Canaan the brother of Misraim, from whom



rubbings of inscriptions, which travellers from 'the flowery land' may have taken, in foreign

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they were descended. There is proof in the sculptured pictures and inscriptions in the oldest Egyptian monuments, of about the same age as the Great Pyramid, that 2200 years B. C., writing was an art well known at that early period. "Whatever the employment, or whatever the produce being brought to be laid at the prince's feet, there were always scribes in attendance to take down the exact amount in writing on the property rolls." (Vide *Life and Work at the Great Pyramid in 1865*, by C. PIAZZI SMYTH, Astronomer Royal, Scotland; and article in *Good Words*, Part VII, 1867, by the same author, p. 453.) When the Israelites took possession of the land of Canaan, among other great and walled cities which they captured was Debir, whose original name was Kirjath-sepher, or the City of Books, or Kirjath-sannah, the City of Letters, (Joshua xv. 49; Judges i. 11). This word "sannah" is evidently the same as "sannas," the name given to oblong copper-plates, on which are engraved the record of the grants of lands, &c., made from very ancient times by the kings of Ceylon, to temples, chiefs, and others; and which are frequently, under that name, received in evidence in the law courts in disputes regarding landed property. They are, in fact, the title-deeds under which most of the Singhalese gentry of ancient family hold their estates. These royal grants are sometimes on plates of silver, and occasionally cut in the solid rock or on massive stone tablets.

countries, on sheets of paper, such as are known to have been manufactured in China from times of a very remote antiquity, and which are to this day better adapted for such purposes than any papers elsewhere made. Such rubbings, forming a kind of papier-maché castings,\* would naturally suggest, not only the idea of stereo-blocks, whereon writings in reversed characters could be engraved in relief, but also the mode of printing, which, to the present day, prevails throughout the Chinese empire. With the fact before us, that the Chinese were, up to

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\* Plaster casts of inscriptions might also have suggested the same idea. The use of plaster, for the purposes of inscriptions, dates back to a very ancient era. It seems to have been as old as the art of writing itself. We learn from the book of Deuteronomy (xxvii. 2-4), that while the Children of Israel were yet wandering in the desert, after their exodus from Egypt, it was ordained, that when they had passed into Canaan,—the land which should be given them,—great stones, plaistered over with plaister, should be set up, on which stones should be written “very plainly” all the words of the law.

a certain period in their history, far ahead of all other nations, not even excepting the Egyptians, in the development of inventions which could only be the product of an advanced state of civilization, it is not unreasonable to conclude, (especially in the absence of positive information to help us in our researches), that the art of printing from blocks originated in China in the manner above stated. Whether such were the case or not, Du Halde, in order to establish its great antiquity, cites the following proverb, quoted by an old author as written by the Emperor Van Vong, who flourished 1120 years before Christ—"As the stone Me (a word signifying ink in the Chinese language) which is used to blacken the engraved characters, can never become white, so a heart blackened with vices, will always retain its blackness." This quotation, however, not being very conclusive on the subject, he fixes the invention at fifty years before the Christian era.

Father Couplet, Klaproth, and others, ascribe it to a much later date. "Under the reign of Mint-song," writes Klaproth, "in the second of the years Tchang-hing (932) the ministers Fong-tao and Li-yu proposed to the Academy Koue-tseu-kien to review the nine king or canonical books, and to have them engraved upon blocks of wood, that they might be printed and sold. The emperor adopted the advice; but it was only in the second of the years Kouan-chun (952) that the engraving of the blocks was completed. They were then distributed and circulated in all the cantons of the empire."

But that the art was known and practised by the Chinese at a period still more remote, we learn from the 39th volume of the Chinese Encyclopædia, where we are informed, that on the eighth day of the twelfth month of the thirteenth year of the reign of Wen-ti, founder of the Souï dynasty (593) it was ordered by a decree to collect the worn out drawings and

inedited texts, and to engrave them on wood and publish them. This fact is confirmed by various Chinese writings; and this, continues the work quoted, was the commencement of printing upon wooden blocks. Under the Thang dynasty, from 618 to 907, it grew much into use; made still greater progress during the five lesser dynasties, from 907 to 960; and reached its perfection and greatest development between 960 and 1278. But as block-printing was only for the first time imperially ordered in the year 593, it is very probable that the art was known long before that date. Had it *then* been a new invention, something surely would have been said about its origin and author.

The following particulars relative to Chinese printing are given by Du Halde.

“The work intended to be printed is transcribed by a careful writer upon thin transparent paper: the engraver glues each of these written sheets, with its face downwards, upon a smooth

tablet of pear or apple tree, or some other hard wood; and then with gravers and other instruments, he cuts the wood away in all those



parts upon which he finds nothing traced [as in the fac-simile\* in the margin]; thus leaving the reversed characters ready for printing.....

When once the blocks are engraved, the paper is cut, and the ink is ready, one man with his brush can, without fatigue, print ten thousand sheets in a day. The block to be printed must be placed level, and firmly fixed. The man must have two brushes; one of them of a stiffer kind, which he can hold in his hand, and use at either end. He dips this into the ink, and rubs the block with it; taking care not to wet it too much, nor to leave it too dry..... The second brush is used to rub over the paper with a small degree of pressure, that it may take the im-

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\* "Sy-chong-ü-gén-pon," the name of a Chinese Song-book.

pression: this it does easily, for not being sized with alum, it receives the ink the instant it comes in contact with it. It is only necessary that the brush should be passed over every part of the sheet with a greater or smaller degree of pressure, and repeated in proportion as the printer finds there is more or less ink upon the block.”

The number of copies which, according to Du Halde, a Chinese workman can print in a day, is greatly exaggerated. About four thousand, or four hundred an hour, is the utmost that the most expert workman would be able to throw off.

To the above account it may be added, that the blocks, each containing two pages, are frequently engraved on both sides; that the sheets printed are small, and impressed on one side only; and that each sheet when dry is folded back, so as to present the appearance of a leaf impressed on both sides.

The history of printing in China, and the



productions of the Chinese press, are subjects which Oriental bibliographers have more or less touched upon. Interesting as they are, there will probably be no occasion to allude to them in these pages more than once again.

But the history of books in Europe, the productions of the early printers in the various countries to which they carried their art, is one to which our subject is most closely allied; and European bibliography is a study to which many men of great ability have devoted themselves during the last three centuries, in Germany, Holland, England, Spain, France, Italy, Belgium, and other countries. To their labours all later writers on the subject are under manifold obligations.\* But

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\* The following alphabetical list includes the most distinguished of these writers:—Andrès, Antonio, Baillet, Bayle, Blount, Bouterwek, Brueker, Brunet, Buhle, Chalmers, Collier, Corniani, De Bure, De Vries, Dibdin, Ebert, Eichhorn, Falkenstein, Fischer, Foppens, Frere, Gesner, Ginguéné, Goujet, Graesse, Greswell, Hallam, Hain, Heeren,



in attributing various undated books to one or other of the earliest established presses, guess-work, and the bias of national prejudice, have largely prevailed amongst even the most painstaking of European bibliographers. This unscientific method, long felt to be a reproach to learning and literature, has of late years been attempted to be remedied by a more close and critical examination of the Incunabula, or books printed in the Fifteenth century. "The method of arranging these early books under the countries, towns, and presses at which they were produced," says Mr. Henry Bradshaw, the Librarian of the University of Cambridge, "is the only one which can really advance our knowledge of the subject. This is compa-

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Horne, Kästner, Mallinckrot, Maittaire, Maitland, Meiners, Mendez, Montuola, Naudé, Nicéron, Panzer, Portal, Santander, Sismondi, Sprengel, Sotheby, Tennemann, Tiraboschi, Vanderhaeghen, Van der Meerseh, Van Iseghem, Van Praet, Watt, Wolf, Würdtwein, Zapf.

ratively easy with dated books, though there is no safeguard against the misleading nature of an erroneous date. But the study is of little use unless the bibliographer will be content to make such an accurate and methodical study of the types used and habits of printing observable at different presses, as to enable him to observe and be guided by these characteristics in settling the date of a book which bears no date on the surface. We do not want the *opinion* or *dictum* of any bibliographer, however experienced; we desire that the types and habits of each printer should be made a special subject of study, and those points brought forward which shew changes or advance from year to year, or where practicable, from month to month. When this is done, we have to say of any dateless or falsely dated book, that it contains such and such characteristics, and we therefore place it at such a point of time, the time we name being merely another expression for the characteristics we

notice in the book. In fact each press must be looked upon as a *genus*, and each book as a *species*, and our business is to trace the more or less close connection of the different members of the family, according to the characters which they present to our observation."

The study thus defined is designated Palæotypography; and concerning it Mr. Bradshaw further says, "except Mr. Blades's monograph of Caxton's press,\* the Hague *Catalogus*† and *Monumens Typographiques*‡ are the only books existing in any literature, so far as I know, which render the study of palæotypography in any way possible upon a proper

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\* The Life and Typography of William Caxton, by WILLIAM BLADES. 2 vols. 4to. with 57 fac-simile illustrations. London, 1861-63.

† *Catalogus Librorum Sæc. XVI. impressorum*, in *Bibliotheca Regia Haganâ asservatorum*, 8vo. *Hagae*, 1856.

‡ *Monumens Typographiques des Pays Bays au XVe Sieclé*, 20 livraisons, imp. 4to. 120 plates of fac-similes. *La Haye*, 1857-66. Of this magnificent work only 200 copies were printed.

basis. Germany, Italy, France, and Spain, are at present perfectly impracticable fields of work, and are, I fear, likely to remain so for some time to come.’\*

Respecting Mr. Bradshaw’s own labours in this field of investigation, Mr. Frederick Müller of Amsterdam, an enthusiastic bibliographer of rare power, bears the following testimony:†—“Hardly anybody in England takes an interest in foreign bibliography—the only exception being that excellent bibliographer, Henry Bradshaw, Fellow of King’s College, Cambridge, who is examining with great enthusiasm the *Incunabula Typographica*, and who has lately arrived at most surprising and important results in this department.....I do not know which most

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\* Classified Index of Fifteenth Century Books in the Collection of the late M. J. de Meyer of Ghent. 8vo. *London*, 1870. pp. 15–16.

† TRÜBNER’S *American and Oriental Literary Record*, July, 1870.

to admire — the acumen of the conjectures about the places where some of the works were printed, or the clearness with which the writer treats several very difficult subjects. .... This method of ascribing a work solely from the appearance of the types used, he carries to the utmost point of application. .... Mr. Bradshaw is the first who turns to advantage the excellent lessons of the French and German bibliographers, and through him a new light will probably arise in English bibliography.”

To the researches of Mr. Bradshaw and Mr. Blades, and to the labours of Mr. Ottley\* and Mr. Humphreys,† in their last published

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\* Inquiry concerning the Invention of Printing, by W. Y. OTTLEY. 4to. 37 plates, and other engravings. *London*, 1863.

† A History of the Art of Printing: Its Invention and Progress to the Middle of the Sixteenth Century, by H. Noel HUMPHREYS. imp. 4to. 105 photo-lithographic facsimiles. *London*, 1869.

works, I am greatly indebted. The interesting information they have accumulated I have freely made use of in the preparation of this volume, although I differ considerably from some of the conclusions which one or other of them has arrived at.

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# Early Typography.

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## CHAPTER II.

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DATE OF THE ORIGIN OF TYPOGRAPHY IN EUROPE.—  
ALLEGED EARLY ENGRAVINGS.—PLAYING CARDS.—  
BLOCK-BOOKS.—MR. F. HOLT'S HYPOTHESIS.—EVIDENCE  
OF COSTUME.—GERMAN "BRIEF-MALERS."—DECREE OF  
GOVERNMENT OF VENICE.—STATE OF EUROPE IN THE  
MIDDLE AGES.—CULTIVATION OF CLASSICAL LITERA-  
TURE AT THE CLOSE OF THE FOURTEENTH AND COM-  
MENCEMENT OF THE FIFTEENTH CENTURY.

It has been a question much debated, whether the Art of Printing was not introduced to Europe from the East at a much earlier period than that generally assigned as the date of its invention; and we are informed by Klaproth, that it might have been known in Europe a hundred and fifty years prior to its discovery by the Germans, if Europeans had been able

to read and translate the Persian historians, as the Chinese method of printing is clearly explained in the *Djemm'a-et-tewarikh*, by Rachid-Eddin, who finished this immense work about the year 1310.

On this subject, Mr. William Savage, a well-known printer, and a gentleman to whom the public and the profession are indebted for several valuable works on the art, states, in the preface to a volume published in 1841,—“The dates given of the introduction of the practice into Europe by previous writers, are unquestionably erroneous, as we have conclusive evidence of its being followed as a profession for nearly a century before the earliest date they give:”—and he announced his intention of embodying the facts and information he had been for a long period collecting, in another work, as hitherto, he declares, there has in reality been but little said on the History or Practice of Printing, the numerous works on the subject being chiefly copies from one or



two of the earlier writers. This is true enough. From the very nature of the case it can scarcely be otherwise, until and unless the discovery of fresh facts, or the investigations of fresh inquirers lead to conclusions different to those which had previously been generally received.

It is possible, nay probable, that a knowledge of the art, as practised in China, may have been carried to Europe by the Venetian travellers, or traders, at a very early date; but, as no account is known to exist that such really was the case, so no certain conclusion on the subject can be arrived at. Whether it was so or not, there is little difficulty in supposing that on many occasions attempts might be made similar to that contained in the much disputed account given by Papillon of the discovery at Bagneux, a village near Mont-Rouge, in the library of M. De Greder, a Swiss Captain, of a work, lent to M. De Greder by M. Sperchtvel, another Swiss Officer, supposed to have been

printed in 1284 or 1285. This work, which has never since been seen, is said to have borne the following inscription in old Italian.

“The heroic actions, represented in figures, of the great and magnanimous Macedonian king, the bold and valiant Alexander; dedicated, presented, and humbly offered to the most holy Father, Pope Honorius IV, the glory and support of the Church, and to our illustrious and generous father and mother, by us Alessandro-Alberico Cunio, Cavaliere, and Isabella Cunio, twin brother and sister: first reduced, imagined, and attempted to be executed in relief with a small knife on blocks of wood made even and polished by this learned and dear sister, continued and finished by us together, at Ravenna, from the eight pictures of our invention, painted six times larger than here represented; engraved, explained by verses, and thus marked upon the paper to perpetuate the number of them, and to enable us to present them to our relations and

friends, in testimony of gratitude, friendship, and affection. All this was done and finished by us when only 16 years of age."

Interesting as this statement is, and correct as it possibly may be, it can scarcely be accepted as an historical fact, inasmuch as no one but the alleged discoverer appears ever to have seen the originals.

Besides the preceding doubtful account we have notices of a print in the Library of Lyons with the date 1384. Specimens of engravings of playing cards, as well as of saints, said to have been produced in the years 1390 and 1400 are also extant. From the year 1400 to 1440 other and more elaborate engravings, of a devotional character, are likewise to be met with. One of the most curious, representing St. Christopher carrying the infant Saviour across the sea, is in the possession of Earl Spencer, and bears the date 1423. A few years later we find similar prints accompanied with explanatory inscriptions or texts of Scripture

placed beneath them; next came whole series of these prints published together as a book; and lastly, the small Latin Grammars of Donatus, the common school-books of the day, engraved and printed in like manner. These productions are distinguished by Bibliographers as Block-books, and nine or ten different specimens are known to exist. Of these the most remarkable are the *Biblia Pauperum*, or Poor Man's Bible,\* a book containing 40 pages of quarto, or small folio prints, with several engravings with inscriptions upon each page, supposed to have been executed (most probably at Zwolle† in Holland) between

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\* This is shewn, in the history of wood-cutting by Mr. J. JACKSON, not to have been the original title of the work, which was rather, says the writer, a book for the use of preachers than the laity,—“A series of skeleton sermons, ornamented with woodcuts to warm the preacher's imagination, and stored with texts to assist his memory.”

† The blocks of the original *Biblia Pauperum* re-appeared in this city on the revival of wood-engraving in Holland; and it is the opinion of Mr. BRADSHAW, that it was here

the years 1420 and 1435; and the *Speculum Humanæ Salvationis*,\* or Mirror of Salvation, a book containing 63 leaves in the two Latin, and 62 in the two Dutch editions, (each in small folio), 58 of which are ornamented with engravings representing stories from the Old and New Testaments, beneath which are more copious explanatory inscriptions

**mulier autē ī padilo est fonnata  
De colis viri dormientis et parata  
Deē autē ipsā quodamō sup viz hōē travit  
Q erā ī loco voluptatis plasmanit**

[Copy of an Inscription on the first leaf of the "*Speculum Humanæ Salvationis*."] 

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the earliest of the block-books was produced. This opinion has additional importance attached to it, from the fact that Zwolle was, in the early part of the Fifteenth century, celebrated as a seat of learning. "Thomas á Kempis, according to Meiners, whom Eichhorn and Heeren have followed presided over a school at Zwoll, wherein Agricola, Hegius, Langius, and Dringeburg, the restorers of learning in Germany, were educated."—HALLAM'S *Introduction to the Literature of Europe*, 8vo. 1837. vol. i. p. 149.

\* Some writers consider that the whole of the text of what are considered the first and last editions, and a large

than those in the "Biblia Pauperum." These editions are supposed to have been published between the years 1430 and 1457.

Mean as these books would seem if issued from the press at the present day, they were wonderful productions for the age in which they appeared; and although the first named was called the 'Poor Man's Bible,' or 'Book

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portion of the text of the other two, were printed from moveable wooden letters; others again assert, that these letters were made of cast fusile metal. No positive proof, however, has been, or can be given that they were the latter. That the texts were separately printed, is evident, from the different inks employed, the burnished appearance of the paper at the back of the cuts, and the indentations at the back of the lines of type. These last, differing considerably in different specimens, give rise to differences of opinion as to whether the impressions were produced by an ordinary printing press, or by some other method of imparting pressure. The presumption is that all, or nearly all, the impressions of the oldest specimens of the art, printed only on one side of the paper or vellum, were taken in the Chinese way. Before the press was invented, there certainly was a *possibility*, but that was all, of printing otherwise; but after its invention, impressions could most easily be taken on both sides of the paper, without the risk of spoiling the first,



of the Poor,' it was only in comparison with the cost of a written copy of the Holy Scriptures, which was worth the, in that day, enormous sum of £100.\* As very few copies are now in existence, (and those generally in an imperfect state), they have literally become worth more than their weight in gold: a copy of the *Biblia Pauperum* having

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while 'perfecting' (i. e. printing) the reverse or blank side of the sheet. As the press was not an essential in block-printing, it was probably not thought of in that embryonic state of the art. But after separable, and especially metallic, letters were made, the press could no longer be dispensed with; types would be all but useless without it; for although impressions might still be taken by careful rubbing, the paper being sufficiently damped, that process would be attended with much additional trouble, owing to the precautions rendered necessary to avoid cutting through the paper, or otherwise spoiling it by blacking the margins on the inked coffin or chase in which the types, when formed into a page, were screwed or quoned or wedged together. The date of the invention of the LETTER press, by the adaptation of the screw to the purposes of book-printing, is thus an important element in the consideration of questions relating to the origin of Typography.

\* About £1000, or £1200, of current English money.

been bought by the Duke of Marlborough, after a keen competition at an auction sale in 1813, for the almost fabulous sum of £257.

It was from these early Block-books, or Donatuses, that Gutenberg, as we learn from the statement of Ulric Zell,—a contemporary, and working printer at Mentz with the original inventors while the art was yet a secret,—derived his idea of printing as at present practised. In the words of Mr. Charles Knight, in his interesting biography of the venerable Caxton, the Father of the Art in England,—“To seize upon the idea, that the text or legend might be composed of separate letters, capable of re-arrangement after the impressions were taken off, so as to be applied without new cutting to other texts and legends, was to secure the principle upon which the printing art depended. It was easy to extend the principle from a few lines to a whole page, and from one page to many, so as to form a book.”



Such, according to the almost universally adopted belief, were the successive steps which led to the invention of TYPOGRAPHY. And for nearly a century no one had ventured to doubt that either images of saints, or characters for playing cards, were first printed from engraved wooden blocks, as cheap substitutes for the works of the draftsman and painter;—that these were succeeded by subjects of sacred history with explanatory legends cut in wood, imitative of the art of the illuminator, and the caligraphy of the scribes or professional writers;—that these again were followed by Donatuses;—and that from these Donatuses, printed from solid blocks, Gutenberg obtained his first idea of the Typographic Art.

But in 1868 an altogether new hypothesis was propounded at the annual congress of the British Archæological Association, held that year at Cirencester. It was there maintained, in a paper read by Mr. Henry F. Holt, that

printing from moveable types, as practised in Europe, preceded in point of time that of printing from engravings on wood. After a careful inspection of the celebrated print of St. Christopher, in Earl Spencer's library at Althorp, he contended,—“that the date 1423 is not that of the engraving, but of the legend beneath it, which had been copied by the engraver, and has reference to the jubilee year of the Saint; that it has been printed by a press, and with printer's ink; and, what is more important, upon paper which exhibits the well-known water-mark of the bull or heifer's head, with a flower issuant between the horns, which was used by Faust, and supposed to have been made for him.\* He has shewn, that the discovery of this supposed early engraving instigated the fabri-

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\* Paper with the same water-mark was also used by the First Printer in England. *Vide* Plate IX in vol. ii. of *The Life and Typography of William Caxton*.

cation of several similar, which were stained with coffee to give them the appearance of age. He further maintains, that the block-books,—originally, in his opinion, produced by the celebrated painter and engraver Albrecht Durer,—were cheap substitutes for the highly-priced productions of the Printing press.” And he challenges literature “to prove, that a copy of the block-book known as the ‘Biblia Pauperum,’ was actually in any known library, public or private, prior to 1485, or known then to be in existence.”\* “All this has,” as Mr. Planché observes, “naturally aroused a host of antagonists, who have more or less courteously contradicted, without convincing Mr. Holt, by the production of any incontrovertible fact, which would refute the evidence he adduces in support of his arguments. Alone and undismayed, he still gallantly defies all comers.”

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\* Letter in *Builder*, Nov. 26, 1870.

Guided by the test of costume,—“a test which he has never known applied in vain, when called to the assistance of the critical inquirer,”—Mr. Planché, while abstaining from the expression of an opinion upon the principal point in dispute, shews, as a matter of fact in regard to playing cards, that “with the exception of those by the Master of 1466 [an engraver only known by that designation], and a set of “tarots,” called the Mantegna Cards,\* on one of which is the date 1483, all the specimens of printed playing cards that he has met with display the unmistakable character of the fashions of Germany, France, and England, during the latter half of the Fifteenth century, and the greatest portion those of the very latest part, —

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\* So called after Andrea Mantegna, a celebrated Italian painter and engraver, born in Padua 1431, died 1505. Cards designed and coloured by this artist are, very highly prized.

Louis XI, Charles VIII, of France; Edward IV, and Henry VII, of England; and Maximilian I, Emperor of Germany."\*

So far, then, the evidence of the playing cards seems to support the hypothesis of Mr. Holt.

Most of the early prints are certainly of



[The Knave of Bells, 1390.]

\* *Builder*, Nov. 19, 1870.

an extremely rude type, consisting chiefly of mere outlines of figures; in the one case of saints, copied from the illuminated Missals, and in the other, of characters for playing cards similar to the foregoing facsimile, afterwards coloured in imitation of paintings. Very probably they may have been made, in the first instance, by means of stencil plates; if not, the impressions were obtained from the engraved blocks by friction, after the Chinese manner. Whichever was the method adopted, the 'Brief-malers' or card painters of Germany seem to have run their Italian brethren hard in the race of competition in the first half of the Fifteenth century, as we learn from a decree of the Government of Venice, bearing date the 11th October 1441; which, after stating that the art and mystery of making cards and printed figures had fallen into decay, from the numbers printed out of Venice, ordains—"That it be ordered and established, according to

that which certain masters had supplicated, that from this time in future no work of the said art that is printed or painted\* on cloth or on paper, that is to say, altar pieces, images, and playing cards, and whatever other work of the said art is done with a brush and printed,† shall be allowed to be

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\* "The word which has been translated *printed* is 'stampide' ('Carte e figure depinte e stampide'), and the question arises as to the meaning of that word in 1441. 'Stampide,' according to Florio, signifies 'to print, to presse, to stampe, to form, to figure;' and 'stampe' in like manner, besides a print or impression, is said to be 'a marke, a shape, a figure.' The word existed before printing, in its modern sense, had been heard of, and the natural application of it to the new art, does not in the least determine the question of when that art was invented. 'Stampide' in 1441, might simply mean formed, figured, or shaped, by the means of the stencil, a process which we know was adopted at that period, and which being much more rapid than drawing and coloring by hand, would doubtless affect very seriously the art of the card illuminator, similarly as photography, at the present day, has the art of the miniature painter."—J. R. PLANCHÉ. *Builder*, Nov. 19, 1870.

† This phrase seems specially to refer to the method of stencilling.



brought or imported into this city under pain of forfeiting the works so imported, and xxx livres and xii soldi,\* of which fine one-third shall go to the state, one-third to Signor Giustizieri Vecchi, to whom the affair is committed, and one-third to the accuser." The worthy magistrates of Venice were excellent Protectionists in their day and generation; but this antique method of printing, either from engraved wooden blocks, or with stencilling plates and brushes, had soon to give way to the newer art of Typography; and twenty-eight years after the promulgation of this decree we find printed works issuing from the press of John and Vandeline of Spire, established in Venice in the year 1469.

It is a moot point among antiquarians when playing cards were first printed. The commonly received opinion of their inven-

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\* Equivalent to about £5 15s. sterling.

tion in 1392 for the amusement of the insane King, Charles VI of France, is decidedly erroneous.\* On this subject Mr. Planché writes,—"There is plenty of evidence to prove that cards, drawn, painted, and gilded by the hand, like those of Jacquemin-Gringonneur, and to which the name of 'Tarot cards' has been given, found their way into Europe from the East in the Fourteenth century, or perhaps earlier; but they had nothing in common with those to which we are accustomed, although they might have suggested them, and the fact in no wise affects the question of printing by means of wood-blocks only."†

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\* St. Louis of France, after his return from the Crusade, [A. D. 1254], interdicted the use of all playing cards throughout his dominions. They were also forbidden by the Council of Cologne in the year 1281. These prohibitions most probably arose from their being used for purposes of fortune-telling.

† Gringonneur was paid for the cards drawn and painted for Charles VI in 1392, fifty-six sous of Paris, which is

That this art—the art of printing by pressure to obtain copies, in ink, from separable types or letters—had not been attempted to be carried into effect at a much earlier period than the time when Gutenberg made his first essay at Strasburg, about the year 1435, has been a subject of wonderment with certain writers. But the truth is, that prior to that period the world was not ripe for the invention, neither had the time arrived for the development of those grand designs of Providence, in the effecting of which the Press and Printing were destined to be mainly instrumental. Otherwise, it is inconceivable how for ages previous, while the germ of the art, as ultimately perfected, was

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calculated to be about £7 1s. 8d. of our present money, and a single pack of “tarots,” admirably painted about 1415 by Marziano, Secretary to the Duke of Milan, cost the enormous sum of 1,500 golden crowns (about £625); but in 1454 a pack of cards intended for the Dauphin of France, cost only five sous of Tours, about 11s. or 12s.—*The Arts in the Middle Ages*, by M. Paul LACROIX.

in common use among men,—in seals and signets;\* in stamped records on bricks and tablets of clay in Babylon; in chiselled inscriptions on rocks and pillars in India; and in irons with letters cut in relief upon them for branding cattle with their owners'

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\* Several ancient specimens of Greek and Roman signets are still extant. The most remarkable of these is a brass sigillum of C. J. Cæcilius Hermias, in the Duke of Richmond's collection. It was found near Rome, and is supposed to belong to the Fourth century. The characters are *reversed*, engraved in relief, the back metal being cut away to a considerable depth and left in a rough state. The inscription is surrounded with a border, as shewn below.

C I CAECILI  
HERMIAE. SN.

The size of the signet is two inches long by one inch wide. At the back is a ring. If used for printing, its application was no doubt the same as that of the blocks used by the *Paper Stainers* of the present day. Coloured pigments would be applied to the face of the letters, and the signet would then be stamped on whatever substance was to be marked. It might, in this way, have been used for stamping on the covers of letters or parcels, to mark the name of the party

names, (known among the Romans in the days of Virgil);—no one discovered the way to this method of multiplying documents for general distribution, or for the promulgation of edicts through the length and breadth of the ruling empires of the world.

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from whom they were sent, in the same way as engraved fac-simile signatures are officially used for franking such documents through the post at the present day. It may, however, have been the receipt stamp of a man in trade; or a trade-mark, used, for instance, to stamp the wares while in a semi-plastic state, of a baker or brick-maker.

After the above was in type, the writer was informed by Dr. J. D. M. Coghill, Superintendent of the Convict Establishment at Welikada, near Colombo, that the probability of the first of the purposes to which the signet is supposed to have been applied, was much strengthened by the somewhat similar practice, though not for an exactly similar object, which prevails in parts of China, in the use of *chops*,—"house-signs,"—by professional men, traders, &c. These chops are small blocks of box or other hard wood, on the upper surfaces of which the name and profession of an individual or firm are cut by itinerant engravers, at the rate of thirty for a Mexican dollar. To meet the requirements of business and to facilitate intercourse between Europeans and native Chinese, each foreign house, or firm, or profes-

It may be well, therefore, before entering upon the History of PRINTING, popularly so called, to take a rapid glance at the state of Europe, both as regards Religion and Literature, in the ages immediately preceding that at which we have now arrived.

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sional man, furnishes all those with whom he or they have transactions, with his 'chop,' on the sides of which his name and address are also written in Roman characters. Whatever letter, document, packet or parcel is thenceforth sent to him or them, besides the address written with ordinary ink and in Roman characters, a red ink impression of the chop is stamped on the envelope or cover. This any native can read, and the addressee is without difficulty found. To this information Dr. Coghill kindly added the gift of the accom-



panying original chop, which belonged to his brother, Dr. Sinclair Coghill, when practising as a physician with his partner, Dr. Bell, in Shanghai. The characters represent the words 'Peh-i-sang,' the nearest equivalent the Shanghai dialect of the Chinese language gives to 'Bell, Physician.' It

is a small block, an inch and a quarter long, three-eighths of an inch broad, and was one inch and three-eighths high. It has, however, been reduced to an inch in height to suit the size of the type and allow of its being herewith printed.

From the Sixth to the Fifteenth century the Western world may be said to have been covered with moral darkness. On the fall of the Roman Empire, ignorance, barbarism, and superstition spread in dense and heavy clouds over the nations of the West. Learning so rapidly declined, that it was almost wholly lost; and the light of Religion,—that light “which lighteth every man that cometh into the world,”—appeared well nigh entirely quenched. Here and there, however, in different countries and in successive ages, a ray of light shot forth; Schools and Universities were established, and a few bright names shine out like stars amid the thick darkness which surrounded them. The number of these was somewhat increased towards the Tenth century. About this time Paper made from cotton or linen rags began to come into use. The importance of this invention must at once have been felt, and by decreasing the expense of



manuscripts,—hitherto written on parchments, or the perishable papyrus,—have greatly enlarged the demand for such documents. This enlarged demand induced more to follow the occupation of Scribes, or Caligraphers. In the Eleventh century the Benedictine Monks exercised themselves in copying manuscripts; and to their industry we owe almost all we possess of Classic Latin Literature at the present day. The light of learning in this century shone brightest in France and England; in Italy but faintly, while in Germany its glimmerings were scarcely perceptible. In the Twelfth century a slight improvement may be traced; John of Salisbury and William of Malmesbury being distinguished writers in this age. In the Thirteenth however, darkness prevailed again; and few, if any, were capable of appreciating the master-mind of Roger Bacon, who shone like a beacon in the realms of literature and science, but who was looked upon by his mole-eyed contem-

poraries as a magician whose lore was derived from unholy sources. The Church grew more and more corrupt. Ignorance and fanaticism every where abounded; and true Religion was scarcely to be discerned amid the prevailing superstitions of the age. It was in the moral world as in the physical: the darkest hour is that which precedes the dawn. Darkness at this period covered the earth and gross darkness the people. The mind of man had become, as it were, without form and void; and in that state, humanly speaking, it was long likely to remain. But such was not the will of God. As in the creation of the world, God said, Let there be Light, and Light was; so now the command went forth—"Arise, shine, for thy light is come, and the glory of the Lord is risen upon thee." And the light of truth burst forth; not indeed at first with noontide splendour; but there came from the East a dawn, and a day-spring thence arose, which

announced the coming of that light which will only cease to shine when time shall be no more.

The Fourteenth century was to that which followed it like the morning star that ushers in the dawn. The love of learning revived; and polite letters were restored in the person of Petrarch. Universities were established in Rome and Fermo, in Perugia, Treviso and Pisa, in Pavia and Florence, in Sienna, Lucca and Ferrara. In England, Richard Aungerville, Bishop of Durham and Chancellor of Edward III, but better known to fame as Richard of Bury, gave his library to the University of Oxford, with special injunctions that his valuable manuscripts should be lent out to scholars.\* These, and like

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\* For, says the Bishop in his 'Philobiblon,' "Books are masters who instruct us without rods, without hard words and anger, without clothes and money. If you approach them they are not asleep; if investigating you interrogate them, they conceal nothing; if you mistake them they never grumble; if you are ignorant they cannot laugh at you."

agencies elsewhere at work, paved the way for the era then about to commence.

As the dangers which menaced the Eastern Empire at the close of the Fourteenth century increased, the most learned of the Greeks fled to the West, carrying with them the treasures of their language. Amongst the first of these was Emanuel Chrysoloras, who settled in Florence in 1395 as public teacher in Greek. He had been previously known as an Ambassador from Constantinople to the Western powers, his mission being to solicit aid against the Turks. From Florence he proceeded to various Italian Universities, and became the preceptor of several early Hellenists. In 1423, 238 manuscripts of Greek authors were brought into Italy by John Aurispa of Sicily, who thus put his country in possession of authors hardly known to her by name. By means of these, and the labours of Philelfo and other collectors, an ardent thirst for Classical and especially

Grecian Literature began to make itself manifest, which about the year 1440 was completely developed.

The kings of France and the Dukes of Burgundy were at this period the most munificent patrons of learning and literature. The fashion they set was followed by their chief nobles, and many celebrated libraries were formed in their dominions. The Library of the Louvre was founded by King John of France in 1350. His third son, Jean, Duc de Berri, formed one at his Chateau de Bicêtre, near Paris, only inferior to that of his father. Philippe le Hardi, the youngest son, who became Duke of Burgundy, was also addicted to the collection of fine books, "and spared no expense in the employment of artists to adorn his library, and in the purchase of their most choice productions." His son, Jean sans Peur, inherited his father's tastes and added to the collections already made. "But all

previous patronage sinks into comparative insignificance before the encouragement given to everything connected with literature by Philippe le Bon, who succeeded Jean in 1419. At Bruges where he kept his Court, he gave continual employment to multitudes of authors, translators, copyists, and painters, who were constantly enriching his library with their best productions." In an account of the Duke's library, nearly two thousand works are enumerated, "the greater part being magnificent vellum folios beautifully illuminated, bound in velvet, satin, or damask, studded with gems, and protected by gold clasps jewelled and chased." "The passion for books thus displayed was not confined to France or the French princes. In Italy, Germany, England, and other countries, the same taste spread. In England Henry VI had a valuable library; many books written and illuminated for him being still among the

royal MSS. in the British Museum. The Duke of Bedford, whose love of literature was probably greatly stimulated while Regent of France, was surpassed by none of his countrymen in his patronage of the Fine Arts; and the celebrated Missal executed for him still remains as one of the choicest productions of his age. Humphrey, Duke of Gloucester, the Protector of Henry VI, was also greatly attached to his library, and bequeathed many hundreds of volumes to the University of Oxford, and to King's College, Cambridge."

"Owing to these causes the various Artists connected with book-writing and book-binding, as well as the trades necessary to them, received great encouragement, while to ensure speed as well as excellence of workmanship, division of labour was carried out to a great extent. Indeed, so important a branch of commerce had the manufacture of books now become, and



so numerous were the various classes of craftsmen employed in this way at Bruges, that there sprang up in that city a Guild,—‘The Guild of St. John the Evangelist,’ the patron Saint of Scribes,—which in 1454 had a formal charter and privileges granted it by the Duke.” Other cities also had similar corporations. Thus, at Antwerp the Society of St. Luke was formed in 1450, and at Brussels there was a guild of Writers called ‘Les Frères de la plume.’ The Guild of St. John the Evangelist contained members of both sexes, and consisted of Book - binders, Book - sellers, Boss - carvers, Cloth - shearers, Curriers, Figure - engravers, Illuminators, Letter - engravers, Painters, Painters of Vignettes, Parchment and Vellum - makers, Printers, Print - sellers, School - masters, School - mistresses, and Scriveners and copyers of books.\*

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\* *Vide* vol. i. of *The Life and Typography of William*

Coincident with this development of a thirst for classical learning, and a passion for literature amongst the great and wealthy, was the invention of Printing in the Western world.

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*Caxton*, from the second chapter of which the two preceding paragraphs have been abridged.

## Early Typography.

### CHAPTER III.

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JOHN GUTENBERG.—FIRST ATTEMPTS AT TYPOGRAPHY IN STRASBURG.—DIFFICULTIES.—INVENTION OF THE PRESS.—LAWSUIT.—RETURN TO MENTZ.—CONNECTION WITH FAUST.—SUCCESS.—MAZARIN BIBLE THE FIRST BOOK PRINTED FROM MOVEABLE METAL TYPES.—SECOND LAWSUIT.—FORFEITURE OF PLANT TO FAUST.—PETER SCHÆFFER.—INVENTION OF TYPE-FOUNDING.—FAUST AND SCHÆFFER.—THE GUTENBERG 'PRINTING HOUSE.'—GUTENBERG ATTACHED TO THE COURT OF THE ELECTOR OF MENTZ.—DEATH.

UNTIL the publication in the Hague of Meerman's *Origines Typographicæ* (1765),—a work based upon the traditions inserted in Hadrian Junius's *Batavia*, first published in 1588,—the man to whom the whole of Europe, with hardly a dissentient voice,

ascribed the honor of the invention of the Art of Typography, was John Gutenberg,\* a native of Mentz. He was of honorable descent; his family being included among the junckers and nobility, the equestrian order of the country, and possessing a small estate situated in the neighbourhood of Mentz, called Sulgeloch, on which estate he was born, about the year 1399. His father, Frielo, had besides him, an elder son, Conrad, who died some time previous to the year 1424, and Frielo, a younger, who was living in 1459; and two daughters, Bertha and Hebele, both of whom became nuns in the Convent of St. Clair at Mentz. In addition to the above-mentioned estate, the family

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\* Various names in contemporary documents, Johannes Gutenberg; Johannes de Moguntia, dictus Gutenberg; Johannes dictus Gensefleisch, junior, dictus Gutenberg; Johannes Gansfleisch, dictus Sulgeloch vel Sorgenloch; Henne Gensfleisch, genant Sulgeloch; Hans Genzefleisch von Mentz, genant Gutenberg. In English *Gansefleisch* would be written *Gooseflesh*; in Latin, *Ansicarus*.

owned two houses in the city of Mentz, one of which was called 'Zum Gansfleisch,' and the other 'Zum Gutenberg.' The latter of these formed part of the property of his mother, Elsy of Gutenberg. John Gutenberg, junior,\* left Mentz in early life for

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\* MEERMAN, and a few other writers, make mention of two John Gutenbergs, brothers, both of whom are spoken of as inventors of Typography; the elder, known as John Gansfleisch, dying, so it is stated, in 1462. The reason of this seems to be, that some one was wanted to fill the position of the thief, who, according to the tale of Junius, stole from Janssoen, the Coster of Haarlem, the moveable types he had recently invented. As John Gutenberg, junior, could not be fixed upon, and there was no other method of bringing discredit upon his claim, and as the alleged thief was a John somebody, John Gansfleisch, senior, assumed to be *elder brother* to John junior, was thought of; and from him, it is asserted, the younger brother obtained his knowledge of the art of printing. The authority on which Meerman relied appears to be a document first published by Köhler (*Ehrenrettung Guttenberg's*), in which it is stated, that in 1443 John Gansfleisch the elder hired a house at Mentz, his birthplace. Santander says, the phrase was used because John Gutenberg's *uncle* having died about this time, he had in reality become the elder. Later writers agree with Santander

Strasburg, where he settled and obtained rights of citizenship, and established himself in business as a polisher of precious stones, and a mirror and looking-glass manufacturer, in both which arts he is said to have shewn considerable skill. The precise date of his arrival and settlement in Strasburg has not been ascertained, but that it was prior to 1424 is known from a letter written to his sister Bertha, on the 24th March of that year;\* probably it was about the year 1420,

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that the elder Gansfleisch here referred to was an uncle to Gutenberg junior, but they do not admit his death at this time. Being named after him, he was probably his *god-father*, and may have been living with him in Strasburg in 1443. It was to his house that Gutenberg junior went, on his return to Mentz.

\* "To the worthy nun Bertha, in the Convent of St. Clair, at Mentz, health and fraternal good wishes. My dear sister, with respect to what you say of the rents and money which were left to you by our brother Conrad, whom God bless, by his last will; that often and for a long time past, they have not been paid to you, and that they are still owing to you, and amount as you say to a considerable sum; I have to inform you, that, upon giving a receipt, you may receive

and may have been occasioned by the political disturbances of the time. His name frequently appears in the city documents and registers, and he occasionally visited Mentz. He left Strasburg finally about the year 1444. Of great natural sagacity, gifted with an inventive genius, and of indomitable perseverance, the increasing thirst for knowledge which at this period was every where manifesting itself, arrested his attention, and

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the sum of twenty florins (of gold) out of my rents and revenues, coming as you know, from Mentz, and other places; by applying to Joh. Dringelter, the wax chandler; Veronica Mystersen, at Seilhoven; or at Mentz, and various other places, of which Pedirman can inform you; as at Lorzwiller, Bodenheim, and Murminheym. I purpose, if it please God, to have the pleasure of seeing you before long, and to arrange the matter with Pedirman, so that your property may be promptly delivered to you, according to the terms and intention of the will. I await your answer upon this subject. Given at Strasburg; feriâ quintâ post dominicam (the 24th March) M.CCCC.XX.III.

(Signed) "HENNE GENSFLEISCH, called Sulgeloch."  
—*Santander*, from Oberlin's "Essai d'Annales de la Vie de J. Gutenberg," pp. 3, 4.



convinced him of the desirability, as well as the profitableness, of devising some method for its more ready and abundant supply.

The problem of the mechanical multiplication of manuscripts had already been partially solved in the block-books which were manufactured in Holland. In the study of these, Gutenberg perceived the immense advantages which would follow from having every letter made separate, with sufficient quantities of each to allow of their being combined into words, sentences, and pages, instead of continuously engraving whole series of lines in solid blocks as in the specimens before him. That idea once clearly seen, time and patience, with the ability to engrave, were all that were required for its realization, so far at least as concerned the mere making of the types or letters. The first experiments would naturally be, as indeed we are informed they were, on wood. And one can well imagine the flush of triumph

that mantled on his brow, when, after having engraved a few continuous sentences, or sets of alphabets, with spaces between each line and letter; and after having sawn each line asunder, and separated each letter from the one adjoining, and trimmed and squared the whole to his mind, Gutenberg recomposed the letters into words, and other words, which differed from the original, and saw his cherished thought worked out complete before him.

But, while thus on the very threshold of success, obstacles and difficulties began to present themselves, which taxed his ingenuity and tried his perseverance to an extent which it was scarcely possible for him to have foreseen. In the first place, whatever plan he may have adopted to produce impressions in his earliest experiments, he could not fail to find out in a very short time that the Chinese method, adopted by the block-book printers, would not answer for his separable types; and moreover, that the fine strokes and edges

of his wooden letters were liable to damage and destruction from other causes besides those arising from the amount of pressure it was necessary to subject them to in order to ensure a clear readable impression. It was necessary therefore to resort to metal. This was, in itself, a serious matter to begin with, for engraving on metal is a much more difficult, tedious, and expensive process, than engraving on wood. With separable types, and direct perpendicular pressure to produce impressions, a different kind of ink or pigment to that hitherto used by scribes, or stencillers, or block-book printers, also became necessary, as well as a different method of applying it to the face of the types; and many an experiment must have been made, and much time and money lost, before these difficulties were overcome, and success attained in these as in the preceding step.\*

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\* Linseed oil, rosins, shellac, pitch, mundick, varnishes,

The chief difficulty—the greatest obstacle in the way of putting to a practical use the Types as now designed, and thus bringing the TYPGRAPHIC ART before the world, — was the want of the LETTER Press. To overcome this obstacle, to conquer this difficulty, was Gutenberg's great task. There was, in point of fact, no particular ingenuity or inventive faculty required in making separable letters. The keen perception which saw the advantages to be gained from such separation, was, no doubt, a sure indication that Gutenberg was a man of mark,—one whose mental gifts transcended those ordinarily possessed by his fellow-men. But the realization of

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nutgalls, turpentine, and vitriol, were made use of by the early printers in manufacturing their ink. In applying it, a small quantity was first taken up on a pair of balls or dabbers made of sheepskins padded with wool; these were then well beaten together until finely and evenly covered, after which they were beaten on the types until the pages were considered sufficiently inked.

the idea of separating the letters was a task which mainly depended on the amount of manual and mechanical dexterity brought to bear upon its execution. The higher efforts of genius, and the development of the inventive faculties were displayed in the subsequent steps, and in none more notably than in the invention of the PRESS.

The question—Who invented the Printing Press?—has never yet, it is believed, been thoroughly considered or satisfactorily answered. A writer in the *Encyclopædia Britannica* says, “It is probable that one of the difficulties which Gutenberg found insuperable at Strasburg was the construction of a machine of sufficient power to take impressions of the type or blocks then employed. Nor is it at all wonderful that even the many years during which he resided at that city should have been insufficient to produce the requisite means; for what with cutting his type, forming his screws, inventing and com-

pounding his ink, and constructing the means for applying the ink when made, his time in the Alsatian capital must have been fully occupied." And he goes on to argue that the Press was probably the joint production of Gutenberg, Faust and Schœffer, during the time of their association in Mentz. But for such a belief there is no real ground whatever.

Mr. Hansard, although he devotes 166 pages of his voluminous work\* to an account of Presses and Printing machines, strangely enough heads his first chapter on the subject "Construction of the Original Printing Press by Blaew of Amsterdam." But Blaew lived two centuries after the original invention, and was only an improver of certain of its parts. Of the original inventor he says not a word.

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\* *Typographia*: An Historical sketch of the Origin and Progress of the Art of Printing. By T. C. HANSARD, 1825. 8vo. 1000 pp.

Mr. M'Creery, a contemporary of Hansard, in his poem the "PRESS,"\* reprinted in the *Typographia*, apostrophises Gutenberg and Mentz in the following terms:—

"SIRE of our ART, whose genius first design'd  
This great memorial of a daring mind,  
And taught the lever with unceasing play,  
To stop the waste of Time's destructive sway!

\* \* \* \* \*

O MENTZ! proud city, long thy fame enjoy,  
For with the PRESS thy glory ne'er shall die;  
Still may thy guardian battlements withstand  
The ruthless shock of War's destructive hand,  
Where GUTENBERG with toil incessant wrought  
The imitative lines of written thought;  
And, as his Art a nobler effort made  
The sweeping lever his commands obeyed:—

But although, *poetically*, Mr. M'Creery thus ascribes the invention to the man and place to whom it rightfully belongs, I do not know

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\* *The Press*: a Poem; by JOHN M'CREERY. The original edition, printed by the author, was beautifully illustrated with wood engravings by Mr. Hole, a pupil of the Bewicks. Mr. M'Creery's establishment was celebrated for the excellence of its printing.



(not having the original edition to refer to) whether he intended anything more. I suspect not, since otherwise Mr. Hansard would scarcely have failed to have made use of any information in the notes to the poem which tended to throw light on a subject of so much historical importance.

Other writers pass the subject by with the remark, that "Of the mechanical construction of these presses there is little or no record." One of the latest authorities, Mr. Blades, the able palæotypographer, thus dismisses it: — "The method of obtaining an impression by a direct pressure downwards is generally supposed to have been synchronous with the use of moveable types. Mr. Ottley, however, describes several of the earliest wood blocks, which he had no doubt were printed by means of a press. Of one he states 'I am in possession of a specimen of wood engraving, printed in black oil colour on both sides the paper by a down-

right pressure, which I consider to have been, without doubt, printed in or before the year 1445.' There can be no question therefore that the earliest type printers found a press ready to their hands."\* But this is a very unconvincing method of reasoning; and a positive conclusion founded upon a mere opinion given in regard to the supposed age of an old engraving—a subject upon which the ablest experts differ—is one which is open to very considerable question.

It has already been stated, (pp. 42-43) that before the invention of the press, impressions were usually taken on one side only of the paper or vellum; although the *possibility* of their being taken on both sides is admitted. Mr. Ottley says "the best proof that the printer knew how to print on both sides of his paper, is that he did so;"† and he

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\* "Life and Typography of William Caxton." vol. ii. p. xlv.

† "Inquiry concerning the Invention of Printing." p. 254.

mentions *two* instances where, on a single leaf, the text of the *Speculum* is so printed.\* The inference which these writers intended should be drawn from the above statements is, that the press used by the printer of the *Speculum* was essentially the same as that subsequently used by the printers at Mentz.

But what is the evidence in the case? All that can be brought forward is the nature of the ink, and the appearance of the printed pages. As regards the ink, it differed from that used at a later period in Germany, and

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\* These occur in what is known as the fourth edition, of which only three copies exist, two in Haarlem, and one in Lille. It is in the copy at Lille that a leaf is printed on both sides. Mr. Humphreys, in his noble work,—the greatest boon ever conferred in any age or country on students of early Typography,—says, (p. 63) this leaf has “an appearance of being printed on both sides, from the existence of a strong set off.” But if the lines of the supposed ‘set-off’ read in the usual way, they must have been set-off from a set-off, or the impression would appear reversed. Most probably the back of the original impression was printed on by an accidental oversight.

was certainly much more fluid; this is shewn by its spreading over the edges, and filling up the loops of the letters. By itself, however, the ink proves nothing as to how the types were impressed; that is to be learnt from the appearance of the pages; and this shews that impressions were taken by a rolling process. A wooden or metallic roller, 7 inches long, with a diameter of not less than 3 inches, and covered with two or three folds of fine woollen cloth, rolled, with a sufficient amount of pressure, over the back of the paper when it was laid upon the types after they had been inked,—or an uncovered roller, if two or three folds of woollen cloth were laid over the paper,—would do all that was needed, and be quite sufficient to account for the practice of printing on one side of the paper only. The statement how such an impression might be taken, is not however a proof that such was in reality the method adopted. That proof lies in the fact, that

the capital letters of the columns of text on the left hand margin, and the end letters of the lines on the right, are all more or less blurred, and choked with ink, in a way which only such a cylindrical method of printing would effect; that effect being caused by the first and last contact of the roller with the outer edges of the types. In cylindrical machine printing at the present day, where care has not been taken to guard the edges and ends of the types by 'bearings,' similar blurrings may at any time be seen. In the admittedly rude appliances of the earliest printers such appearances would under such a process be at least as plainly shewn. And in the *absolute fac-simile* which Mr. Humphreys gives, on plate 10 of his work, of the page of the *Speculum* printed from separable letters with black oleaginous ink, those appearances are most plainly visible. Of course it was possible to print sheets of paper in this way on both sides; but care would

have to be taken to guard the first printed side by interposing between it and the roller a waste or setting-off sheet, before the process was repeated. And, as already hinted, by the use of 'bearings,' the blurring might be avoided. The difference however between such a process and that invented and put in practice by Gutenberg, is as great as that which exists between the battering rams and catapults of the ancients, and the siege trains of modern artillerists.

Admitting then that impressions from type could be taken on both sides of a sheet, the mere fact that a single leaf was so printed in two editions of the same ancient work, is no proof whatever that the said impressions were made with a press such as was used by the printers at Mentz, the invention of which became a necessity in order to complete the Typographic Art. What it does prove, is, that the printer of the *Speculum*, with the appliances then at his command, preferred

the easier, simpler, and *safer* method of printing on one side only.

But in the consideration of this subject there are other questions which ought not to be overlooked;—*e. g.* For what special purposes, and for whom, were the *Donatuses* and *Block-books* printed? Certainly not for the public at large. The *Donatuses*,—small elementary *Latin* grammars,—would be for a few of the superior monastic schools of the day; and the *Biblia Pauperum*, *Ars Memorandi*, *Speculum Salutis*, &c., were avowedly for “the assistance of poor preachers,”—“*propter pauperes predicatores.*” Editions of these works would therefore be small in number, and the time taken in their production would not be an object of much account. Mr. Ottley supposes (p. 283) that they would not exceed 20, 40, or 60 copies each. The market for them, consequently, might very easily be overstocked. Now as regards the most ancient *Speculums* printed



in Holland, it is by no means improbable, that, as two editions in Latin and two in Dutch followed one another in quick succession, the printer did overstock the market, and had to cease work in consequence. It is at any rate certain, that the cuts were laid aside for a length of time, and were not reprinted until 1483, when Veldener, then printing at Culembourg, issued an edition in small 4to., sawing the pictorial headings in two in order to suit his purpose. This branch of the subject is of some importance in its bearings on the question of the origin of block printing in Holland, and will be more fully considered in a subsequent chapter.

Gutenberg we may fairly presume, (relying upon documentary evidences for the presumption), aware of the nature and extent of the demand that existed for such productions, foresaw how a *new public want* might be created by means of new inventions for further developing the new-born art. Separ-

able types with the then known methods for making use of them, were but as acorns in comparison with stately full grown oaks,—but sickly stunted bushes, instead of luxuriant vines, from whose wide-spreading boughs the thickly clustered bunches of ripe, refreshing, life-giving fruit should be sought for far and near. How to excite and satisfy this want was the problem constantly revolving in his mind. It soon became evident, that a machine capable of rapidly striking off copies of works that were to be set up in types, was a necessity of the case; and to meet that necessity all his energies were bent. The time and money spent in working out his ideas,—in constructing the original LETTER-PRESS,—is shewn in the evidence which has been preserved, the bearing of which seems to have been hitherto strangely misapprehended.

“The earliest printing press” says Mr. Charles Knight, “was nothing more than a

common screw-press,—such as a cheese press, or a napkin press.” He gives no authority for the assertion, but he immediately adds, thereby largely qualifying it,—“with a contrivance for running the forme of types under the screw after the forme was inked.”\* In this ‘contrivance,’ with some few others, which were its necessary adjuncts,—however simple the matter may seem now-a-days to eyes accustomed to look upon machinery and mechanical appliances of all kinds and varieties,—lay the chief difficulty. The screw, from its power and adjustability, would naturally suggest itself as the appliance best suited to effect the purpose aimed at. But how to contrive to make the screw an effective agent in producing impressions from types, was the question which Gutenberg had to consider. His separable letters were ready to his hand;

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\* “The Old Printer and the Modern Press.” p. 102.  
*London*, 1854.

but without the press, which he had yet to make, and to find out how to make, they were as useless to him as unstrung harp-strings are unmusical until they are keyed and stretched and tuned, and made to emit soul-thrilling harmonies at the master touch of the fingers of the finished harpist.

Satisfied with the result of his experiments as to types, a new series of experiments had to be entered upon before he could hope to realize his expectations in regard to them. These he carried on in his residence at St. Arbogaste, in the suburbs of Strasburg.

In his business as a stone polisher, we learn, from his own declarations, that several years previous to 1436, he had taught that art to one Andrew Dritzehen. Subsequently, "a long time afterwards," he engaged in the manufacture of looking-glasses, along with Johan Riffe, the prefect or mayor of Lichtenow. Andrew Dritzehen, learning this, requested Gutenberg to teach him that art

as well; and a similar request was at the same time made on behalf of Andrew Heilman, by his brother Anthonie. Upon their entering into an agreement, whereby they bound themselves to pay him certain premiums for so doing, Gutenberg complied with their requests. But one year, after making preparations for attending the fair held at the time of the pilgrimages to the shrines at Aix-la-Chapelle, the journey was suddenly put off until the year following, owing to the postponement of the fair. Deprived of the opportunity of increasing their gains, the two Andrews, with enforced unprofitable leisure upon their hands, made an unexpected visit to St. Arbogaste, where they found Gutenberg busily engaged upon matters, the secret of which he seemed determined to keep to himself. After much importunity, however, he consented to reveal to them, upon certain conditions, "all the wonderful and secret arts that he knew, without any ex-

ception." The conditions were, that they on the one side, and he and Riffe on the other, should cancel the existing agreement, and enter into a new one; that they should conjointly pay to him the sum of 250 florins, making, with 160 previously paid for being taught the art of making looking-glasses, 410 in all; that 100 was to be paid immediately, and the remainder at stated periods; and that their share of the profits was to be one-third, the remaining two-thirds being divided between Gutenberg and Riffe. It was further agreed, that the partnership for carrying on "*the wonderful art,*" should be for a term of five years; but that if any one of the partners died before the expiration of that period, the survivors should, at its expiration, pay to the representatives of the deceased the sum of one hundred florins, retaining in their own hands "*all the utensils and implements of the art, and all works perfected by the instruments.*"

This partnership was entered into about the year 1436. Upon the completion of the agreement the implements and materials for the new art were removed from St. Arbogaste to the house of Andrew Dritzehen, with whom, as perhaps the ablest mechanic in the association, Gutenberg thenceforth carried on his experiments. These seem to have nearly approached completion, when Dritzehen was unfortunately seized with an illness which ended fatally. His death took place in 1438, before the expiration of the term allotted for the partnership, and while he was still indebted to Gutenberg in the sum of eighty-five florins. Gutenberg, as soon as he heard of his death, sent his servant Laurence Beildeck, to Nicholas Dritzehen, the brother of the deceased, and requested that no one might be admitted into the workshop, lest the secret should be discovered, or the materials be stolen. But they had already disappeared; and this fraud, as well as



the claims of George and Nicholas Dritzehen to succeed to their brother's share, produced a lawsuit with the surviving partners.

In the prosecution of this lawsuit, out of a large number of witnesses summoned, the depositions of sixteen were taken; and in the following extracts from the evidence of the most material, we may gather what the secret was which Gutenberg was so desirous to preserve.

“John Schultheissen deposed, that Laurence Beildeck came to his house, to see Nicholas Dritzehen, when Andrew Dritzehen was lying dead, and that the said Laurence Beildeck thus spoke to the said Nicholas Dritzehen:—‘Your brother, Andrew Dritzehen, now happy, had four “stücke” lying underneath in a press. Therefore John Gutenberg desires that you will take them therefrom, and thoroughly separate them one from the other, and lay them on the press, so that it may not be seen what it is.’ Then

Nicholas Dritzehen went and looked for the 'stücke,' but found nothing."

"Item, Hannsz Schultheisz hatt geseit das Lorentz Beildeck zu einer zit heim inn sin husz kommen sy zü Claus Dritzehen als diser gezüge jn heim geführt hette, Als Andres Dritzehen sin bruder selige von todes wegen abgangen was, und sprach da Lorentz Beildeck zu Claus Dritzehen, Andres Dritzehen uwer bruder selige hat iij stücke undenan inn einer pressen ligen, da hatt uch Hanns Gutemberg gebetten das ir die darusz nement und uff die presse legent von einander so kan man nit gesehen was das ist, Also gieng Claus Dritzehen und suchete die stücke do vant er nutzit."

"Conrad Sahspach deposed, that Andrew Heilman came to him in Kremer street and said, 'My dear Conrad, as Andrew Dritzehen is departed, and as you made the presses, and know about the matter, do you go thither and take the "stücke" from the presses, and disjoin them from one another, so that no man may know what it is.' But when this witness wanted to do so, and looked for them on the morrow of St. Stephen's day, the whole was gone."

"Item, Cunrad Sahspach hatt geseit das Andres Heilman zu einer zit zu jme komen sy inn Kremer gasse und sprach

zu jme lieber Cunrad als Andres Dritzehen abgangen ist da hastu die pressen gemaht und weist umb die sache do gang dohin und nym die stücke usz der pressen und zerlege sü von einander so weis nyemand was es ist, da nu diser gezuge das tun wolte und also suchete das were uff Sanct Steffans tag nehst vergangen do was das ding hinweg."

"Laurence Beildeck declared, that he was sent by Gutenberg to Nicholas Dritzehen, after the death of Andrew his brother of happy memory, to tell him, that he should shew the presses he had under his care to no man; and this the witness stated, he did. He said moreover, that Gutenberg told him to take good care to go to the press, and to open the two 'wurbelin,' so that the 'stücke' should be separated from one another, and that he should place the 'stücke' upon the press, so that no man seeing might understand them."

"Lorenz Beildeck het geseit das Johann Gutenberg in zu einer zit geschickt het zu Claus Dritzehen, nach Andres sins bruders seligen dode und det Clausen Dritzehen sagen das er die presse die er hünder jm het nieman oigete zoigete, das ouch diser gezug det, und rette ouch me und sprach er

solte sich bekumben so vil und gon über die presse und die mit den zweyen würcelin uff dun so vielent die stücke voneinander, dieselben stücke solt er dann in die presse oder uff die presse lege so kunde darnach nieman gesehen noch ut gemercken."

"Herr Anthonie Heilman deposed, that being aware that Gutenberg was about to take Andrew Dritzehen as a third partner into the society for the manufacture of looking-glasses for the Aix-la-Chapelle market, he earnestly begged of him to admit therein his brother Andrew, as he wished to serve him." After some demur this was agreed to. Witness supplied his brother with money to the extent of 90 pounds, but at last said, "What can you want with so much money, seeing that the sum agreed upon was only 80 florins?—to which Andrew answered, 'that he must have money for other purposes; and that two or three days before the vigil of the Annunciation, he was to pay 80 florins to Gutenberg, which he, witness, must advance to him.'.....Gutenberg afterwards said

to witness, that in acknowledgment of what he had received, they (the partners) should be upon the same footing in every thing, and that in future nothing should be concealed from any of them respecting the *remaining work*."...“A long time afterwards Gutenberg repeated this.” After which, a document was drawn up by Gutenberg for the other partners to sign, which they did after considerable deliberation, Gutenberg, before their doing so, telling them, “there is as much stuff in the concern as quite equals your money; so that, in fact, the knowledge of *the art* is given you for nothing.” The terms of the agreement with Gutenberg were, that in this matter they were to consider themselves beholden to him alone, and not to John Riffe; and “that in case any one of them should be removed from the partnership by death, that then it should be well understood—and so it was—that the matter should be so arranged with his heirs, that,

for all things done or undone, for money advanced by or belonging to the share of such person, for the value of the stock, the forms, and all other implements and materials not excepted, they (the surviving partners) should, after the expiration of five years, pay to his heirs 100 florins. So that he, Gutenberg, as he observed, gave them a great advantage; for were he himself to die, after he had once admitted them into the partnership, his heirs, *notwithstanding the sums previously expended by him*, would only have to receive 100 florins for his share, like those of any of the others. All this was done, to the intent that whosoever of them should die, the surviving partners should not be obliged to make known, or to shew to his heirs, any thing concerning *the art*; which article was approved by every one of them."

This witness also said, "that he well knows that Gutenberg, not long before Christmas, sent his servant to both the



Andrews (Dritzehen and Heilman) to fetch all the 'formen,' that they might be taken out, and that he should see it done, as he was dissatisfied, and wished to renew [alter or change] them."

There is an obscurity in the original of this last passage which makes it difficult to translate; but it is believed that the meaning intended to be conveyed is that given above. Oberlin, who thought the passage referred to metal types, renders it "Gutenberg sent his servant to bring together all the different forms, which were [to be] pulled to pieces before him, because there were some with which he was not satisfied." Santander, taking the same view as Oberlin, renders the last clause of the sentence "*parce qu'il avoit des choses a corriger:—because there were things to be corrected.*" This I believe to be an accurate translation, although I am satisfied that the 'formen,' to be corrected were not pages of type. The old German



runs thus:—

“Dirre gezuge hat ouch geseit das er wol wisse das Gutenberg unlange vor Wihnahten sinen knecht sante zu den beden Andresen, alle formen zu holen und würdent zur lossen das er ess sehe, und jn joch ettliche formen ruwete.”

Mydehart Stocher, after deposing to what he knew of the facts of the partnership and the illness and death of Andrew Dritzehen; said that he had heard the deceased say “that God helping them, the work when completed, would find its way with the public, and that then he hoped and trusted, he would be delivered from his difficulties.”

John Niger von Bischovisshem deposed, “that Andrew once came to him and said that he wanted money.....this witness then asked him what he was making? and he answered he was a looking-glass maker.”

Barbara von Zabern deposed, “that conversing once with Andrew Dritzehen, about bed time, she asked him, why he did not at last go to bed, and that he answered, ‘I must

first finish what I have in hand.' When she continued 'But, God help me! what a sum of money you seem to be spending; why all these things must have cost at least 10 florins.' And he replied, 'You are a simpleton, Zabern! you think these things have cost 10 florins. Listen; if you had all they have cost above 300 florins, you would have enough to last you all your life. Why, they have cost over 500 florins! and they would be good for nothing, if they were not to cost still more; and that is the reason why I have sunk both my own and my expected inheritance in the matter.' 'But,' said she, 'if it should all turn out badly, what would you do then?' And he answered, 'That can never be; before a year is over we shall have back again all our capital, and be well off for ever; unless indeed, it should be the will of God to ruin us.'"

Reimbolt von Ehenheim said, "that a little before Christmas he went to Andrew, and

asked him how he got on with the thing he was about? Andrew, of happy memory, replied, that it had cost him more than 500 florins, but he hoped that, when it should be finished, he would make a great deal of money, wherewith he would satisfy witness and others, and relieve himself from his cares ;” &c.

Fridel von Seckingen said, “that Gutenberg had made a purchase,\* and that he became surety for the payment; that Gutenberg, Andrew Heilman, and Andrew Dritzehen, had asked him to become their surety for 101 florins to Stolz the son-in-law of Peter; which he did, upon the condition that they three should give an acknowledgment of indemnity for the same; that Gutenberg and Heilman signed and sealed the indemnity, but Dritzehen did not; and that Gutenberg

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\* Other witnesses also deposed to purchases, and in the judgment given on the suit, some of these are referred to as having been of *lead*.

afterwards paid all the money, at the time of the last Lent fair."

"Also, John Dünne, goldsmith, declared, that about three years previous he had received about 100 florins from Gutenberg, solely for materials relating to printing (or presses.")

"Item, Hanns Dünne der goltsmyt hat geseit, das er vor dryen joren oder doby Gutemberg by den hundert guldin abe verdienet habe alleine das zu dem trucken gehöret."

On the part of George and Nicholas Dritzehen it was shewn, that their brother Andrew, when on his death-bed, stated to his confessor that he had expended 200 or 300 florins in connection with the partnership, and that he did not then possess a single obolus.\*

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\* The documents containing an account of the trial, and the sentence of the magistrates of Strasburg, are dated December 1439. They were originally published with a Latin version, by Schöpffin, in his *Vindiciæ Typographicæ*,

The suit lasted for nearly twelve months, but was decided against the Dritzehens; the magistrates adjudging the surviving partners to pay to the heirs of Andrew Dritzehen, the sum of 15 florins only, which, with the 85 he was indebted to Gutenberg at the time of his death, made up the hundred they had bound themselves, according to the contract of partnership, to pay to the heirs of any of their number who chanced to die during the term for which it was to last.

Neither in the evidence quoted, nor in any portion of the rest of the depositions, is anything said about 'types' or 'letters.' Mr. Humphreys, adopting the conjecture first made by M. Paul Lacroix, argues, that the evidence about looking-glasses to be manufactured, and the partners terming themselves looking-glass makers, is to be

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1760, and have since been repeatedly printed with French, English and Dutch translations.

understood as meaning that they purposely adopted that term as a ruse to conceal the true meaning of their work, which was, in fact, the manufacture or printing of 'Mirrors of Salvation.' But this view can hardly be considered tenable, inasmuch as Anthonie Heilman shews, that his brother first entered into the partnership to learn the Art of making looking-glasses; and that it was not until afterwards—"a long time afterwards"—that the new arrangement was entered into about the *remaining work*,—"THE ART,"—the secret, in fact, for which they were to consider themselves beholden to Gutenberg alone, and not to Riffe. And this was the view the magistrates took. In their summing up of the case, they very distinctly state, that after having for several years taught Andrew Dritzehen the art of polishing stones, Gutenberg admitted him and Andrew Heilman as partners in a manufactory of looking-glasses, *which articles he and John Riffe had before*



*been accustomed to sell at the fairs at Aix-la-Chapelle;* and that it was not until one year, when the fair had been unexpectedly put off until the year following, that Gutenberg agreed to reveal to them *all* the wonderful and secret arts that he knew, without any exception. The magistrates also referred to the evidence adduced as to various purchases, some or one of which was deposed to be of *lead*; and from this it may be inferred that the lead was intended for the manufacture of type. But there is nothing to shew that either Riffe or Dritzehen or Heilman was entrusted with the secret of the separable letters. If however, metal types had been the secret to be preserved, the fact of their being so would surely have somehow been more or less distinctly stated. But it was the four 'stücke' under the press,—fixed or fastened by two 'wurbelin,' which, when opened, and the 'stücke' disjoined and separated one from the other, no one



would understand the meaning of,—as well as the ‘formen,’—that were the cause of Gutenberg and Heilman’s great anxiety. These four ‘stücke’ were certainly not four pages, or a forme of types, fastened together by two screws, which is the interpretation given, with a note of interrogation attached, by writers of repute, whose minds appear to have been so filled with the importance of the separable types, that they have failed to see how the word ‘stücke’ could apply to anything else in connection with printing. Had pages of type been meant, their being separated,—either by being ‘distributed’ into type-cases, or ‘thrown into pye,’ as it is technically called,—would not have effected the object of the direction given, “that no man might know what it is;” for any one seeing sundry boxes full, or heaps of small pieces of wood or metal, all of the same height and depth, and each with a letter engraved on its upper end, would scarcely fail

to conclude that they were in some way connected with printing, — especially if he knew of the existence of block-books, which at that day were by no means uncommon; nor would two screws have sufficed to fix or fasten a forme of four pages of type together.

Meerman thinks the four “stücke” alluded to were parts of a press; and Koning\* is much of the same opinion, believing that Gutenberg was, at the time to which the evidence refers, occupied in endeavouring to construct a printing press of a more perfect kind than had been before known. Ottley, in his observations upon the evidence, disagrees with these writers. He says (p. 24,) “On the whole there is, I think, good reason

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\* In his “Dissertation sur l’Origine, l’Invention, et le Perfectionnement de l’Imprimerie,” printed at Amsterdam in 1819. This work was the one which obtained the prize offered by the Dutch Society of Arts and Sciences at Haarlem, about the year 1814, for the best Dissertation in support of the ancient tradition that the Art of Printing was invented in that city.

to conclude that the press so often mentioned by the witnesses in the processes (for it appears to be the same identical press that is spoken of throughout) was not a screw-press. What was its construction, or what the use to which it was applied, I cannot conjecture.”—(p. 35.) “We are led to suppose by all the depositions...that there was something about it, which Gutenberg feared might enable some clever person, who should chance to see it, to become possessed of one of his secret arts without the regular initiation; and therefore upon the death of Andrew Dritzehen.....he despatches thither his servant Beildeck, with directions to take all necessary precautions respecting it. Why in a matter of such moment, and upon which he was so anxious, Gutenberg did not go himself, it is difficult to conceive; or why Andrew Heilman, one of the partners, did not go and do what was needful, instead of deputing Conrad Sahspach.....However,

Lawrence Beildeck was sent instead;.....may I suppose that upon this occasion he did as Gutenberg directed him? If so, then I should say that Gutenberg's mode of proceeding was better calculated to awaken curiosity respecting his secret art, than to prevent any dreaded discovery of it; and that although he might be determined that no one, if he could help it, should have become acquainted with it for nothing, there was mixed up with this feeling a secret wish, that his mysterious acquirements should be talked of; in the hopes of getting a fresh addition of monied partners capable of paying good premiums." — Very impartial this of Mr. Ottley! "But" he goes on (p. 37) "we will suppose this press to have existed; and briefly remark upon what is said of it..... The term '*wurbelin*' used in Beildeck's testimony has already been spoken of. The two '*wurbelin*' were not screws, but must have been some other kind of fastening, or

mode of pressure, with which the press was provided. What the construction of the press was, or how these fastenings or modes of pressure were applied, I pretend not to say: but all the depositions, if we except that of And. Heilman, (which speaks as if it were the *press itself which was to be taken to pieces,*) describe it as having within it some pieces, which in some way were connected with each other, and which Gutenberg desired should be separated or disjoined, (for there is nothing said of *dividing the pieces into pieces*) in order that people might not be able to guess the use for which they were intended. Two of the witnesses, namely, Schultheiss and his wife, inform us that *these pieces were four in number*, and that Nic. Dritzehen was desired to take them out of the press and separate them from each other.....This, according to the natural meaning of the words, is all that can be made of these de-

positions; and it is probable that no one would ever have attempted to make more of them, had not the name of Gutenberg appeared in connection with them; for there can be no doubt that presses of different kinds were known, long before the invention of typography, and applied to many other purposes, either of stamping or of continued pressure; and the word 'stücke,' employed in this process to describe the things contained in the press, is as applicable to pieces of one kind whether of shape or material as of another."

But this is begging the question completely; for the discussion is not, whether presses of different kinds were already known; but whether *the* Letter press,—the press for taking impressions from types,—was previously known or not; and in discussing this question, the meanings of the words "stücke," "formen," and "wurbelin," are most important points.

What then were the 'stücke,' the 'formen,' the 'wurbelin'? What do the words mean? The German dictionary gives us the answer — "Pieces, parts, bits, fragments," &c: — "forms, figures, shapes, *frames, patterns, models,*" &c: — "turning joints, tourniquots, twirls, convolutions, pulley rolls, pegs (in musical instruments)," &c.\* And as the German for types is "lettern," for pages "seiten," and for screws "schrauben," instead of looking to the types for the true interpretation of the terms, we look to the press, and especially to that portion of it which Gutenberg was contriving, in order to utilize the mechanical power of the screw for the purposes of book-printing. As yet this contrivance was incomplete, for no books had been printed, — no impressions taken from

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\* In certain parts of the north of Scotland augers and high-pitched screws are to this day called 'wommels' or 'wombels,' by old folk. The word is no doubt the same as the antiquated German 'wurbel.'



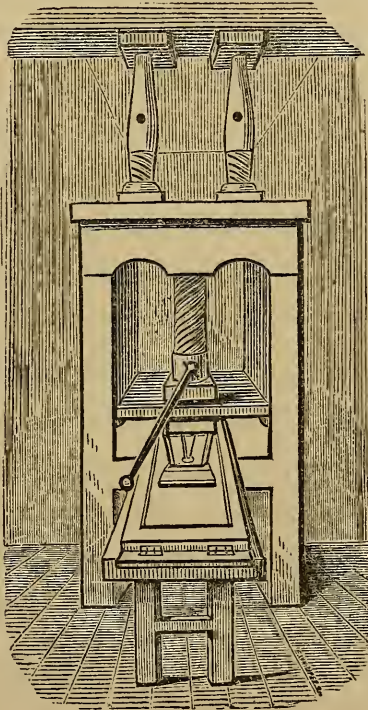
either blocks or types. The invention, in fact, had not been perfected:—there were parts which needed to be changed, altered, corrected. Under such circumstances it is easy to understand that Gutenberg would reserve the secret of his separable types, until the completion of the press should enable him to introduce them as the crowning triumph of his ingenuity.

Within the *frame-work* of the press then, were fixed,—first, the screw; underneath the screw, second, the platten, (the impression block or plate,) to be brought down by the screw upon the types; third, the carriage, on which the types were to be placed; and fourth, the table or slide-rest supporting the carriage, with its rounce, or spindle with crank-handle, drum, and connecting girths to run the carriage in and out before and after impressions were made. These, or their original substitutes, were the ‘pieces, parts, or bits’ that formed the four ‘stücke’ spoken of.

But what were the 'wurbelin'? They were two stout screw-bolts, working through nuts in a cross-head, and fixing, immoveably, the cross-block in which the centre screw of the press was wormed. They were variously made, but the object was invariably the same; to resist, by a counter pressure, the upward thrust of the screw, when, by the working of the bar or lever, it was brought down upon the platten, and met the resistance of the forme at the moment the impression had to be taken.

Examine now the figure of the press in the accompanying engraving, copied from woodcuts of presses used as printers' emblems as early as 1498 and 1511; and observe how easily its component pieces could be separated by removing or opening (unscrewing) the two long *wurbelin* fixed above the working parts, which were probably merely morticed and tenoned together. In the following diagram, outlined from an engraving

ing of the date of 1520, an older fashioned press seems to be shewn, in which the two wurbelin are differently shaped, while their special use is still more plainly to be seen. These unscrewed, the inner portions of the press taken to pieces, and the parts sepa-



rated or laid aside, no one, unacquainted with the secret, would be able to guess for what object they were designed; or, in the words of the evidence, "know what it is."

It may perhaps be said, that so apparently simple a matter could surely not have taken so long a time to contrive, nor have cost so much as has been implied, in the way of preliminary experiments. But the printing press, in its origin, was an entirely novel invention. The whole contrivance,—although the idea, as we learn from Arnold de Bergel, (1541), was first suggested to Gutenberg's mind by the wine-press,\*—had to be thought out by its inventor, step by step, unhelped by any adventitious aid. Gutenberg, versatile genius as he was, may not have been an expert mechanic; he was certainly unable

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\* "Quid, si nunc justos, aeris ratione reducta,  
Tentarem libros cudere mille modis?  
Robora prospexit dehinc *torcularia* Bacchi,  
Et dixit, preli forma sit ista novi."

*Encomion Chalcographiae*, v.v. 65-69.

to avail himself of the many appliances which modern inventors find ready to their hand at every turn, for they were non-existent, and he had therefore to realize his designs the best way he could, without revealing their object to those whom he employed to carry them into execution. His partners indeed might know that a new kind of block or book printing was intended, but yet be ignorant of the real purpose for which the costly and still unfinished machines were meant; for it is evident, judging from the depositions of Anthonie Heilmann, concerning the *formen*, ('frames or models'), and of others who speak of presses (*pressen*) in the plural, that more than one had been planned. Unless such knowledge had been imparted to them, and was further supported by specimens of block Alphabets, school Grammars, and Vocabularies, it is difficult, if not impossible, to understand how their faith in the ultimate success of "*the wonderful*

*art,*” could have been so long sustained. Now, bearing in mind that three hundred and seventy years later, it cost a practical printer and engineer, aided by other men’s ideas, and by every facility which science could give for the quick and accurate production of whatever his ingenuity designed,—no less than seven years of labour, and an outlay on the part of his employers of £16,000, before he achieved success in the first cylindrical printing machine;\* a machine which was merely required to print off sheets more rapidly than could be done by the hand-press;—the marvel is, not that Gutenberg’s invention cost him the time and labour and money it did; but that in realizing his ideas, he perfected them so thoroughly, that the principles of his hand-press

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\* KÖENIG’S cylinder machine, erected for Mr. BENSLEY the eminent printer, and first set in operation in April 1811, at the manufactory in Whitecross-street, London; when it printed 3000 sheets of the *Annual Register*, to the admiration of all who saw it at work.

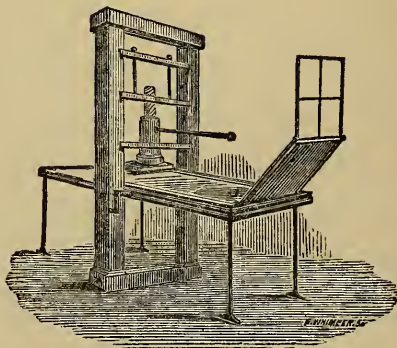


have not to this day been improved. Different adaptations of leverage power may have been tried to produce the same effects, and different materials made use of in the manufacture of the machinery, but the hand-press of to-day is essentially the same as that with which the first Typographer printed his first book. The greater therefore is the honor due to its inventor.

The annexed sketch represents a press in its completed form, with tympan attached to the end of the carriage, and with the frisket above the tympan. The tympan, inner and outer, are thin iron frames, one fitting into the other, on each of which is stretched a skin of parchment or a breadth of fine cloth. A woollen blanket or two with a few sheets of paper are placed between these, the whole thus forming a thin elastic pad, on which the sheet to be printed is laid. The frisket is a slender frame-work, covered with coarse paper, on which an impression is first



taken; the whole of the printed part is then cut out, leaving apertures exactly corresponding with the pages of type on the carriage of the press. The frisket when folded on to the tympan, and both turned down over the forme of types and run in under the platten, preserves the sheet from contact with any thing but the inked surface of the types, when the pull, which brings down the screw and forces the platten to produce the impression, is made by the pressman who works the lever,—to whom is facetiously given the title of “the practitioner at the bar.”



One of the consequences that ensued on the termination of the lawsuit with the Dritzehens, was a stoppage of the progress of the invention. Very probably Gutenberg, an impoverished if not a disappointed man, felt compelled to lay his projects aside, and to devote himself, for a time at least, to other and more remunerative pursuits. Nothing more at any rate is heard of the partnership, or of types or presses, until after his return to Mentz. And as printing was not practised at Strasburg until after Mentelin set up a press there, this silence is pretty conclusive as to the correctness of the surmise, that neither Dritzehen nor Heilmann nor Riffe had been entrusted with the secret of the separable types.

The inference which writers adverse to the claims of Gutenberg draw from the silence in the evidence in regard to types or letters, is, that he had not then invented them. But if the press was not designed, and made, for

taking impressions from types, for what else could it have been invented? Gutenberg must have had types in his possession, before he commenced experiments in connection with the press. Now these experiments commenced some time before 1436; how long cannot be ascertained; but it is clear that the original making of the types must necessarily have preceded the first attempt at making a press. But when once a small stock of metal letters had been engraved, (in itself a work of years for a single individual,) and it was found that they could not be availed of by what was then the ordinary method of producing prints, further progress with them would be stopped, until the press, which was to make them profitable, had been made.\* The mere making of the types, however tedious and

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\* "The thing that hath been, it is that which shall be; and that which is done, is that which shall be done; and there is no new thing under the sun. Is there anything whereof it may be said, See, this is new? it hath been already

time-eating a work, was, as has already been shewn, by no means so wonderfully ingenious as some have stated it to be.

A period of ten years now passed by. Gutenberg, true to his convictions, resumed his typographic labours, and perfected "the mightiest engine of human intellect — the great leveller of power — the Demiurgus of the moral world—The Press."\*

The statement made by Wimpheling,† in

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of old time which was before us."—*Ecclesiastes*, i. 9, 10. Some days subsequent to that on which I had printed the description of the process, which, after a careful examination of Mr. Humphreys' fac-simile, I felt convinced was the one which had been adopted for taking impressions of the moveable types used in the *Speculum Humane Salvationis*, I received an illustrated advertisement sheet of Francis Donnison and Son, Printers' Engineers of Newcastle-on-Tyne, in which is an engraving of an "Improved Galley Proof Press," which exactly realises the idea I attempted to convey to my readers on pages 83 and 84.

\* "The Pilgrims of the Rhine," by BULWER, (Lord LYTTON), p. 313.

† "Wimpheling, one of the most learned men of his time, who narrowly escaped persecution for the Protestant tendency of his writings, and who among other things which

his *Epitome Rerum Germanicarum*, written in 1502, that in the year 1440 the art of printing was invented by John Gutenberg in Strasburg, though afterwards brought to perfection in Mentz, affords ground for believing that between the year 1439 and the date of his leaving Strasburg, Gutenberg actually printed a work or works in that city. It also gives colour to the conjecture of M. Bernard\* that a "Donatus, printed in characters very closely resembling those of the Bible afterwards printed by Gutenberg at Mayence, may *possibly* have been printed by him at Strasburg." If M. Bernard be right in his conjecture, Mr. Humphreys is of opinion, (p. 74,) "that it would tend to prove that the characters used were of lead, as in

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proved him to have been a thinker in advance of his time, founded a literary society at Strasburg, which soon became celebrated, and the tendencies of which were afterwards praised even by the critical Erasmus."—HUMPHREYS, p. 82.

\* "De l'Origine de l'Imprimerie." *Paris*, 1853.

the 'Donatus' in question the types show such symptoms of spreading and blurring, as would be sufficient to deter a man of Gutenberg's taste and ambition from undertaking the printing of a more important work."

Other works may also have been printed, of which no trace remains, as in the case of the *Tracts* of Peter of Spain, alleged by Junius to be one of the two works first printed at Mentz in the year 1442. Of the other, the *Doctrinal* of Alexander Gallus, there is a supposed fragment preserved in the public Library at Treves, part of which is figured by Wetter, in Tab. XII. of the fac-similes accompanying his work;\* but it is plainly the production of the printers of the *Speculum Humanæ Salvationis*, whoever they were, and of whom more will be said hereafter. The lines are irregular, the letters

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\* "Kritische Geschichte der Erfindung der Buchdrucker-kunst durch Johann Gutenberg zu Mainz." von J. WETTER. Mainz, 1836. 8vo. pp. xvi. 808, with 13 Tables of fac-similes.

appearing to be of wood, strung together with a thread, a practice known to have been adopted by the first printers, and to which allusion is made by Theodor Bibliander (1548), Heinrich Spiegel (1549-1612), and other writers.

Angelo Rocca, in the Appendix to the Account of the Vatican Library printed at Rome in 1591, states, from personal knowledge, that "the types used by the inventors of printing were perforated, and connected together by a thread which was passed through them, of which he remembered to have seen specimens at Venice."\* These perforations were no doubt the origin of the 'nicks' in the shanks of the types, which now enable compositors to place them in their proper positions, without examining

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\* "Characteres enim a primis illis inventoribus non ita eleganter et expedite, ut a nostris fieri solet, sed *filo in litterarum foramen immisso*, connectebantur, sicut Venetiis id genus typos me vidisse memini."



their faces. But the threading of the letters by means of such perforations must have proved a great obstacle to progress in printing, and the perforations must also have greatly weakened the letters themselves.

This will be at once understood from the annexed figures, shewing the sides of the shanks of two types, one perforated and the other nicked as at present. Obviously it



was a great improvement to nick the type instead of perforating it. The object in view, that of keeping the letters in line, would be better secured by laying a thin wire in and along the nicks, than by stringing them together with a thread. Time in composing and correcting would also be saved by the alteration. As soon however as Type - founding was established as a scientific art, and types were made to adjust together with mathematical accuracy, neither threads nor wires were longer wanted; but

the nicks still served as a useful aid to the compositor, in the speedier execution of his work; while the type-founder, by multiplying their number and varying their positions, enabled him at once to distinguish the differently-faced founts of the same class of types.

However occupied in the five years after 1439, Gutenberg's means became exhausted; and having been obliged, in order to extricate himself from his difficulties, to part with a portion of his paternal property to the Church of St. Thomas, he resolved to leave Strasburg and return to Mentz, his native city. This he did about the year 1444, taking up his residence in the 'Zum Jungen,' the house of his uncle on the Platz of the Franciscans. Here, still busily engaged in the work to which he had now exclusively devoted himself, he again ran out of funds, and had to borrow 150 florins from Reinhart Brömser and Johan Roden-

stein, for which sum his kinsman, Arnulphus Gelthus, became security. His first business transaction with John Fust or Faust, the banker and money-lender, seems to have been in 1448, Faust's name appearing as a witness to a deed of purchase made by Gutenberg in that year.\* Two years later a contract was entered into between them, which from that date has made their names inseparable in the annals of the origin of Typography.

In the year 1450, Gutenberg, having already completed three, perhaps four, small founts of

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\* The family of the Fusts was one of great respectability. It consisted at this time of three brothers; John the banker and money-lender; James, the city architect, and subsequently a goldsmith as well; and Nicholas, a judge in one of the Courts of law. John married his wife Margaret about the year 1420; one son, Conrad, was the only issue of the marriage. Conrad married in 1445, and his daughter, Christina, was, in 1465, bestowed in marriage upon Peter Schoeffer of Gernsheim. It appears from some accounts that John Faust was also a goldsmith; a business with which banking and money-lending were usually combined.

type, as well as presses that fully answered his expectations, designed a work, the magnitude of which necessitated a large preliminary outlay. To enable him to execute his design, he had recourse to Faust. Faust, having convinced himself of the worth of his inventions, and the value of the project in contemplation, agreed to "advance to John Gutenberg 800 florins in money, as a fixed sum, with which he was to perform the work in question," on condition "that the utensils were to be considered as security to the said John Faust, and that he (Gutenberg) was to give six florins per cent. interest for these 800 florins." With this money Gutenberg was bound "to prepare and make utensils" to be employed for their joint use. Faust also agreed to pay 300 florins annually "for expenses, as well as *for the wages of servants, rent, firing, parchment, paper, ink, &c.*" It was moreover stipulated, "that if in future they should disagree, Gutenberg was

to give back to Faust his 800 florins, and that his utensils were then to be released.”\*

Supplied with funds, Gutenberg set actively to work. Several assistants were at once engaged, and amongst the rest Peter Schœffer of Gernszheim. Their principal occupation would be in connection with the work for which Faust made the advance

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\* There is another version of the circumstances attending the connection of Gutenberg with Faust. Gutenberg senior, say the claimants of the honor of the invention for the first printer at Strasburg, returned to Mentz in 1440, having stolen the knowledge of the art from Mentelin, their countryman, who they assert was the original inventor. Dutch authorities however say, that Gutenberg's return to Mentz, in 1440, was after he stole the types, &c., from Coster, the original inventor at Haarlem. Like Sir Boyle Roche's bird, he was thus in two places at one and the same time. After his return he printed, in 1442, the two school-books 'Alexandri Galli Doctrinale,' and 'Petri Hispani Tractatus,' and then, in 1443, took the house 'Zum Jungen,' when he was joined in partnership by Faust, J. Meidenbachius, J. Petersheimius, and others, whose names have not been recorded, and in 1444 by Gutenberg junior, who then quitted Strasburg for that express

of 800 florins; but while that was progressing, several small matters were printed, for which there would be a steady though probably only a limited demand. The Abbot Trithemius states, in his *Chronicon Hirsaugiense*, that "a vocabulary called the *Catholicon*,"\* was the first work printed, "with the characters of the letters carved in wooden tablets in a series, and composed

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purpose. That in 1450 this partnership was dissolved, when Faust and Gutenberg junior entered into a new partnership, the senior being no longer heard of. These statements are at best but conjectural, and have been made with the view of affording support to the systems of writers who deny to Gutenberg the honor of having invented the Typographic Art.

The quotations in the text are from the record of legal proceedings taken by Faust against Gutenberg in 1455. This record was printed in German by SECKENBURG in "Selectis Juris et Historiarum," tom. i. pp. 269-277; by WOLFIUS, in his "Monumenta Typographica," tom. i. p. 472 *et seq.*, and by WETTER, pp. 284-290.

\* Trithemius derived his information direct from Schoeffer the [grand] son-in-law of Faust; but did not write his chronicle until thirty years after. The work usually



in forms: — imprimis agitur characteribus litterarum in tabulis lignis per ordinem scriptis formisque compositis." Other writers make mention of an Alphabet, engraved on a single page, and two editions of Donatuses, also cut in solid blocks. These were most likely brought by Gutenberg from Strasburg, and would be his earliest efforts. But besides these, there were Donatuses in cut metal

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referred to as the *Catholicon*, is one of some magnitude. It was written by the monk John Balbi, or John of Genoa, and consists of a Latin Grammar followed by a Vocabulary. Gutenberg probably printed only the latter portion, and perhaps but an abridgment of that. As the earliest production of his press, after his connection with Faust, a copy would now be of immense value; but as is the case with the *Tracts* of Peter of Spain, no bibliographer has yet had the good fortune to identify it, and possibly it may have passed out of existence. There is no reason however to doubt the correctness of the Abbot's statement on that account. There can be no question but that multitudes of works, issued from the presses of the early printers, have been utterly destroyed. It is marvellous that so many single, unique copies, have been preserved to the present time.



types, and, as some consider, "An Appeal against the Turks," and "Letters of Indulgence," printed in the years 1454 and 1455.\* All these were doubtless the 'pot-boilers' of the establishment for the time being.

At length the *magnum opus*,—the celebrated *Biblia Latina Vulgata*,—made its appearance. This work is commonly known as the "MAZARIN BIBLE," from a copy having been discovered in the Bibliotheque Mazarin at Paris, about the middle of the eighteenth century. It was recognised by the bookseller and bibliopole De Bure, who gave a minute description of it in the *Bibliographie Instructive*, (vol. i. pp. 32—40.) There can hardly exist a doubt that this is the work to which Ulric Zell refers in his account of the origin of Printing, where he says—"And in the year M.CCCC.L. which was a jubilee,

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\* These have been fully described by Fischer, Van Praet, Wetter, Leon de Laborde, and other writers.

they began to print; and the first book printed was the Bible in Latin.\* Being without a date, the exact year of its publication cannot be ascertained; but a copy exists in the Royal Library in Paris, printed on paper, and bound in two volumes, on each of which is an entry, stating the date when its binding and illuminating was completed: and as the second entry gives the information that this was finished at Mentz on the Feast of the Assumption, 1456,† the work itself could not have been issued from the press later than the year

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\* See *post* for Zell's account in full.

† The entry at the end of the first volume is—"Et sic est finis prime partis biblia Scz. veteris testamenti, Illuminata seu rubricata & ligata per Henricum Albch alias cremer. Anno dni M<sup>o</sup>CCCC<sup>o</sup>LVI festo Bartholomei apli—Deo gratias—Alleluja." That on the end of the second volume:—"Iste liber illuminatus, ligatus & completus est per Henricum cremer vicariū ecclesie collegiate sancti Stephani magūntini sub anno dni Millesimo quatringsentisimo quinquagesimo sexto, festo Assumptionis gloriose virginis Marie, Deo gracias. Alleluja, &c."

preceding, 1455, which secures to it an unimpeached priority in the records of bibliography.

Strange to say, the existence of this work was unknown until the discovery of the Mazarin copy; since then about twenty copies have been traced in various libraries, some on vellum, and some on paper: twelve of these are now in England, and in every place where they are deposited, they are justly considered the most precious of bibliographical treasures. The type is of a large handsome Gothic character, fine and square and sharp, imitative of the best manuscripts of the time, the first letters of each chapter being painted in by hand. The book consists of 637 leaves, with two columns each containing forty-two lines printed upon each page.\* It is beautifully executed, and remarkable

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\* With the exception of the first ten or eleven pages, which contain but forty or forty-one lines in each column.

for the blackness and brilliancy of the ink made use of.

“It is a very striking circumstance,” says Mr. Hallam, “that the high minded inventors of this great art, tried at the very outset so bold a flight as the printing an entire Bible, and executed it with astonishing success. It was Minerva leaping on earth in her divine strength and radiant armour, ready at the moment of her nativity, to subdue and destroy her enemies. The Mazarin Bible is printed, some copies on vellum, some on paper of choice quality, with strong, black and tolerably handsome characters, but with some want of uniformity, which has led, perhaps unreasonably, to a doubt whether they were cast in a matrix.\* We may see

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\* The doubt was not only natural, but there is an almost absolute certainty that the letters could not have been cast at the time. Schoeffer's invention of cast fusile types did not take place,—or at any rate was not made use of,—until after the lawsuit between Gutenberg and Faust.

in imagination this venerable and splendid volume, leading up the crowded myriads of its followers, and imploring as it were a blessing on the new art, by dedicating its first fruits to heaven."

Whatever may have been the precise date of the publication of this Bible, it is evident that some short time before, a disagreement took place between Faust and Gutenberg. The first advance of 800 florins made by the former, not having sufficed for bringing out the work, a second advance had been made to the same extent, and for five years no interest had been paid. Principal and interest, or the forfeiture of the security, were then demanded; and the demand enforced by an action at law. Why Faust waited so long, and then, when the work was all but ready for publication, made his demand, amounting in all to 2020 florins, it may not be difficult to determine as the narrative proceeds.

Gutenberg did not appear in person at the final hearing of the case, but empowered "the respectable Sieur Henry Gunther, late curate of St. Christopher's at Mentz, Henry Keffer, and Bertolff of Hanau, his servant and domestic," to hear and see what was done in the matter. He did not deny the fact of the advances, but pleaded against the demand for immediate payment, — "that it was well understood that he was to complete the work with the money which he (Faust) had lent to him upon his pledges, but that he considers he was not obliged to employ these 800 florins in the making of books; and although it be stated in the letter of agreement, that he was to give six per cent. interest; nevertheless Joh. Faust promised that he would not ask him for this interest; and, further, that these 800 florins were not paid to him, according to the tenor of the agreement, all at one time, as he pretends in the first article of his demand;



and that with regard to the last 800 florins he is willing to render an account. He (Gutenberg) does not admit that he ought to pay either interest or usury, and he hopes he will not be obliged to do so by the Court; all which has appeared in the demand, the answer, the reply, the rejoinder, and in various other written papers, &c.”

But the magistrates gave judgment against him in the following terms:—“That when Joh. Gutenberg shall have rendered an account of all his receipts, and of the sums expended by him for their joint advantage, whatever further moneys he may have received, over and above, shall be counted in the 800 florins; but that if it shall appear by the account, that Faust has advanced to him any money beyond the 800 florins, which has not been employed for their joint advantage, he (Gutenberg) shall repay it to him; and if Joh. Faust shall prove by oath or other good evidence, that he borrowed



the said money at interest, and that he did not advance it out of his own funds, then Joh. Gutenberg shall also pay to him the said interest, according to the tenor of the letter of agreement.”

Whereupon the said Joh. Faust declared upon oath as follows: “I, Joh. Faust, did borrow fifteen hundred and fifty florins which were delivered to Joh. Gutenberg, and have been employed for our joint advantage. I have been obliged annually to pay interest and usury for the same, and I still owe a part; therefore I charge him, for each hundred florins that I have borrowed, as is said above, six florins annually for the money borrowed, which he has received, and which has been employed upon our joint work, as appears in the account; I demand of him the interest, according to the tenor of the judgment; and in proof that such is the fact, I am willing to abide, as is just, by the tenor of the judgment given upon the first count

of the demand which I have made against the said Joh. Gutenberg.”

This closed the proceedings, which were duly attested by Ulric Helmasperger, clerk of the Bishopric of Bamberg, by Imperial authority Notary Public, and sworn Notary of the Holy See at Mentz, on the sixth day of November 1455. The persons present as witnesses were Pieter Grantz, Joh. Kilsen, Joh. Knopff, Joh. Iseneckh, Jaques Faust, Burgher of Mentz, and *Pieter Gernszheim* and Joh. Bonne, Clerks of the city and Bishopric of Mentz.

Gutenberg, not being able to meet the demand, the mortgage on the materials was foreclosed, and Faust thus became possessor of types and presses in his own right. These, with “the stock of partially complete Bibles, were removed from Gutenberg’s residence, and taken to the house of Faust in the Schuster Gasse, (Shoemaker’s street) which was eventually styled ‘The Printing Office,’

as the house of Gutenberg had previously been."\*

Before proceeding further it will be well to ascertain what there was in the plant of the printing establishment at the Zum Jungen which could occasion so great an outlay. We have already seen how much time and money had been spent in the experiments at Strasburg. It is not recorded how Gutenberg arranged with his partners there; but it may be fairly assumed, that in 1444 he brought with him to Mentz his original blocks, and types, as well as apparatus for setting up presses. The making of new founts of type would therefore be his chief concern. If the small works attributed to him by Fischer, Van Praet, and others, really issued from his press, (and there is no reason to doubt the fact,) three founts of type were already made, before the one for the Latin

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\* HUMPHREYS, p. 84.

Bible was commenced. Now supposing that these three founts consisted of 10,000 letters in all, an equal number would, at least, be required to complete four pages of the Bible; for the printing of such a work could hardly have been begun with less type than would suffice for two formes of two pages each. How then were these letters made? The answer to this question is given in the statement of the Abbot Trithemius, who says, that to the engraved letters on solid blocks "succeeded a more ingenious invention, for they found out a way of *stamping the shapes* of every letter of the Latin alphabet in what they called matrices, from which they afterwards *cast their letters* in copper or tin, hard enough to be printed upon, *which they first cut with their own hands.*"\* This infor-

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\* "Post hæc inventis successerunt subtiliora, inveneruntque modum fundendi formas omnium latini alphabeti litterarum, quas ipsi matrices nominabant ex quibus rursus aeneos sive stanneos caracteres fundebant, ad omnem

mation was given to the Abbot by Peter Schœffer of Gernszheim, one of Faust's witnesses in the lawsuit with Gutenberg, the same who invented the art of type-founding as at present practised, and who moreover added, "that before the third quaternion (twelve sheets) of the bible was completed, no less a sum than 4000 florins had been expended."\* From this statement it is clear that the matrices consisted of a number of small troughs of uniform length, each one the size, in regard to depth and thickness, of the shape of a letter; that these shapes were stamped into a prepared mould of clay or

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*pressuram sufficientes, quas prius manibus sculpebant. Et revera sicuti ante xxx. ferme annos ex ore Petri Opilionis de Gernsheim, civis moguntini qui gener erat primi artis inventoris, audivi, magnam a primo inventionis suæ hæc ars impressoria habuit difficultatem. Impressuri namque Bibliam, priusquam tertium complerent in opere quaternionem, plusquam 4000 florenorem exposuerunt."*

\* This statement no doubt included Gutenberg's personal outlay, in addition to the moneys advanced by Faust.

plaster; that the fused metal was poured into these matrices; and that a considerable number of small ingots, or cast 'blanks' might thus be made at each pouring of the metal. The accompanying diagram, in which the border represents the rim of the mould, and the inside figures the matrices, renders further



explanation unnecessary. On one end of each of these cast 'blanks,' a letter would be cut or engraved by hand, while the sides would be 'dressed' (with perhaps a greater amount of labour,) in the same way as ordinary type now-a-days. It is not at all unlikely that this method, called by some the *fuso-sculpte*, may have been suggested by the goldsmith John Dünne, the friend of Gutenberg at Strasburg; or if not, by Faust himself.



With a ready method at hand for preparing his blanks, let us now see how long the engraving of the letters would take. Assuming that one, or say two, small founts had been finished at Strasburg, comprising about 4000 letters, and that 6000 were completed at Mentz before the contract was made with Faust, what length of time would be required to complete them? An expert modern punch-cutter can complete, in one day, two steel types for striking matrices with.\* Supposing that with softer metal Gutenberg engraved his blanks at the rate of four a day; and

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\* "Most of the punch-cutters at present belonging to the type-founding trade are English, and their earnings depend in a great measure upon the abilities they display in the work. A first-rate cutter will earn from £5. to £6. weekly, and even more. 'When I first came to the trade,' said a man to Mr. Mayhew, 'the punch-maker who worked for my old master, had £5. a week for producing two punches a day. This was all he was expected to do for his wages; but for every punch he turned out over and above that number he had his regular premiums.'"—MAYHEW'S *Trades and Manufactories of Great Britain*, p. 250.



that deducting Sundays and Saints' days, he worked three hundred days a year; *five years* would be occupied in completing two founts of 3000 letters each; which, when finished, might weigh about one hundred pounds. With the additional funds placed at his command by Faust in 1450, Gutenberg would most probably engage another engraver; and supposing that the two engraved eight letters a day, 10,000 letters would keep them both fully occupied upwards of *four* years. With the making of presses, type-cases, ink, and all the remaining paraphernalia of a printing office, supposing Gutenberg employed two or three assistant engravers instead of one, and that the bible was begun with type for one page only, while the engravers still went on cutting fresh supplies, his time would be amply taken up; and the amount of money that would thus be sunk would come in the long run to something enormous.

No wonder that Faust at last grew impatient, and was ready to foreclose his mortgage over the plant, as soon as he saw his way clear to something in the shape of a return for his advances.

It is however not a little singular, that Ottley, who published all the documents in the case, and avowed his desire to treat the subject with the impartiality of an umpire,\* should have allowed his Costerian proclivities to develop themselves in the following terms:—"On the whole I confess that after

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\* "I shall use my best endeavours to detect and expose false or exaggerated statements and deceitful arguments, come from whom they may; leaving such good proofs and reasonable grounds of belief, on the one side or the other as may then remain, to be incorporated afterwards with such further proofs as have resulted from my own researches. Lastly.....I shall strive to merit the praise of not overstating the evidence one way or the other, and of not pressing an argument further than it will fairly go; it being my sole object to come if possible, at the truth, in this long disputed question."—*Inquiry concerning the Invention of Printing*, p. 5.

perusing and re-perusing the above document (the law process) with all the attention I am master of, the impression it leaves upon my mind, and indeed the only idea I can form of the transaction it refers to, that seems at all probable, is, that Fust, after four or five years' patient trial, found that Gutenberg was incompetent to perform the task he had undertaken, whatever it was, or that from indolence he had neglected it; that his money was going very fast, and there was little to shew for it; and that he had discovered, as is hinted in the sentence,"\* [how or where?] "that no small portion of it had been applied by Gutenberg to his own private purposes;" especially when he wrote immediately after, — "it is by no means improbable ... that, some years before the date of the above agreement, Fust had assisted with his wits and hands, as well as with his money, in

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\* *Inquiry*, pp. 49—51.

perfecting the art and bringing it into operation." Improbable it may not have been, but there is nothing whatever to shew that, in fact, such was the case; on the contrary, such facts as do appear lead to an opposite conclusion.

We have now arrived at a point in the narrative where Peter Schœffer comes to the fore-front in the history of the art. Born in Gernszheim, after completing his education at the University of Paris,\* and adopting, it would seem, the profession of a scribe,—a craft in which the more expert members

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\* In a book of notes, left with one Gerlach, and afterwards purchased by Johan Rot, the brother in all probability of Berthold Rot, the first printer at Basle, there occurs the following memorandum, in Schœffer's own handwriting:—"Hic est finis omnium librorum tam veteris quam nove logice, completi per me Petrum de Gernszheim, alias Monguncia, anno M.CCCC.XLIX, in gloriosissima Universitate Parisiensi."—(HUMPHREYS, p. 84.) His name, variously spelt as Schœffer, Schœffer, Schoiffer, and Schoiffher, and signifying in English, *Shepherd*, is sometimes printed in its Latin form, *Opolio*.

combined with the art of writing that of illuminating the manuscript works they copied, —he betook himself to Mentz, where he was engaged by Gutenberg to assist in the printing operations at the Zum Junghen. As the first printed books were imitations of, and avowedly sold as, manuscripts, three reasons for this engagement may be seen, — the preparation of the MS. copy; the designing of the characters for the types; and the illuminating of the books when printed.

“The afore-mentioned Peter Schœffer,” says the Abbot Trithemius, “being a person of great ingenuity, discovered an easier method of casting letters, and perfected the art as we now have it.”\* This “easier method” was that of casting metal types complete, instead of cutting the letters on the ends of

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\* “*Petrus autem memoratus Opilio ... homo ingeniosus et prudens, faciliorem modum fundendi characteres excogitavit, et artem ut nunc est complevit.*”

cast blanks; and in its success, he perfected an invention which formed the climax to the Art of Typography—an invention which has immortalized his name as the last, though not the least, of the associated Three to whom alone belong the title of the Fathers of the Typographic Art.

The eloquent author of an article upon Printing in the *Encyclopædia Britannica*, writes as follows regarding this invention:—  
“It is very likely that the combination of character and qualifications of the three men, John Gutenberg, John Faust, and Peter Schœffer, may afford a good clue not only to the wonderful taste and beauty which distinguished the works issued from their press, but also to the general improvement of the art during their connection with it. The ingenuity of Gutenberg (the inventor of the new mode of printing) would readily suggest a novel and expeditious method of manufacturing types; the practical skill of



Faust as a worker in metals (for the working of gold and silver had at that time attained a most extraordinary nicety and cunning), as well as his large pecuniary resources, would promptly provide the necessary appliances; while the taste of Schœffer, would give all possible grace and missal-like excellence to the new forms. For Schœffer, it should be borne in mind, was a scribe,—one of that ancient and honorable craft whose occupation was destined to fall before the new art,—a transcriber and perhaps an illuminator of the manuscript works in use before books; and those who have had the happiness of viewing the exquisite specimens of skill which beguiled our ancestors into study and devotion, will readily conceive that Schœffer's eye was already schooled for the conception, and his hand for the execution, of all the beauty which the trammels of a new art and limited skill would allow. Aided by his own taste, Schœffer, it is said, pro-



ceeded to a new enterprise—viz. the casting of type. The entire conception and execution of this invention has generally been attributed and allowed to Schœffer. It seems most probable, however, that where three ingenious men are bound together by art and interest, none of them can lay exclusive claim to any invention or undertaking, executed in the workshops for the benefit of all. Allowing therefore to Schœffer the honor of having suggested some such plan (as the design of the types to be used) the other two may fairly put in a claim for their portion of the approbation attached to the invention, on the score of their practical suggestions in carrying it out; especially since Faust, as a worker in metals, would have been the party whose function it was to engage the workmen necessary to carry out the particular design.”

Mr. Mayhew, in his elaborate work upon the Trades and Manufactories of Great Britain says,—“The only evidence as to the origin

of fusile types appears to shew that Gutenberg, Faust, and Schœffer, had for some time practised a method of taking casts of types in moulds of plaster....We are told, though we know not what is the proof of the assertion, that it was Schœffer, who after the failure of casting types in plaster moulds, suggested the process which still continues in operation. Schœffer is said, therefore, to have an undoubted claim to be considered as one of the three inventors of printing; for it is asserted (but upon what evidence we have yet to discover) that he first suggested the cutting of punches, whereby not only could the most beautiful form of letter which the taste and skill of the artist could suggest, be truthfully transferred to the matrix, but a degree of sharpness and finish be given to the face which was quite unattainable in type cut in wood; whilst to the shank of the type the mould would serve to give the nicety of angle requisite to enable any number of such

separate letters to be locked up into one solid mass. Add to this, that the punch, being once approved of, could be kept ready to stamp a new matrix with precisely the same form, and with the very same nicety as the first, whenever another might be wanted, and we have a full sense of the benefits which the first inventors of the means of casting fusile types from matrices stamped with punches, conferred upon humanity."

The writer in the *Encyclopædia Britannica* seems to have been unaware of all the known facts of the case, and to have allowed his imagination full play when writing upon what he considered its possibilities. Mr. Mayhew, — misunderstanding the statement of Trithemius about the shapes of the letters being stamped into moulds so as to form matrices, in which similar shapes were then cast in metal, to be afterwards engraved or cut into letters, — is inclined to be sceptical in regard to Schœffer's claims, although he

does not venture to deny them. Neither of these writers, nor any other with whose works I am acquainted, has succeeded in tracing, in a satisfactory manner, the steps by which Schœffer attained to the realization of his idea. It is no doubt difficult to do so in the absence of positive statements by Schœffer or his contemporaries; but the following considerations, fairly and reasonably deducible from well established facts, may help to a better understanding of the subject than has hitherto been arrived at.

That attempts would be repeatedly made to take complete casts of type, and that such attempts led the way to the goal ultimately reached, is extremely probable. The labour of continually cutting separate letters as they were required, must have seemed to Schœffer, a most irksome and unprofitable toil. Faust was undoubtedly of the same opinion. It would appear from various authorities that Schœffer looked upon him

as his master. Faust certainly was the paymaster to the establishment at the Zum Junghen, and very probably placed Schœffer there, not merely as an acquisition on account of his abilities, but as a man whom he could trust to look after his interests.

Well aware of the position in which Gutenberg and Faust stood toward each other, in respect to the advances made for completing the costly work they had in hand; and knowing what heavy expenses were incurred, and how much delay\* was occasioned by their method of proceeding, Schœffer's mind would be constantly brooding over the possibility

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\* "John Schœffer says, at the conclusion of the *Historia Francorum*, printed in 1515, that the inventor did indeed commence the art of printing in 1450; but did not perfect and bring it to the stage when the use of the press was required until 1452."—*vide* WETTER, p. 350. Referring the date 1450 to the original contract with Faust, this statement shews that at least two years, possibly nearly three, were spent in the preparatory arrangements, casting and cutting the letters, &c. before a single page of the Latin Bible was printed.

of obviating, by some simple process, the difficulties which perpetually beset them. Every thing he saw which seemed likely to lead to the attainment of the desired end would be eagerly scrutinised and applied to what might at this time be considered the set purpose of his life. Wealth and fame awaited success; and a desire to rival Gutenberg as an inventor, and the hope of contracting a family alliance with Faust, the influential money-lender, may have acted as spurs to quicken his ambition and animate the resolution that determined his course.

It is to be remembered that Faust was a member of a family of goldsmiths, and that in their business, punches, dies, and moulds, would be in frequent use. And although the goldsmith's art, as all other arts then were, would be conducted as a mystery, to which none but the regularly initiated had access, Schœffer, in the opportunities for intimacy with Faust which his position



afforded him, could hardly fail, sooner or later, to observe such appliances. These once observed,—and opportunities for observation, in his capacity of illuminator (an art in which gold and silver were sometimes largely used) would not be wanting, especially when eagerly watched and waited for,—he would not rest until he had ascertained the uses to which they were put; and that information gained, the practical application would quickly follow. The punches he needed were ready to his hand. Each letter then in use, made of hard cut metal,\* was, in

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\* Letters made of copper or tin alone would scarcely be hard enough to use as punches, except for plaster moulds; but a mixture of metals forming brass, of which several writers say the first cut metal types were made, would answer the purpose, and could be struck into blocks of soft copper or tin without the slightest difficulty. At a pinch, however, Benjamin Franklin has shewn that even with ordinary types, matrices of lead can be made and used with success: "Our printing house," he writes, "often wanted sorts, and there was no letter-foundry in America; I had seen types cast at James's in London, but without much of



fact, a punch. To strike a matrix in a softer metal, or in clay or plaster, which could be subsequently hardened, and to adapt a mould to cast a type with a shank or body of uniform height and accurately squared, were the two steps that were required. The mould would be his chief difficulty. This he had to devise so that it could be adjusted to the varying widths of the different letters and characters required for a complete fount\* of types; and this could scarcely be effected otherwise than by making it in corresponding halves, with a provision for leaving in their centre, when closed together, a small quadrangular channel or chamber, made of hard

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attention to the manner; however, I contrived a mould, and made use of the letters we had as puncheons, struck the matrices in lead, and thus supplied in a pretty tolerable way the deficiencies."

\* The word *fount*, here used to indicate a complete set of types, was originally *fund*, and signified a casting or founding of type. Hence also the terms *founder* and *foundry*, derived, like the former, from the Latin *fundō*.

metal, the width of which could be regulated by a slide and screw. The stamped part of the matrix placed at the end of this channel, would form the bottom of the mould; and when this was fixed, it would be ready for the pouring in of the fused metal, which setting almost instantly, a quick and slight opening of the halves of the mould, enabled the operator to shake out the cast type. The type-founder could thus rapidly repeat the process until he had cast as many letters as he required. A little careful trimming and dressing was all that was further needed on his part before he handed them over to the printer ready for use. No doubt it required much thought, and many experiments, before the mould was finished to the satisfaction of its inventor. But as soon as it was completed, the Type-founder's art commenced.

From the foregoing considerations it becomes apparent that as Faust found money to enable Gutenberg fully to realise his ideas as

to Letter-press printing, so in all likelihood did the business which was the source of Faust's wealth, furnish to Schœffer the clue which enabled him to complete the invention, without which Typography could never have achieved the results that were effected by it with such marvellous rapidity within the lifetime of those by whom it was invented.

That Schœffer really originated the Type-founder's art is further proved by the account given of him by John Frederick Faust of Aschaffenberg,\* who after attributing the origin

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\* This Faust, whose ancestors came from Mentz, was a son of the councillor and judge of the imperial tribunal at Frankfort, who died in 1619. Writing from family papers and traditions, J. F. Faust (inheriting the jealousy against Gutenberg which was engendered by the lawsuit, his opposite politics, and the honours bestowed upon him by the Elector-Archbishop) attributes the origin of Typography to Faust of Mentz, but admits that Gutenberg was his assistant. With the exception of this change of persons, the account he gives of the origin of the art accords in its main facts with the statements made by Trithemius, Zell, Wimpeling, Arnold de Bergel, and other early writers

of printing to his relative, Faust of Mentz, and describing the difficulties experienced with the ink in the earlier attempts; as well as the trouble and delay occasioned by the want of a suitable press to obtain impressions from the separable letters, proceeds as follows: — “He [Faust] had however, some people who actively assisted him in printing, composing, making ink, and so forth. Amongst these was a certain Peter Schœffer of Gernszheim, who entering into his master’s views, and being himself ardently desirous to improve the art, found out, by the good providence of God, the method of

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on the subject. He mentions the block Alphabet and Donatus, and the separate wooden types made by cutting the engraved tablets into single letters,—which were all for a long time preserved in Faust’s house at Mentz; where his grandfather Dr. Johan Faust, had seen them. This Dr. Faust also left with the family a written description of these first beginnings of the art. J. F. Faust’s account, taken from WETTER, with some remarks by that author, will be found in the Appendix.

cutting (*incidendi*) the characters in a *matrix*, that the letters might easily be singly *cast* instead of being *cut*. He *privately cut matrices* for the whole alphabet; and when he showed his master the letters cast from those matrices, Faust was so pleased with the contrivance, that he promised Peter to give him his only daughter [grand-daughter] Christina in marriage, a promise which was in due time fulfilled. *But there were as many difficulties at first with these letters, as there had been before with those of wood; the metal being too soft to support the force of the impression; but this defect was soon remedied, by mixing the metal with a substance which sufficiently hardened it.*"\*

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\* Various metals were used in the manufacture of types. Mr. BLADES, at pages xx. and xxiv. of his second volume of the *Life and Typography of Caxton*, gives extracts from the "Cost Book" of the Directors of the Ripoli Press at Florence, 1474-1483, a document still extant in the Magliabechi library at Florence, and printed in the "Notizie Storiche

This sets the matter at rest, and shews that neither to Gutenberg nor to Faust was Schœffer indebted for suggestions which in their estimation were likely to lead to so important an invention—the fourth grand step in the newly - discovered Art, — the method of rapidly *casting* fac-simile types in fusile metal.\*

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sopra la Stamperia di Ripoli, la quali possono servire all'illustrazione della Storia Tipografica Fiorentina. Raccolta e pubblicate dal P. Vincezio Fineschi. 8vo. In Firenze MDCCLXXXI." From this it seems that for the steel required (probably for punches) the price paid per lb. was equivalent to 9s. of present current money; for metal (not otherwise described) 2s. 0 $\frac{3}{4}$ d.; brass, 2s. 3d.; copper, 1s. 3d.; tin, 1s. 6d.; lead, 5 $\frac{1}{4}$ d.; and iron wire, 1s. 6d.

\* Eight great inventions may be enumerated in the history of Typography. These are, first, the block books; second, the separable types; third, the printing-press; fourth, type-founding; fifth, stereotyping, (taking plaster moulds of whole pages of type, and from them castings in solid metal plates); sixth, composition inking rollers; seventh, cylindrical printing machines, to be worked by steam-power; and eighth, steam type-setting machines. As the four last are of modern date, they do not come within the scope of the present work.



Giving then to Schœffer all the honor to which he is entitled, it may still be asked, Why did he reveal the secret to Faust alone, and not to Gutenberg as well?—and the answer to this question may possibly throw some light upon the motives which actuated Faust in prosecuting the lawsuit against Gutenberg. Schœffer was at the time in a subordinate position in the printing office, and hardly likely to be able to command, from his own resources, sufficient funds to establish himself as a printer on his own account. He would consequently look rather to Faust than to Gutenberg for his reward. In the next place, if, as it is but reasonable to suppose, he had made use of Gutenberg's letters as his punches, (for it is by no means clear that he cut punches for himself, and he was not, like either Gutenberg or Faust, a worker in metals), he might well expect that Gutenberg would object to the terms he was resolved upon demanding; and moreover,



resent the use of his letters for the purpose to which, without his permission, they had been applied. Such an unauthorised use of his original invention either was, or might be deemed to be, injurious to Gutenberg; and it is not exactly in accordance with the average standard of human nature for one man who has injured another,\*—especially in stealing a march

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\* That Gutenberg considered himself an injured man is clear from statements which occur in both J. F. FAUST'S and ARNOLD DE BERGEL'S accounts. The former states that Gutenberg was greatly angered by the lawsuit, and not only refused to be present at the close of the proceedings, but afterwards left Mentz for Strasburg, where he established a printing office of his own. This is not exactly correct; but as it shews the belief that existed in the Faust family, it is probable that he may have supplied Mentelin, the first printer there, with types and material to commence with. Bergel states, that when the originator of the contract (Faust) began to see some hopes of gain, he raised a discord which led to a rupture: that Gutenberg protested the strife was unjust, but the upshot was a separation, each one trusting to himself and his own press. The following lines shew this, and hint also at the belief that the tribunal before which the lawsuit was tried, was

upon him in the matter of an important invention,—to reveal to the party injured what he has been doing detrimental to his interests. Schœffer at any rate was determined that Gutenberg should be kept in ignorance of his secret. The proceedings of the lawsuit

under influences adverse to Gutenberg; the old grudge of Burgher *versus* Noble, still making itself manifest.

“Hic dum cernebant raras procedere merces,  
 Sanxerunt dextris foedera pacta suis:  
 Quæ Deus, aut fortuna dabit, communia sunt,  
 Æqualis nostrum sitque laboris onus.  
 Foedera sed lucri raro concordia nutrit,  
 Indiga sunt pacis dissidioque patent.  
 Sit postquam autores quæstus spes cepit habendi,  
 Ad lites vertunt pectora capta leves.  
 In partes abeunt, sinceraque pacta resolvunt,  
 Et promissa cadunt, irrita fitque fides;  
 Cuilibet ut propriis serviret pergula prelis,  
 Et sibi multijugas quisque pararet opes.  
 Non tulit injustas mens Gutenbergica rixas,  
 Testatur Superos foedera rupta Deos.  
 Causa fori tandem pavidi defertur ad ora;  
 Scribitur ac illis dica nefanda fori.  
 Tempore sed longo res est tractata dicaci  
 Lite, hodie pendet iudicis inque sinu.”

*Encomion Chalcographiæ*, v. v. 245–263.

shew, that at the time it was pending, Schœffer was not in any way concerned in the profits or losses attending the business;— in fact, his name does not appear in connection with it, except as a witness on behalf of Faust. What more likely then, than that knowing the heavy advances made by Faust, for which no returns had as yet been received, —knowing, too, how changed the aspect of affairs would be by the application of his invention,—he insisted upon Faust ousting Gutenberg, as one of the stipulations for the revelation of his secret. Whether it was so or not, it is certain, that after Gutenberg was got rid of, Faust took Schœffer into partnership, placed him in charge of the printing establishment, betrothed him to his granddaughter, and conjointly with him, imposed an oath of secrecy upon all to whom a knowledge of the new invention was entrusted.

This view of the case completely meets an objection which has been raised by Mr.

Ottley. "If," says he, "Faust had been brought up as a goldsmith, he may reasonably be supposed to have possessed acquirements applicable to the art [printing] which now engaged his attention, and among others, the arts of carving, chiselling, and casting. If we suppose Faust not to have busied himself at all with the various details and processes of the new art, during the above five years' partnership, but that he left the entire direction and management to Gutenberg (as these writers would have us to believe), he must, one would think, have been but ill able to do without him, when in 1455, he brought the above action for the recovery of the monies he had advanced; and this objection to their system, appears to me to be worthy of consideration, nay to be almost decisive."

The objection thus raised so far from being decisive, is not only not so, but it has no solid foundation in fact. Nothing in the law-

process shews that Faust had anything whatever to do with the management and working of the printing establishment. It was entirely in Gutenberg's hands; Faust merely contracting with him to find the money to carry it on, (*pay wages, &c.*), for which he was to receive usury at the rate of 6 per cent, *and, in addition*, a share of the profits, whatever they might ultimately be. As a partner, he would have to bear his share of the *losses*, as well as to be a participator in the gains of the undertaking; but against the contingency of loss he took good care to guard himself. It is evident therefore, that to have foreclosed his mortgage over the materials before he was in a position to entrust them to some one who could work them to his advantage, would have been an act of folly which he was far too shrewd a man of business to commit. But as soon as Schœffer revealed his invention, and stipulated his terms, all objections to a foreclosure were removed.

The money was demanded; the action brought; and we have seen with what results.

But whatever were the motives which actuated either Faust or Schœffer in their treatment of Gutenberg, the immediate effect of Schœffer's invention would be, to cheapen and facilitate the production of types, as much as, if not more than, the effect of the original invention by Gutenberg in cheapening and facilitating the multiplication of copies of works previously only attainable in manuscript. Printing was thus rendered at once, what it was scarcely possible to have been before, a profitable, if not a highly remunerative pursuit. But with the success which resulted from Schœffer's invention, came the downfall of the venerable Guild of Writers; and the ancient copyists laid down their pens in despair, intuitively feeling that thenceforth the occupation of the scribe was gone.

Disastrous as was the lawsuit with Faust, it was not so utterly ruinous in its results



to Gutenberg as most writers have supposed. In the first place, Faust had, at the outset, security for his advances. Gutenberg had exhausted his own means in perfecting the art before he sought assistance, and Faust was not the man to lend him money without having money's worth to guard against loss; secondly, the advances were for a specific object,—for the joint advantage of both,—but that object was likewise pledged to Faust as a collateral security; and had been partially, if not wholly accomplished, before Faust made his demand.

In the lawsuit, it was to Faust's claim for interest that Gutenberg principally demurred, his plea being, that although the letter of the agreement between them might justify the claim, Faust had verbally promised not to press it. The magistrates however decided according to the terms of the agreement, and their judgment was not inequitable. They ordered an account to be rendered of all



moneys spent and received in connection with the work which was undertaken for the joint advantage of the litigants; Gutenberg to be credited with what was fairly his due, and Faust to be repaid the principal and interest to which he was entitled.

Now it by no means follows that the whole of the types, presses, and plant of the printing establishment at the Zum Junghen was absorbed in the discharge of Faust's claim. Doubtless it was no small share that went for that purpose, including as it did all that was printed of the folio Bible of 637 leaves,—sufficient of itself, supposing the edition did not exceed two hundred copies, to meet a large proportion of the debt. The rupture, although it broke up the establishment, left Gutenberg with men and materials still at command. Faust, as we have seen, removed the stock that had been made over to him to his premises in the Schuster Gasse; and Gutenberg went with the remainder to his dwelling at

the Zum Gutenberg, where he opened a 'printing house' on his own account.\*

Gutenberg's position in Mentz was certainly one of influence, if not of wealth. It is highly probable that at this time Dr. Conrad Homery,† the syndic of the city, advanced him funds for the replenishment of his stock of materials, since they were claimed by, and made over to him, on Gutenberg's death. With or without such aid he

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\* The division of the plant seems to have been made with judicial fairness. A portion of the original implements or utensils were assigned to Faust, and according to the testimony of J. F. Faust of Aschaffenberg, they remained for a length of time in the possession of the family (see note, p. 167). Bergel, or Bergellanus, who published his *Encomion Chalcographie* in 1541, and was for fifteen years a corrector of the press in a printing establishment at Mentz, states, in the Dedication of his work to the Archbishop Albert of Brandenburg, that "several very old instruments were seen by him at Mentz, which the citizens informed him had been used by Gutenberg in the art;" from which it may be inferred, that they were either preserved among the muniments of the city, or by some of Gutenberg's family connections.

† Also spelt Hombracht, and Hoemborch.

was speedily at work again, and palæotypographers have recognised the products of his press in the "Tractatus de celebratione Missarum;" the "Hermani de Saldis Speculum Sacerdoti;" a treatise in the German language on Councils; the "Dyalogus inter Hugonem Cathonem et Oliverium super Libertate Ecclesiastica," and a Kalendar or Almanack for the year 1460, consisting of a few leaves in 4to. printed in characters resembling those used in the first of the above-named works. A sheet Almanack for 1457, the first printed with a date, has also been attributed to him. Independently of the special value of this document as a relic of early printing, it proves that in the neighbourhood of Mentz the year then commenced with the month of January, according to the Roman system, and not at Easter as was the case in France and other countries, or at Christmas as in some other places.

Strange to say Gutenberg attached his name to none of his works. It has been suggested that this was owing to his patrician pride. Whether so or not he was well known to his contemporaries both as a printer, and the inventor of Printing.

The Typographer Philip de Lignamines, in his "History of the Pontiffs" printed at Rome in 1474, writing of the events of the year 1458—three years after the lawsuit, says—“Jean Gutenberg of Strasburg, and another, named Fust, skilful in the art of printing with characters of metal, on parchment, each print three hundred sheets per day at Mentz.” And in a document preserved in the Library of the Arsenal at Paris, it is stated, that on “the 3rd October, 1458, the King (Charles V), having learnt that Messire Gutenberg, chevalier, residing at Mentz, in Germany, a man dexterous in the engraving of letters and punches, had brought to light the invention of printing by means of such

characters; and being curious concerning such valuable knowledge, the King ordered the masters of his Mint to name to him persons well skilled in such kind of engraving, that he might despatch them to the aforesaid place, in order secretly to inform themselves of the said invention, and to understand, conceive, and learn the art, &c." Whereupon, it was directed that Nicholas Jenson, an expert engraver, should be forthwith despatched to Mentz, to learn the art in question, for the purpose of introducing it to Paris.

It is believed by some writers, that Gutenberg continued to the end of his career as a Typographer to print with cut metal types. Oaths of secrecy were imposed by Faust and Schœffer upon all whom they employed, by which means they hoped to secure the knowledge of the art of type-founding to themselves. But in the year 1462, when Mentz was sacked by the troops of the Elector-Archbishop, Count Adolphus of Nas-

sau, their workmen were dispersed, and the arts of printing and type-founding were generally made known all over Europe. Gutenberg however must have seen at once, upon an examination of the works that were issued from Faust and Schœffer's establishment, that they were producing types in some extraordinarily rapid manner; and acute as he was, it is not likely that he would remain long in ignorance of the method adopted. There were no doubt intimacies among the workmen of the rival establishments, who had at first worked all together; and among whom the secret would sooner or later ooze out. The *science* of Johann Nummeister, (whose name occurs in a document associated with that of Gutenberg), may also have been especially called in to assist in a competing method of type-founding. Certain it is, that two or three years before 1462, Albrecht Pfister, and the brothers Henry and Nicholas Bechtermuntze, with Wyngardum



Spyes de Otherberg, printed works with types so evidently the same as those cut by Gutenberg, that they have not unfrequently been attributed to his press. Various suppositions have been made, to account for this, but no one appears to have thought of that which seems to be the most obvious; namely, that sets of matrices or types were sold by Gutenberg to these early printers, who with Keffer and Sensenschmidt and others, were taught the art at his establishment. Where suppositions must be resorted to in order to account for facts, those which are the most natural ought surely to be chosen in preference to others which are less or least so.

About the year 1800, some interesting documents relating to Gutenberg and his family were said to have been discovered by M. Bodman the archivist of Mentz. The following,—the seals to which were copied by Fischer in his “*Essai sur le Monumens Typographiques de Jean Gutenberg,*” is entitled:—



“Agreement between Gutenberg and his brothers, &c., and the Nuns of the Convent of St. Clair, at Mentz, A.D. 1459.

“We, Henne (John) Genszfleisch of Sulgeloeh, called Gudenberg, and Friele Genszfleisch, brothers, affirm and publicly declare by these presents, and make known to all, that with the counsel and consent of our dear cousins Johann and Friele and Pedirmann Genszfleisch, brothers in Mentz, we have renounced and do renounce by these presents, for us and our heirs, singly, together and at once, without fraud or reserve, all the property that has passed by our sister Hebele to the Convent of St. Clair at Mentz, in which she has become a nun; whether the said property has been received by her on the part of our father Henne Genszfleisch, or been given by himself, or in whatsoever other manner, whether in grain, money, furniture, jewelry, or of whatever kind it may be, which the respectable nuns, the Abbess and sisters

of the said convent have received, whether as a body or individually, or which other persons of the convent may have received from the said Hebele, be it great or small; and we have promised and do promise by these presents, in good faith for us and our heirs, that neither we nor any person on our part, nor our above named cousins nor their heirs, nor any person on their part, shall demand back or reclaim from the said convent, or from the Abbess, or from the convent as a body, or from any persons who reside there individually, the said property, be it what it may, either in whole or in part, and that we will never demand it back, whether by the ecclesiastical or civil judge, or without the assistance of the judge, and that neither we nor our heirs, will ever molest the said convent by word or deed, either secretly or publicly, in any matter whatever. And, with respect to the books which I, the above named Henne, have given to the library of the

convent, they are to remain there always, and in perpetuity, and I the above-named Henne, purpose to give also, and without fraud, to the said convent for its library, for the use of the nuns present and future, for their religious services, whether in reading or singing, or in whatever manner they may please to make use of them, according to the rules of their order, the books which I, the above-named Henne, have already printed up to the present hour, or that I may print in future, so far as they shall be pleased to make use of them; and in consideration of this, the above-mentioned Abbess and the nuns of the said convent of St. Clair, have for themselves and their successors, declared and promised, that they will absolve me and my heirs from the claim which my sister Hebele had to 60 florins, which I and my brother Friele had promised to pay and deliver to the said Hebele as her dower, and as the share, coming from the estate of Henne our father,

which he assigned to her as her portion, in virtue of a certain instrument drawn up for that purpose, without fraud or deceit. And in order that this (agreement) may be held firmly and fully binding by us and by our heirs, we have given to the said nuns, and to their convent and order, the present letters sealed with our seals. Signed and delivered, the year of the birth of J. C. 1459, on the day of St. Margaret." (July 20).

To this document four seals were attached inscribed — *S: hans genszfleisch vo Sorgeloch*

*S: friele genszfleisch vo.....loch*

*S: hen.....sch vo Sulgeloch  
frile genszfleisch.*

Contradicting, as this agreement does, the views held by Mr. Ottley, he says, "I confess I have great doubts of its genuineness, though perhaps they are ill-founded." M. Ph. Berjeau,\* in his introduction to Mr.

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\* Author of "Speculum Humanæ Salvationis. Le plus

Ottley's work asserts that it is a forgery; and on the authority of M. de Laborde says, "that Bodman, the Archivist of Mentz, bothered by Oberlin, Fischer, and all the bibliographers of his time, who wanted him to discover some new information about Gutenberg, thought it worth his while to forge two documents, which just helped them to fill the two gaps which occur in his history, one from 1420 to 1430, the other from 1455 to 1460." The other document referred to by M. de Laborde is that already given in the note on pages 71 and 72.

But it has already been shewn from contemporary authorities in Italy and France, that Gutenberg was known in those countries to be still printing at Mentz in 1458. The motive imputed to M. Bodman as an inducement to the criminal act charged against

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ancien Monument de la Xylographie et de la Typographie réunis reproduits en fac-simile, avec Introduction Historique et Bibliographique. Londres, 1861. fol.

him by MM. Laborde and Berjeau, cannot therefore be correct. Writers on both sides, in their eagerness to confute their opponents, are much too apt to cry out "forgery!" when documents are quoted which are fatal to their pre-conceived views. There is however one point in this agreement which needs explanation.

A certain Henne (John) Gensefleisch is referred to as the father of the brothers John and Friele. But it is well known that their father's name was Frielo, and not Henne. How then is this discrepancy to be accounted for? Even supposing that M. Bodman was tempted to forge a document like the one in question, he would surely not have so worded it that it should bear upon its face the proof of its falsity. The property to which Hebele the nun was entitled, and the reclamation of which the two brothers and the three cousins renounced, must have been a portion of the ancestral patrimony, to a share of



which each member of the family had a well defined claim. Now their common ancestor was a certain Henne Gensefleisch, whose son Frielo was *Rathsherr* or councillor of Mentz in the year 1332, and played a very prominent part when the great rising of the guilds against the patricians took place in that year. The preservation of the patrimony of a family being an object in which all its members were interested, no portion could be alienated without the consent of all concerned. This frequently led to the female members of a family being placed in convents, for which provision might be made in the original entailment of the property. It also limited marriages among the males; since forfeiture of his share of the patrimony was one of the penalties inflicted upon any who married without the family consent. There does not therefore appear to be any solid reason for rejecting the document as spurious. Moreover, in a copy of the "Tractatus de celebratione



Missarum," originally in the library of the Chartreux of Mentz, and afterwards in the city library, M. Fischer the curator discovered the following memorandum in Latin:—"The Chartreux of Mentz possesses this book through the liberality of Johann called Gutenberg, the production of his art, and the science of Johann Nummeister, completed (*confecta*) on the 19th of the kalendar of July in the year 1463." So that it is plain that Gutenberg was printing in that year; and this memorandum further proves, that he made presents of his works to the ecclesiastical establishments of the city; a fact which confirms, in that respect at least, the authenticity of the previously cited agreement.

In 1465, the Elector Adolph appointed Gutenberg a gentleman of his Court; and by a public decree, dated the 18th January, bestowed upon him an annual grant of twenty "maltern" of corn, two barrels of wine for his household; and an official court

suit; the honor was thus by no means an empty one. He did not however long enjoy it. After an active and eventful life, he died in the year 1468.\* The exact date of his decease is not recorded, nor are there any particulars known of the circumstances attending his death. But that he was in possession of a printing office up to the very last, is proved beyond doubt by the following acknowledgment of the receipt of the materials by the Syndic Homery.

“I, Conrad Homery, doctor, make known by this letter that his Highness my gracious and well-beloved Prince Adolph, Archbishop of Mayence, has graciously caused to be delivered to me the ‘forms,’ characters, tools, and other objects relating to printing, which

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\* Authorities differ in respect to Gutenberg's age, the year of his birth not having been precisely ascertained. It is broadly stated by WETTER, that he was born between the years 1393 and 1400. He must therefore have been at least 68 years of age, and he may have been 75, at the time of his death.

Johann Gutenberg left at his death, and which belonged to me, and belong to me still; but for the honor and for the pleasure of his Highness, I have bound myself, and am so bound by this letter, never to use them in any other place than in Mayence; and moreover, only to sell them, in preference, to a citizen of this place, who shall offer an equal price with any other. In faith of which declaration, I have appended my seal to this present. Given in the year 1468, the Friday after the festival of St. Matthew (26th February.)”

Thus ended the life of JOHN GUTENBERG; the first maker of separable metal TYPES; the inventor of the LETTER PRESS; the Founder of the TYPOGRAPHIC ART.

His remains were interred at the church in the convent of the Franciscans near the house Zum Junghen, where, not long after, one of his kinsmen erected a tablet, the inscription on which ran as follows:—

D. O. M. S.

IOANNI GENSZFLEISCH

ARTIS IMPRESSORIE REPERTORI

DE OMNI NATIONE ET LINGUA OPTIME MERITO

IN NOMINIS SUI MEMORIAM IMMORTALEM

ADAM GELTHUS POSUIT.

OSSA EJUS IN ECCLESIA D. FRANCISCI

MOGUNTINA FELICITER CUBANT.

About forty years later, another tablet was set up at the house Zum Gutenberg, in the inner court of the College of Lawyers, by Ives of Witigen or Venza, doctor of laws, and professor of that University, on which was the following inscription:—

JO. GUTENBERGENSI MOGUNTINO

QUI PRIMUS OMNIUM LITERAS AERE

IMPRIMENDAS INVENIT,

HAC ARTE DE ORBE TOTO BENE MERENTI

IVO WITIGISIS HOC SAXUM

PRO MONUMENTO POSUIT M.D.VIII.

The learned Wimpheling, his contemporary, also commemorated his memory in the following eloquent epigram:—

“Felix *Ansicare*, per te Germania felix,  
 Omnibus in terris præmia laudis habet.  
 Urbe Moguntina, divino fulte Joannes  
 Ingenio, primus imprimis aere notas.  
 Multum relligio, multum tibi Græca Sophia  
 Et multum debet lingua Latina tibi.”\*

The study of the life of such a man, who in his own person embodied, in a pre-eminent degree, the leading characteristics of the Teutonic race—Sense of Duty, Courage, Diligence, and Perseverance,—so ably portrayed by Professor Max Müller in his oration at the German Festival on the 1st of May 1871; is one of deep and abiding interest. His sense of duty to his convictions was manifested in his boundless faith in the ultimate success of his inventions; his courage was dauntless,—no difficulties could deter him from

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\* Published at Heidelberg in 1499.

following the path he was resolved upon pursuing; his diligence was unwearied; his perseverance indomitable. In spite of numerous failures, or what seemed such to men less hopeful than himself, he constantly attracted new friends and supporters, as old ones fell away. Losses, lawsuits and ingratitude dogged each step of his career; but he triumphed over every difficulty; saw the Art he had invented become the means of bringing fortunes to men who had at different times been his associates and opponents; and died esteemed and honored by the sovereign of his native city. Well did he realize the truth of the inspired proverb of the Royal Hebrew sage, — “Seest thou a man diligent in his business, he shall stand before kings; he shall not stand before mean men.”

Great and noble by nature, his fame as an original inventor has always stood deservedly high; but should the hypothesis of Mr. Holt be established as a fact by the



production of further evidence, his fame henceforth will stand much higher than it has hitherto done. The genius with which he was gifted will, in such case, prove to be of the same order as that which first led to the representation in visible symbols of the sound of spoken thoughts; and the pinnacle of glory on which the memory of his name is raised for the admiration of posterity must be elevated to the same level as that of the yet unknown but divinely inspired originator of the immortal art of writing.

Not less interesting than the study of the life of Gutenberg, is the contemplation of the effects which the Art he invented almost immediately produced. These can scarcely be more eloquently or succinctly stated, than in the words of the distinguished historian Sir EDWARD S. CREASY, Chief Justice of Ceylon. After speaking of the excitement occasioned throughout Europe by the maritime discoveries of the Portuguese, and



other causes of intellectual movements in the Fifteenth century, he adds:—"Still more strongly was the advancement of intellectual activity aided during the last half of the fifteenth century, by the discovery and rapid progress of the art of printing. The power of swiftly and cheaply multiplying copies of a book, in a more conveniently transmissible, and a more easily legible form, than that of the best manuscript, gave now to an author an increase of mental and moral authority over his fellow men, somewhat resembling the increase in importance, and the extension of operations, which the steam engine has in our age given to invention in mechanics and manufactures. The circulation of printed books created hosts of readers, who otherwise would have remained ignorant of any kind of literature, ancient or modern. It gave an immeasurable increase to the weight of public opinion. It stimulated discovery. It promoted discussion. It made the suppression

of opinion difficult, and generally impossible. It shook to the very base every institution that was founded on fraud, or upheld by unjust force. It gave also weapons to those who seek violent changes merely from the love of innovation and violence. Among the numerous causes which co-operated in giving European history the altered character which we discover in it during and after the close of the fifteenth century, none have been more operative than the invention of moveable types."\* [combined, we take the liberty of adding, with the invention of the printing press.]

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\* *History of England*, vol. ii. pp. 526-7.

# Early Typography.

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## CHAPTER IV.

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THE CLAIMS OF COSTER AND HAARLEM CONSIDERED, AS  
OPPOSED TO THOSE OF GUTENBERG AND MENTZ. —  
CLAIMS BASED UPON TRADITION.—NO CONTEMPORARY  
AUTHORITIES IN THEIR FAVOR.—ABUNDANCE OF SUCH  
TESTIMONY IN FAVOR OF GUTENBERG AND MENTZ.  
—PROBABLE ORIGIN OF TRADITION.—BLOCK BOOKS.  
—SPECULUM HUMANÆ SALVATIONIS.—EVIDENCE OF  
THE TYPES: WOOD OR METAL, CUT OR CAST?—  
—BOOKS “JETTEZ EN MOLLE.”—AGE OF THE PAPER.  
—DATE OF COSTUME.—FRATERNITY OF BRETHERN  
AND CLERKS OF THE COMMON LIFE.

CLEAR and convincing as the evidence appears to be, that the Art of Typography originated in Germany, and that the honor claimed for Gutenberg as its inventor is rightly his; both positions are stoutly con-

tested by the Dutch, who assert that the Art originated at Haarlem, and was the invention of one Laurence Janssoen, the Coster or Sacristan of the great church of that city, who according to some of their writers, was not only the first engraver of block-books, and cutter of separable letters, but also the first who cast fusile metal types. It is necessary therefore, before proceeding further, to examine the grounds upon which these assertions are based, and to ascertain what amount of truth they contain.

The claim on behalf of Haarlem was first made by Jan Van Zuyren, (*b.* 1517; *d.* 1591), between the years 1549 and 1561,—(upwards of a century, at least, after the appearance of the first printed book in Germany),—in “A Dialogue on the first Invention of the Art of Typography,” of which only a part of the Dedicatory Preface remains. In this fragment, reprinted by Scriverius, the writer says:—

“It is from the love of my country alone,

that I undertake this work, and that I institute further inquiries upon the subject of it; as I cannot consent that our claims to a portion of this glory;—claims which are even at this day fresh in the remembrance of our fathers, to whom, so to express myself, they have been transmitted from hand to hand from their ancestors, should be effaced from the memory of men, and be buried in eternal oblivion; claims of which it is our duty to preserve the memorial, for the benefit of our latest posterity.

“The city of Mentz, without doubt, merits great praise, *for having been the first to produce and publish to the world in a becoming garb*, an invention which she had received from us; *for having perfected and embellished an art as yet rude and unformed*. Who indeed, (although it be less difficult to add to an invention already made, than to originate a new one) would withhold the praises and honor due to a city, to which all the world

considers itself in a particular manner indebted for so great a benefit?

“For the rest, excellent Sir, you may consider it as certain that the foundations of this splendid art were laid in our city of Haarlem, rudely, indeed, but still the first. Here (be it understood without offence to the people of Mentz) the art of Typography was born and saw the light, with all her members formed, so that she might hereafter increase in strength and stature. Here, she for a long time received the treatment and the cares, which it is customary to use towards tender infancy, and for a long series of years was confined within the walls of a private dwelling house, which, though somewhat dilapidated, is still standing; *but which has long since been despoiled of its precious contents.* The art of printing, indeed, was here brought up, nourished, and maintained at small expense, and with too great parsimony; until at length, despising the poor and

confined appearance of her humble abode, she became the companion of a certain stranger, and leaving behind her native meanness, shewed herself publicly at Mentz, where after having become enriched, she in a short time rose to eminence.”\*

Theodore Volckart Coornhert, an engraver, having in company with Van Zuyren established a printing office in Haarlem, published on the year 1561, a Dutch translation of Cicero's Offices. In the Dedication of this work to the Burgomasters, Judges, and Senators of the city, he writes:—

“Most honorable and revered Sirs; it has often been related to me, *bonâ fide*, that the most useful art of Typography was originally invented in our city of Haarlem, although in a somewhat rude manner; for it is easier to perfect by degrees an art already discovered,

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\* Schrijver, P. Laurecrans voor Laurens Coster. Harlem, 1628. 4to.



than to invent a new one. This art, having been afterwards carried to Mentz by an unfaithful servant, *was there perfected*, and as it was also *first promulgated there*, that city has so generally acquired the reputation of having first invented it, that our citizens can obtain but little credence, when they assert themselves to have been the real inventors; a fact generally believed by the greater number of them, and especially considered as undoubted by our most ancient citizens. I am aware, that in consequence of the blameable neglect of our ancestors, the common opinion that this art was invented at Mentz, is now so firmly established, that it is in vain to hope to change it, even by the best evidence, and the most irrefragable proof. But truth does not cease to be truth, because it is known only to a few; and I for my part, believe this to be most certain; convinced as I am, by the faithful testimonies of men, alike respectable from their age and authority; who not only have

often told me of the family of the inventor, and of his name and surname; but have even described to me the rude manner of printing first used, and pointed out to me with their fingers the abode of the first printer. And therefore, not because I am jealous of the glory of others, but because I love truth, and desire to pay that tribute to the honor of our city which is justly her due, I have thought it incumbent upon me to mention these things."

In 1567, Ludovico Guicciardini printed at Antwerp, a description of the Low Countries. The work was in Italian, and writing of Haarlem, he says:—

"According to the common tradition of the inhabitants, and the assertion of the other natives of Holland, as well as the testimony of certain authors and other records, it appears that the art of printing and stamping letters and characters on paper, in the manner now used, was first invented in this place.

But the author of the invention happening to die, before the art was brought to perfection and had acquired repute, his servant, they say, went to reside at Mentz; where, giving proof of his knowledge in that science, he was joyfully received; and where, he having applied himself to the business with unremitting diligence, it was brought to entire perfection, and became at length generally known, in consequence of which, the fame afterwards spread abroad and became general, that the art and science of printing originated in that city. What the truth really is, I am not able, nor will I take upon me, to decide; it sufficing me to have said these few words, that I might not be guilty of injustice to this town and country."

Eytzinger, in his work on the topography of the Low Countries, printed in 1583, and Braunius of Cologne, in his *Civitates Orbis Terrarum*, printed in 1570—1588, assign to Haarlem the origin of the art. These authors

had before them the statement already quoted from Coornhert, as well as that of Ulric Zell, which says that Block-book Donatuses were originally printed in Holland; and they assume that to be a fact which Guicciardini will go no further than to repeat as a tradition, for the truthfulness of which he will not vouch.

We now come to the account given by Hadrian Junius,\* in his work entitled *Batavia*, printed in 1588, thirteen years after his death.

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\* Hadrian Junius was born at Hoorn, in 1511, and is said to have been educated at a classical school of repute at Haarlem. He also studied at Louvain. He soon shewed himself a person of ability; and having embraced the medical profession, was appointed physician to the Duke of Norfolk, and afterwards to the King of Denmark. He is said to have taken up his abode in Haarlem in 1560, and to have resided there till 1572, when he quitted the city on account of the siege that then took place. According to Lypsius, he was the most learned man in Holland after Erasmus. His work *Batavia* was commenced late in life, and completed in January, 1575. His death took place at Middleburg, on the 16th June of the same year.

This account\* is supposed, from the context, to have been written in the year 1568, and in it the name of Coster appears for the first time.

“About a hundred and twenty eight years ago,” he says, “Laurentius Janssoen Coster inhabited a decent and fashionable house in the city of Haarlem, situated in the market place opposite the royal palace. The name of Coster was assumed, and inherited from his ancestors, who had long enjoyed the honorable and lucrative office of Coster or Sexton to the church. This man deserves to be restored to the honor of being the first inventor of printing, of which he has been unjustly deprived by others, who have enjoyed the praises due to him alone. As he was walking in the wood contiguous to the city, which was the general custom of the richer citizens and men of leisure, in the afternoon and on holi-

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\* The original will be found in the Appendix.

days, he began at first to cut some letters upon the rind of a beech tree; which for fancy's sake, being impressed on paper, he printed one or two lines as a specimen for his grandchildren (the sons of his daughter) to follow. This having happily succeeded, he meditated greater things (as he was a man of ingenuity and judgment); and first of all with his son-in-law Thomas Peter (who by the way left three sons, who all attained the consular dignity), invented a more glutinous writing ink, because he found the common ink sunk and spread; and then formed whole pages of wood, with letters cut upon them;—of which sort I have seen some essays in an anonymous work, printed only on one side, entitled *Speculum nostræ salutis*: in which it is remarkable, that in the infancy of printing (as nothing is complete at its first invention), the back sides of the pages were pasted together, that they might not by their nakedness betray their deformity.—



These beechen letters he afterwards changed for leaden ones, and these again for a mixture of tin and lead, as a less flexible and more solid and durable substance. Of the remains of which types, when they were turned to waste metal, those old wine-pots were cast, that are still preserved in the family house which looks into the market-place, inhabited afterwards by his great-grandson Gerard Thomas, a gentleman of reputation, whom I mention for the honor of the family, and who died a few years since. A new invention never fails to engage curiosity. And when a commodity never before seen excited purchasers, to the advantage of the inventor, the admiration of the art increased, dependents were enlarged, and workmen multiplied; the first calamitous incident! Among these was one John. Whether, as we suspect, he had ominously the name of Faustus — unfaithful and unlucky to his master,—or whether he was really a person



of that name, I shall not much inquire; being unwilling to molest the silent shades, who suffer from a consciousness of their past actions in this life. This man, bound by oath to keep the secret of printing, when he thought he had learned the art of joining the letters, the method of casting the types, and other things of that nature, taking the most convenient time that was possible, on Christmas eve, when every one was customarily employed in lustral sacrifices, *seizes the collection of types, and all the implements his master had got together*, and, with one accomplice, marches off to Amsterdam, thence to Cologne, and at last settled at Mentz, as at an asylum of security, where he might go to work with the tools he had stolen. It is certain that in a year's time, viz. in 1442, the *Doctrinale* of Alexander Gallus, which was a grammar much used at that time, together with the *Tracts* of Peter of Spain, came forth there, from the same types as

Laurentius had made use of at Haarlem. These were the first products of his press. These are the principal circumstances that I have collected from credible persons, far advanced in years, which they have transmitted like a flaming torch from hand to hand. I have also met with others who have confirmed the same.”\*

Junius’s principal informant was, he says, his tutor, Nicholas Galius, an old gentlemen of very tenacious memory, who related that when a boy, he “had often heard one Cornelius, a bookbinder (then upwards of eighty years of age, who had when a youth, assisted at the printing office of Coster), describe with great earnestness the numerous trials and experiments made by his master in the infancy of

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\* The above translation is taken from the article on Printing in the Edinburgh edition (1815) of the Encyclopædia Britannica, supplemented by that given in Stower’s “Printers’ Grammar” (1808.) Both writers are strong pro-Costerians.

the invention. When he came to that part of his narrative touching the robbery, he would burst into tears, and curse with the greatest vehemence those nights in which he had slept with so vile a miscreant, declaring that were he still alive, he could with pleasure execute the thief with his own hands." Junius states, that he received a similar account from Quirinus Talesius, the Burgomaster, who asserted that it was recited to him by the said Cornelius: the latter died in 1515.\*

Of Laurent Janssoen Coster, it seems to be satisfactorily proved, that he belonged to the most distinguished and wealthy class of

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\* Galius is probably the same who is called *Claes Lottynz, Gael, Scabinus Haarlemi*, as it is in the *Fasti* of that city, in the years 1531, 1533, and 1535. Quirinus in the same *Fasti* is called Mr. Quiryndirkszoon. He was many years amanuensis to Erasmus, as appears from his epistle 23rd July, 1529, tom iii. Oper. p. 1222. He was afterwards Scabinus in 1537 *et seq.*, and Consul in 1552, *et seq.* But in the troubles of Holland he was cruelly killed by the Spanish soldiers, May 23, 1563.

the inhabitants of the city. He was born, it is supposed, about 1370, or 1371; and notices of him appear in official records as an officer of the city guard, a member of the great council, sheriff, sheriff-president, and treasurer, from 1417 to 1434. From the treasurer's accounts he seems to have enjoyed a rent-charge upon the city from 1422 to 1435. In 1440 an entry is made of the payment of a similar charge to one "Ymme, widow of Laurent Janssoen"; and as Haarlem was visited by a contagious malady in 1439, the probability is that Laurent was one of its victims. Of his family the following particulars have been handed down. His daughter Lucetta married Thomas the son of Pieter; and bore him two daughters and three sons, Pieter, André and Thomas, all of whom filled important public office. Pieter the son of Thomas, had a son called Thomas the son of Pieter, whose son Gerard, died before Junius wrote his work. The last

descendant of the family was William the son of Cornelius Kroon, who died the 24th March, 1724.\*

As the account inserted in Junius's *Batavia* is the groundwork upon which all subsequent writers base their arguments in behalf of the claims they advance for Coster, it behoves us to note how far it agrees with the statements previously made by others.

It is alleged that Coster (1,) first cut letters on the bark of a beech tree for his amusement; (2,) then, with letters so cut, he made words and sentences for the instruction of his grand-children; after which he (3,) invented, with the assistance of his son-in-law, a more glutinous ink, whereupon he (4,) cut whole pages of letters on wood, and printed them. He next (5,) made letters of lead, and pewter, to supersede those of

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\* Meerman's Account of the family and descendants of Laurent Janssoen, vol. i. p. 38, *et seq.*

wood; (6,) becoming known as a printer, and a public demand arising for his productions, he (7,) engaged numerous workmen, one of whom (8,) stole all his materials, and carried them off to Mentz.

Neither Van Zuyren, nor Coornhert, give particulars on the first five points, and in regard to the 6th and 7th, their statements are opposed to those of Junius. They say the art, as invented at Haarlèm, *was rude and imperfect, and was not made public there*; and although Coornhert says he had often been told of the family of the inventor, his name and surname, of the rude manner of printing first used, and had even had shewn to him the abode of the first printer; he neither gives his name nor describes the method adopted. Guicciardini gives his statement, as a matter of hearsay, for the truth of which he will not vouch; but in it there is this difference from those of Van Zuyren and Coornhert, that the author of the invention

*happening to die before the art was brought to perfection and had acquired repute, his servant, they say, went to reside at Mentz.*

Here then are three writers, living at the same time with Junius, all making inquiries upon the same subject, and deriving their information from a common source, who differ from him on almost every point, and in some of the most material plainly contradict him.

With reference to the 5th point, the invention of metal types,—whether cut or cast Junius does not say,—Henry Spiegel, senator of Amsterdam (*b.* 1549, *d.* 1612), states in his Dutch poem *Hertspiegel*.

“Thou first, Laurentius, to supply the defect of wooden tablets, adoptedst wooden types, and afterwards didst connect them with a thread, to imitate writing. A treacherous servant surreptitiously obtained the honor of the discovery: but truth itself, though destitute of common and wide spread fame, truth I say, still remains.”



This Spiegel was a personal friend of Coornhert, and it may be presumed consulted him respecting Junius's account of the origin of printing at Haarlem. Of metal types he makes no mention; but if the traditions of Haarlem at that time gave Laurentius the credit of their invention, it is altogether unaccountable why Spiegel omitted so noteworthy a circumstance. He probably rejected, on Coornhert's authority, what Junius had written on that part of the subject.

Junius's story of the theft of Coster's types and implements is confused and contradictory. For supposing for a moment that Coster was the printer of the *Mirror of Salvation*, and that the types were made of pewter; if all that had been cast for printing, (at the most not more than two pages at a time), had been carried away, together with the punches, matrices, &c., how came the wine-pots, alleged to be still in existence

when Junius wrote, to be made of them when they became waste metal? These wine-pots afford grounds for the assertion, by later writers, that the art continued to be practised by the Coster family *after* the alleged theft; but that assertion is contradicted by the statements elsewhere made. Of the theft itself there is no proof. The records of the city have been searched in vain for evidence of any such robbery. And the search has been equally fruitless for evidence of any such invention. As to the latter, the wine-pots are the chief witnesses. They were said to be kept in the house inhabited by Laurent Coster's great-grandson Gerard Thomas; they could be appealed to; but what then? their evidence is not even as valuable as that adduced by the school boy who claimed to be the carver of a certain piece of wood-work, "and here," said he, "is the very knife with which I did it." In the boy's case it could at least be shewn, that

the knife was one with which the carving might have been executed; but it would be utterly impossible to prove, without other and more reliable evidence than the appearance of the pots themselves, that they had been the original prototypes of the art of Typography. Meerman, however, insists upon it that the Costers carried on the printing business at Haarlem until about the year 1472, when a better method having been introduced by disciples of the Mentz school, they sold off their stock and retired. But all these allegations are based upon suppositions; there is no proof whatever that such was the case: only, it is evident that some such story must be contrived, in order to account for the pewter wine-pots being manufactured out of the waste and worn-out types. But then the part of the narrative of Junius where the wine-pots are alluded to, does not tally with that other part, wherein it is stated that the thief and his accomplice

decamped with "the collection of types, and *all* the implements his master had got together." For Junius does not say, that Laurentius Janssoen Coster got together fresh implements, and made new types; nor does he intimate that his family did so after his decease. On the contrary, he speaks of the theft as an irreparable loss, the thought of which made the old book-binder Cornelius, curse with the greatest vehemence. This irascible garrulous old man is the same who, when a boy, is said to have been employed in Coster's printing office, and who, when upwards of eighty years old, told the story to Nicholas Galius the old gentlemen of tenacious memory, who in his turn told it to his pupil Junius. It is plain that the sole object of the original tellers of the story of the stranger, servant, or thief, was to account for the otherwise inexplicable fact, that the world was persuaded that printing originated at Mentz, instead of, as the tradition-mongers would have it, at Haarlem.

It is singular that Van Zuyren and Coornhert make no mention of Coster and the wine-pots. They had had the house pointed out to them, where printing was said to have been invented and first practised in private and in a very rude and imperfect form; and if that house really belonged to the family of Laurent Janssoen, copies of the books printed,—the old types themselves,—the original prototypes of the art of Typography—ought surely to have been the pride and glory of the house, rather than pewter wine-pots, a common enough article of household furniture.

“But,” says Van Zuyren, “the house has *long since* been despoiled of its precious contents.” In his days then, and he is the earliest writer on the subject, the wine-pots did not exist; or if they did, and if they were known to be the re-shaped relics of the original metal types, how is his ignorance of their existence to be accounted for? He and

Coornhert were both living and writing in the city at the same time with Junius, with whom, as one of the learned literati of the day, they could not but have been well acquainted, if not on intimate and friendly terms. After a long absence, Junius returned to the city where the others were born and bred, and where one of them, Van Zuyren, filled the office of Scabinus from 1549 to 1561, when he was advanced to the dignity of Burgomaster, (in which year his partner dedicated his work to him and the other officials of the city). How then came Junius alone to learn the history of Laurent Janssoen's invention? and how is Van Zuyren and Coornhert's silence to be accounted for, in regard to such important matters affecting Laurent the son of Jans, who filled the lucrative office of Coster of the great church; who was member of the great council, sheriff, sheriff-president, and finally treasurer of the city;—whose portrait was engraved, (or supposed to have

been), along with those of Ouwater, Hemsens, Mandin, and Volkert, all eminent Haarlemese painters of the fifteenth century; — and whose history must have been well known to both, when they wrote, the one declaring “for the love of his country alone,”—and the other, “not because I am jealous of the glory of others, but because I love truth”? Where then was the love of country and the love of truth, if they omitted, or suppressed, the name of the man who invented the art, the glory of which they “could not consent should be effaced from the memory of men, and be buried in eternal oblivion; claims of which it is our duty to preserve the memorial, for the benefit of our latest posterity”?

There can be no doubt but that considerations of this nature have led older writers to express suspicions in regard to the authenticity of Junius’s narrative, and to believe that his manuscript was tampered with



between the time of his death, and the publication of the work in which it appears; as well as to induce "*misgivings*" in the minds of learned Dutchmen of the present day "as to the ultimate result of full inquiry into the subject."\*

Admitting with the writers on the Haarlem side, that the Coster family was one of wealth and influence, how comes it, on the one hand, that the thief who stole the types and implements was not pursued, exposed and punished? or at any rate stripped of his stolen plumes, when so early as 1457 works were published in Mentz by printers who ascribed the whole merit of the invention to themselves?—and on the other, that having replaced the stolen types and other implements by new ones, and continuing to print until 1472, the descendants of Laurent never claimed the honor of the invention for them-

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\* OTTLEY'S *Inquiry*, p. 308.

selves or their sire, although they must have known all along of what was taking place at Mentz,—where Faust and Schœffer were yearly publishing books with their names attached? How comes it that the family possessed no documents that in any way referred to the invention?—that they never kept by them copies of the works they are said to have printed?—that none of such works were known or found in Haarlem until 1654 or 1660, when a chestfull of old books without date or printer's name was bought by the city authorities at a sale at the Hague—two centuries later, and at once attributed to them? *How is it that no Dutch writer or printer, from 1441 to 1588, claimed the honor of the invention for his countryman Coster?*—that neither Nicholas the son of Peter of Haarlem, who printed at Padua in 1476, and at Vicenza in 1477; Henri of Haarlem, who printed from 1482 to 1499 in different cities; and Gerard of Haarlem, who exercised the art at

Florence in 1499, never claimed it for their brother citizen and birthplace? How comes it that the earliest known printers in Haarlem itself, John Andriesson and Jacob Bellaert, whose books are dated 1483 and 1485, are silent upon the subject?—that the first printers in Utrecht in 1473—and between that date and 1498, those of Alost, Antwerp, Bruges, Brussels, Culembourg, Delft, Deventer, Ghent, Gouda, Hertogenbosch, Leyden, Louvain, St. Maartensdyk, Niemegen, Oudenarde, Schiedam, Schoonhoven, Zwolle, and elsewhere in Holland and the Low countries, make no mention of it?—and that nothing whatever is known of any of the “multiplied workmen,” and “dependents,” whom Laurent Janssoen Coster, it is alleged, was obliged to employ to meet the demands made upon him by purchasers for copies of the products of the newly invented art? How, finally, is it to be accounted for, that while Coster’s descendants were living in Haarlem, when Van Zuyren,

Coornhert, and Junius, were writing their works, those writers omitted to make inquiry of any member of the family on a subject respecting which the family were the parties most interested, and could have given the most authentic information? Perhaps they did; and when they asked for the story of the invention, discovered that the family had, like Canning's knife-grinder, "no story to tell."

To the objections, that no printed book bears the name of Coster or his descendants, and that neither he nor they ever entered their protest against the pretensions of Mentz, Koning replies: \*—"We agree that no such book has been found; but neither is any book to be found bearing the name of Gutenberg. Must we, on this account, strike his name out of the list of the first printers? The aim of the first printers was to imitate manuscripts,

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\* *Vide* ch. xvii. of his work.

and to make their printed books pass for such; and therefore, lest their art should be found out, it behoved them to keep their names a profound secret . . . . The first inventor could have no idea of the astonishing influence which his art would have in the world in future ages; and no person can feel surprise that he did not affix his name to his first essays.

“Besides, the printers of the fifteenth century very commonly omitted to put their names to the editions printed by them. The number of books existing of this century, without either the name of the printer or the place of their publication is prodigious. Ulric Zell, for example, according to Santander, printed eighty books, and, out of this number, has only put his name to two or three. With what appearance of reason is it insisted, that the works, which are attributed to Laurent Janssoen Coster, are not his, because they are not signed with his name?

“But it is said, that neither Coster nor his descendants ever vindicated their claims, against the pretensions put forth by the Mentz printers.... Neither did Gutenberg vindicate his, against Faust and Schœffer; who, in the colophon of the Psalter of 1457, and in the subscriptions of numerous other books, took all the honor to themselves, making no mention of him whatever; although it is not doubted that Gutenberg set up a printing office of his own in 1455, and he is regarded by the writers on the side of Mentz as the inventor and perfector of the art of printing.”

As to the inventor having no idea of the astonishing influence which his art would have in the world in future ages, it is plain from the evidence given in the Strasburg law-suit, that Gutenberg and his partners were fully persuaded, that the work they had undertaken was one by which they would make their fortunes. And, although it is asserted that Gutenberg never vindicated his claim

against Faust and Schœffer, yet it is certain that his merit as the inventor of printing was known to the Elector of Mentz, and the King of France, *and it is also expressly admitted*, not only *by his contemporaries*, in Germany, Italy, and elsewhere, but by Peter Schœffer himself, who besides the detailed account of the origin of the invention which he gave to the Abbot Trithemius in the year 1484, allowed the insertion of the following among other Latin verses at the end of the "*Institutes of Justinian*," printed by him in 1468:—

Hos dedit eximios sculpendi in arte magistros,  
 Cui placet en mactos arte sagire viros,  
 Quos genuit ambos urbs moguntina Johannes  
 Librorum insignes protocaragmaticos;  
 Cum quibus optatum Petrus venit ad polyandrum,  
 Cursu posterior, introeundo prior;  
 Quippe quibus præstat sculpendi lege sagitus  
 A solo dante lumen et ingenium.

These lines are thus translated by Humphreys,—“He who is pleased to create high talents has given us two great masters of the



art of engraving, both bearing the name of John, both being natives of the city of Mayence, and both having become illustrious as the first printers of books. Peter advanced with them towards the desired goal, and, starting the last, arrived first, having been rendered the most skilful in the art of engraving by him who alone bestows light and genius." There can be no doubt but the two Johns and the Peter here referred to were John Gutenberg, John Faust, and Peter Schœffer.\*

Up to the date of Junius's publication, 1588, no writer had claimed the honor of the

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\* The writer of these verses was one of the correctors of the press employed by Schœffer, though his name does not appear. He concludes with the expression of a desire, which to this day finds a responsive echo in the bosom of every author and printer whose soul has been vexed by the blunders of copyists and compositors:—"Oh!" is his pathetic exclamation,—“if they could succeed in purging the texts of all their faults!—those who arrange the characters, as well as those who read the proofs; the friends

invention for Coster; and but three, who wrote between 1549 and 1567, had asserted Haarlem to have been its birthplace;—and one of these, as we have seen, expressly declines to vouch for the accuracy of the tradition. On the other hand, we learn from the researches of Dean Mallinckrot,\* that up to the date of Junius's publication no less than sixty-two writers had awarded the honor of the invention to Gutenberg, and fixed its birthplace, and the place of its promulgation to the world at the cities of Strasburg and Mentz. Although abundant proof has already been given upon these points, the following selection from contemporary and historic

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of literature would then infallibly award to them a crown of glory, who thus come in aid by their books to thousands of seats of learning." It is not at all unlikely that these verses were the origin of Junius's assertion, that the name of the workman who stole Coster's types and implements, and carried them off to Mentz, was John.

\* MALLINCKROT, de Ortu et Progressu Artis Typographicæ. *Colonia*, 1639.

evidence is added, in order to shew the strength and solidity of the basis upon which those claims rest, and how thoroughly it outweighs all that has been brought forward by writers on the opposite side.

In 1457, on the publication of their Psalter, Faust and Schœffer ascribed to themselves the merit of the new invention.

After Faust's death, Schœffer inserted in the imprint or colophon on the last page of his works, the words "in nobili urbe Magentiæ ejusdem (*i. e.* artis imprimendi) inventriæ elimatriceque prima."

In 1480, William Caxton, in his continuation of *Higden's Polychronicon*, printed at Westminster, says "About this time [1455] the craft of imprynting was first found in Mougunce in Almayne."\*

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\* In order to evade the force of Caxton's testimony, Costerian writers assert that he merely recorded the popular belief of the time. But Caxton, as he himself tells us in one of his works, had been residing from 1441 to 1476

In the *Fasciculi Temporum* printed by Quentel at Cologne in 1478 and 1481, it is stated that the art of printing originated at Mentz.

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“in the countries of Brabant, Flanders, Holland, and Zealand.” During the greater portion of this time he was the Governor of the Company of Merchant Adventurers, trading in Brabant, Flanders, &c., and his principal place of residence was Bruges, not far distant from Haarlem. The merchandise of those days was not confined to silks and woollens, but included the manuscripts and books of the period. Caxton, after his appointment to the household of the Duchess of Burgundy, gave his mind to literary pursuits, and practised the art of printing at Bruges. He was also well acquainted with Ulric Zell of Hainault, the first printer of Cologne, at which city some suppose, on the authority of Wynkyn de Woorde, his successor, he also printed a book. He could not therefore be ignorant of the facts of the case. His position and pursuits gave him every opportunity for ascertaining them; and he was not a man who neglected opportunities for acquiring knowledge. He must consequently have known and been well satisfied of the accuracy of the statement he gave currency to. Had Coster or any of his descendants been printing at Haarlem from 1428 to 1472, as many of these writers allege, Caxton must have known of it, and would not in such a case have asserted that the “craft of imprinting was first found in Mogunce in Almayne.”

In the Black book or Register of the Garter, it is said with reference to the 35th year of the reign of Henry VI, anno 1457, "In this year of our most pious king, the art of printing books first began at Mentz, a famous city of Germany." And in *Fabian's Chronicle*, the writer, a contemporary of Caxton, says, "This yere (35th of Henry VI,) after the opynyon of dyverse wryters, began in a citie of Almaine, namyd Mogunce, the crafte of empryntyng bokys, which sen that tyme hath had wonderful encrease." It was in this year 1457, that the first book appeared which has the printer's name, date, and place of printing, affixed. This is the celebrated Psalter printed by Faust and Schœffer.

In 1486, Berthold, Archbishop of Mentz, in a mandate which will be quoted at length in a subsequent chapter, states, "this art, [printing] was first discovered in this city of Mentz."

A single testimony similar to either of the above in favor of Haarlem, would have been

hailed with delight by any of the writers in the latter half of the sixteenth century, and their tribe of followers who advocate the claims of that city; but what follows is much more forcible and decisive.

“Of all the authors to whom the world is indebted for a particular account of the discovery of printing,” say, Mr. Palmer,\* “Abbot Trithemius justly claims pre-eminence; both upon account of his living nearest to the time when the art originated, which he tells us was in his younger years; as well as his care to derive his intelligence on the subject from the purest sources. We have two noble testimonies out of his chronicle; one from the first part entitled *Chronicon Spanheimense*, wherein, speaking of the year 1450, he says: ‘That about this time, the art of

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\* *A General History of Printing*, by S. PALMER, 4to. London, 1733. This work, although ostensibly written by Mr. S. Palmer, a London printer of some eminence, was in fact the production of the learned Psalmanazar.

printing and casting single types was found out anew in the city of Mentz, by one John Gutenberg, who having spent his whole estate in this difficult discovery, by the assistance and advice of some honest men, John Faust and others, brought his undertaking at length to perfection; that the first improver of this art, after the inventor, was Peter Schœffer de Gernsheim, who afterwards printed a great many volumes; that the said Gutenberg lived at Mentz, in a house called *Zum-junghen*, but afterwards known by the name of the printing house.'

“The next passage, which is fuller, and for its singularity and decisiveness deserves to be set down at length, is taken out of the second part of Trithemius’s chronicle, entitled *Chronicon Hirsaugiense*:—‘About this time (anno 1450) in the city of Mentz in Germany upon the Rhine, and not in Italy, as some writers falsely affirmed, the wonderful and *till then unknown* art of printing books by



metal types (*characterizandi*) was invented and devised by John Gutenberg, citizen of Mentz, who, having almost exhausted his whole estate in contriving of this new method, and labouring under such insuperable difficulties, in one respect or other, that he began to despair of and to throw up the whole design; was at length assisted with the advice and purse of John Faust, another citizen of Mentz, and happily brought it to perfection. Having therefore, begun with cutting characters of the letters upon wooden planks, in their right order, and completed their forms, they printed the vocabulary called the *Catholicon*; but could make no further use of those forms, because there was no possibility of separating the letters, which were engraven on the planks, as we hinted before. To this succeeded a more ingenious invention, for they found out a way of stamping the shapes of every letter of the Latin alphabet, in what they called matrices, from which they after-

wards cast their letters, either in copper or tin, hard enough to be printed upon, which they first cut with their own hands. It is certain that this art met with no small difficulties from the beginning of its invention, as I heard thirty years ago from the mouth of Peter Schœffer de Gernsheim, citizen of Mentz, and son-in-law to the first inventor of the Art. For when they went about printing the Bible, before they had worked off the third quire it had cost them already above 4000 florins. But the afore-mentioned Peter Schœffer, then servant, (*famulus*,) and afterwards son-in-law, to the first inventor John Faust, as we hinted before, being a person of great ingenuity, discovered an easier method of casting letters, and perfected the art as we now have it. These three kept their manner of printing very secret for some time, until it was divulged by their servants, without whose help it was impossible to manage the business, who carried it first to Strasburg, and

by degrees all over Europe. Thus much will suffice concerning the discovery of this wonderful art, the first inventors of which were citizens of Mentz. These three first discoverers of printing, viz. John Gutenberg, John Faust, and Peter Schœffer his son-in-law, lived at Mentz, in a house called *Zum-junghen*, but ever since known by the name of the printing house.”\*

Equally clear and to the point, if not more so, as well as the first published in point of time, is the statement given by Johan. Koelhoff, who in 1499 printed the following particulars in the *Cologne Chronicle*, on the authority of Ulric Zell of Hainault, by whom the art of

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\* As the Chronicle in which this account is given, is said to have been finished in the year 1514, Trithemius (*b.* 1462; *d.* 1516,) would have heard the particulars from Peter Schœffer, about the year 1484. The abbot would then have been twenty-two years of age.—*Meerman*, vol. ii. p. 101, *n.* The manuscript of the Chronicle was not discovered until near the close of the seventeenth century, when it was printed at St. Gall in the year 1690.

printing was first introduced to Cologne. Zell learned the art directly from the first Mentz printers; and in the colophons of two small works printed in the years 1466 and 1467, he styles himself a clerk of the diocese of Mentz. The statement is as follows:—

“Of the printing of Books, and when and by whom, this Art was discovered, of which the utility cannot be too highly appreciated, &c.

“Item: This most important art was first found out in Germany, at Mentz on the Rhyne. And it is a great honour to the German nation that such ingenious men were found in it. This took place about the year of our Lord M.CCCC.XL., and from that time to the year L., this art and whatever appertains to it were rendered more perfect. And in the year M.CCCC.L. which was a jubilee year, they began to print; *and the first book that was printed was the Bible in Latin*, and it was printed with larger characters than those which are now used for printing Missals. Item: Although

this art, as we have said, was found out in Mentz in the way in which it is commonly used; nevertheless the prototype of it ('*vur-bildung*,' præfiguratio) was found in Holland, in the Donatuses (*den Donaten*) which had been before printed there; and it is from and out of these, that the beginning of this art was taken. And this manner has been found much more masterly and subtle than that which before existed, and it has become more and more ingenious. Item: A person named Omnibonus writes in the preface to Quinctilian, and in other books, that a certain Frenchman, called Nicholas Genson, first discovered this important art; which is clearly not true. For there are persons now living, who can attest, that books were printed at Venice before Nicholas Genson went there, and began to sculpture and set up type. But the first inventor of printing was a citizen of Mentz, born at Strasburg, called Johan. Gudenburch, Gentleman. Item: From Mentz the said art

was first carried to Cologne, then to Strasburg, and then to Venice. The commencement and progress of this art has been told me expressly by word of mouth, by the revered master Ulrich Tzell of Hainault,\* the printer, still living at Cologne in the present year M.CCCC.XCIX., by whom the art was first brought to Cologne. Item: There are ill-informed persons who say that books were printed in more ancient times; but that is contrary to the truth, as in no country are books to be found printed in those times."

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\* This fact is much overlooked by writers who invariably refer to Zell as a German authority. Hainault is a province adjoining South Brabant and West Flanders, in which provinces are situated the towns of Haarlem and Bruges, where Coster and Caxton resided. Along with Holland, Hainault was forcibly annexed by Philip of Burgundy in 1426. No doubt many of the families opposed to the annexation sought safety in flight, and among these may be included that of the Zells. But it is hardly to be credited that Ulric's love of Fatherland was extinguished by his expatriation; or that he would give to Germany and Mentz, the honor that rightly belonged to

Zell's account is confirmed by the writer of the *Nurimberg Chronicle*, printed by Koburger in 1493, who states that in the year 1450, the noble art of typography was first invented by John Gutenberg at Mentz.

To the like effect is the testimony of Marc Ant. Coccius Sabellicus (*b.* 1436; *d.* 1506,) in the sixth chapter of his *Universal History*, printed at Venice in 1504.

In 1502, Wimpheling, the earliest writer in favour of the pretensions of Strasburg, states, in his *Epitome Rerum Germanicarum*,

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Holland and Haarlem. All that he says, amounts to the statement, that Block-book Donatases were printed in Holland, before printing, *in the way it is commonly used*, was invented at Mentz. If, as Costerians contend, "printing in the way it is commonly used" was known and practised by Laurent Janssoen in Haarlem from 1428 to 1440, both Caxton and Zell must have known of it; and would have stated it as a fact. The only inference therefore that can be drawn from what they say, as well as from what they do not say on the subject, is, that Typography was invented at Mentz, and was not known at Haarlem until after the advent of the first printer there in 1483.



that Gutenberg was "the inventor of a new art of writing (*ars impressoria*), which might also be called a divine benefit, and which he happily *completed at Mentz.*"

In 1505, John Schœffer, *eldest son and successor to Peter*, Faust's son-in-law, declares in a Dedication to the Emperor Maximilian of an edition of Livy, printed that year, that the admirable art of Typography was invented at Mentz in the year 1450, by John Gutenberg, and afterwards improved and perfected by the study, perseverance and labour of John Faust and Peter Schœffer.\* This work was edited by the learned Dr. Ivo Wittig, the same who in 1508 erected the memorial tablet in front of the house Zum Gutenberg, the inscription on which is given at page 198.

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\* "Admiranda ars typographica ab ingenioso Johanne Guttenbergio, anno a nativitate Christi, Domini nostri, 1450, inventa, et posthac studio, sumtu et labore Johannis Faust et Petri Schœfferi Moguntiaë, emendata et ad posteros propagata est."

About 1510, Mariangelus Accursius, a Neapolitan scholar of distinction, wrote on the first page of a *Donatus*, printed on vellum, "Johan Faust, a citizen of Mentz, the maternal grandfather of Johan Schœffer, first found out the art of printing with types of brass, for which he afterwards substituted those of lead; his son-in-law, Peter Schœffer, greatly assisting him in perfecting the art. But this *Donatus* and *Confessionalia* was first of all printed in the year 1450. It is certain that he took the idea from a *Donatus* which had been before printed from engraved wooden blocks in Holland." The *Donatus* in which this was written was in the possession of the younger Aldus, who shewed it to Angelo Rocca, by whom the memorandum was copied, and printed in the year 1591.

Erasmus of Rotterdam, who was intimate with the most learned men and principal printers of Germany, Holland, Italy, and France, and whose inquisitive mind led him

to obtain information on every possible topic; who had beside him for many years in the capacity of Secretary, the same Quirinus Talesius from whom Junius obtained the confirmation of the story of Nicholas Galius; who greatly eulogised the productions of the Fleming, Jodocus Badius, a printer in France, and moreover wrote the epitaph over his friend Theodore Martens, the first printer in Belgium, and who was as jealous of the honor of his fatherland as any Hollander could be; nevertheless repeatedly declared Faust to be the earliest printer, and Mentz the city where printing was first practised. This he did in 1518, in his dedicatory Epistle to an edition of Livy, published by John Schœffer, and again in his own edition of the Epistles of St. Hieronymous, published at Leyden in 1530.

Arnold de Bergel, in his *Encomion Chalco-graphiæ*, previously referred to, describes the first printing of books by John Gutenberg

at Mentz in the year 1450. The idea originated, he says, by Gutenberg observing while at Strasburg the impression made by his signet ring in soft wax.\*

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\* Hic ubi postremo descendit gurgite Moenus,  
 Excipit et socias littore Rhenus aquas  
 Hanc peperit captis antiqua Moguntia muris  
 Horrida dum tristis fata canebat avis.

. . . . .  
 Sæcula bis septem numerabant ordine fati  
 Christigenæ, hinc illis lustra decemque dabant,  
 Tertius ac orbis Fridericus frena regebat,

. . . . .  
 Clarus Joannes en Gutenbergius hic est,  
 A quo, ceu vivo flumine, manat opus.  
 Hic est Aonidum custos fidissimus, hic est,  
 Qui referat latices, quos pede fudit equus,  
 Quam veteres nobis Argenti voce notarunt,  
 A puero fertur sustinuisse virum;  
 Illa sed huic civi largita est munera grata,  
 Cui clarum nomem Mogus habere dedit.  
 Primitias illic coepit formare laboris,  
 Ast hic maturum protulit artis opus.  
 Stemmata præstabat; vicit virtute sed illud;  
 Dicitur hinc veræ nobilitatis Eques.  
*Annulis in digitis erat illi occasio prima,*  
 Palladium ut caelo sollicitaret opus.

Sebastian Munster, in his *Universal Cosmography*, printed in 1571, states that in the years 1440 to 1450 the art of printing was invented and first practised in Mentz by John Gutenberg, afterwards assisted by John Faust and John Medinbach.

Peter Van Opmer,\* a fellow-countryman and contemporary of Junius, and a writer of repute, says with reference to the sudden

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Illum tentabat molli committere ceræ,  
 Redderet ut nomen littera sculpta suum.  
 Respicit archetypos, auri vestigia lustrans,  
 Et secum tacitus talia verba refert:  
 Quam belle pandit certas hæc orbita voces,  
 Monstrat et exactis apta reperta libris.  
 Quid, si nunc justos, æris ratione reducta,  
 Tentarem libros cudere mille modis?—v.v. 19—66.

\* Van Opmer was born at Amsterdam in 1526. He studied the classics at the Universities of Louvain and Delft; and also made himself a proficient in painting, engraving and architecture. He was known to Van Zuyren in 1561, the year when Coornhert published his edition of Cicero's Offices; and was for some years a resident at Leyden. In 1578 he returned to Amsterdam. He is supposed to have died about the year 1595.

outburst of learning at the commencement of the fifteenth century:—"This was effected by the assistance of that art, which from metal characters of letters ingeniously cast, disposed in the order in which we write, spread over with a convenient quantity of ink, and put under the press, has ushered into the world books in all languages, and multiplied their copies like a numerous offspring, and has obtained the name of TYPOGRAPHY. This Art of Printing was most certainly invented and brought to light by John Faust in the year 1440. It is amazing that the author of so important a discovery, and so generous a promoter of divine and human learning, should be unworthily forgotten, or only casually remembered as a mere artist. Surely such a person deserves a place amongst the greatest benefactors of mankind."\*

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\* I am indebted to Hansard's *Typographia* (p. 60) for the above quotation; it is there quoted from Lemoine, (p. 99) without any further reference.

A goodly number of similar testimonies might easily be collected, in not one of which is any reference made to either Coster or Haarlem. Not a single Dutch or Flemish annalist or chronicler or historian, previous to 1560, ever makes the slightest allusion to the man or the place in connection with the art of printing. Even Jan Gerbrant, Prior of the Carmelite Order at Haarlem, who died there in 1504, knew nothing of the matter. Yet he is the compiler of the Chronicle of the Counts of Holland and Bishops of Utrecht; and if printing had been the invention of his contemporary Coster, and practised in the city of Haarlem, he could not have been ignorant of the facts, nor would he have failed to record them in his Chronicle.

Meerman and his followers vainly try to evade the force of this fatal silence; all their learning and ingenuity are brought to bear, but without effect; for if, as they maintain, the historians of that time considered the



attempts made at Haarlem so crude and imperfect, as not to be worthy their notice, what is to be made of the statement of Junius, that the invention attracted notice; that the works printed were publicly sold, and the business increased so much, that numerous workmen and assistants had to be engaged? The number of works said by Koning and others to have issued from the Coster press, indicates anything but a crude and imperfect state of the art; and if those works had been printed by the sacristan of the great Church of Haarlem, the Prior of the Carmelites, living in the city at the same time, must have known of their existence. How then is his silence to be accounted for?

The only rational conclusion to which one can arrive, is, that the tradition, which, after the growth of a hundred years was moulded into historic narrative by Junius, had neither existence nor foundation in the days of Prior Gerbrant. As an aid to history, in the elu-

citation of facts otherwise obscure, tradition is a valuable auxiliary; but as opposed to history and well known facts, there is no more unreliable source of information. Every one is aware how witnesses of the same occurrence will differ in their statements of the particulars of what they saw; and all who have taken the pains to unravel old traditions well know how wholly unlike their origin they ultimately and all but invariably prove to be. There is no reason for supposing that the traditional account of the origin of printing in Haarlem is an exception to the rule. The age was one prone to the invention of legends; and in the early days of printing in that city, and after Ulric Zell had published his account at Cologne, and attributed to Gutenberg the taking of the idea from the *Donatuses* first printed in *Holland*, it is by no means unlikely that an old printer, or an old book-binder, in Haarlem, who had when a boy seen a specimen of a

*Biblia Pauperum* or a *Donatus*, in the hands of the Sacristan of the Church, would say, first, that he had seen the proof that printing originated in Holland, there, in that city; then, stretching a point, that printing originated there; others, repeating this, would assert that the proof that such was the fact existed; that it had been seen in the hands of the Coster; that the Coster printed it; that there was the house he lived in; that it was a shame the Germans, who stole the idea of the separable types from the Dutch, should get all the credit; that they had robbed Coster of his fame; nay robbed him of his types; that it must have been one of the Johns of Mentz who was the thief; and so on, varying and amplifying the tale, until the time of Junius, who finding the poem of Arnold de Bergel imparting a fresh halo of glory to Mentz and her three first printers, adopted and embellished the tradition, and borrowing certain

ideas from Virgil as well as from Bergel, gave in his *Batavia* an account of the first conception and ultimate realization of the idea, which should stand as a rival to the account given in the *Encomion Chalcographicæ*.

The documents upon which the Haarlemese mainly rely, prove of themselves that the tradition grew within the space of a few years almost as rapidly as the pillar-like flower-stalk of the gigantic American aloe, and effloresced as abundantly in the narrative of Junius—the prolific progenitor of a host of subsequent writers:—for first, (in say 1555,) the art only “became the companion of a certain stranger;”<sup>\*</sup>—then (1561) it “was carried to Mentz by an unfaithful servant;”<sup>†</sup>—next, (1567) “the author of the invention *happening to die before the art was brought to perfection* and had acquired repute, his servant they say went to reside at Mentz:”<sup>‡</sup>—finally,

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<sup>\*</sup> Van Zuyren.

<sup>†</sup> Coornhert.

<sup>‡</sup> Guicciardini.

(1568) the foresworn workman, the thief John, *while his master was still alive . . .* seizes the collection of types, and all the implements his master had got together . . . marches off to Amsterdam, thence to Cologne, and at last settled at Mentz;—and Coster, lamenting his losses, tells his woes to the little boy Cornelis, who used to help the book-binder; and Cornelis is so powerfully affected by the tale, that seventy-two years after, whenever he was asked to repeat it, he would fall into passionate weepings, and curse and execrate the miscreant John, and vow nothing would please him more, were he but alive, than with his own hands to hang him outright.\* These

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\* Dutch writers in accepting this tale of Junius as a genuine historical fact, have expended a vast amount of ingenuity in endeavouring to identify the workman and fix the date of the felony. The result is curious. Scriverius, writing in 1628, indicates John Gutenberg, in the year 1428; Boxhorn, in 1639, says it was John Faust, in 1420; Seiz, in 1740, says it was John Gutenberg, between the years 1428 and 1467; Meerman, in 1765, says it was John

are the bases upon which are built "the accumulated and still accumulating evidence in favour of Coster,"—the "vast mass of unanswerable evidence in his favour,"—in presence of which "the advocates of Gutenberg's claim to priority are slow to give way;" and for which slowness they are accused of "closing both eyes and ears to testimony of every kind, refusing to acknowledge that there is the slightest ground for the claims of *Holland* as against the, asserted, overwhelming evidence in favour of Germany."\* With such

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Gensfleisch the elder, in 1430; Westreenen, in 1809, says, about 1436, but does not give any name; Koning, in 1816, says it was Frielo Gensfleisch, between 1420 and 1436; De Vries, in 1822, says it was Johan Gensfleisch, in 1423; and Alb. Thijm, in 1867, says it was one Hans, in 1423. It is observable that all these writers decline to adopt the date which Junius fixes upon, antedating the occurrence from four to twenty years. This, however, they were compelled to do, in order to get rid of certain facts, which proved that the date 1440 was an impossible one, if either Faust or Gutenberg was to be criminated.

\* Humphreys, pp. 45 and 50.



writers, the array of facts on the Gutenberg side of the question goes for naught. Pinning their faith to Junius they

..... "with power (their power was great)  
 Hovering upon the waters what they met  
 Solid or slimy, as in raging sea  
 Toss'd up and down, together crowded drove  
 From each side shoaling."

Labouring thus, they from Meerman to Van Meurs\*

..... "following his track  
 Paved after him a broad and beaten way  
 Over the dark abyss, whose boiling gulf  
 Tamely endured a bridge of wondrous length."

And patriotic Dutchmen in the nineteenth century, with a full reliance on the stability of the structure thus raised, have struck medals, put up tablets, and erected monuments, commemorative of the memory of the "immortal and incomparable Laurent Janssoen,"

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\* "De Keulsche Kroniek en De Costerlegende van Dr. A. Van der Linde, te zamen getoetst door Dr. P. Van Meurs." *Haarlem*, 1870.



and the art he is alleged to have invented, with an enthusiasm strangely at variance with their utter ignorance of the man and his invention for upwards of a century after his death.\*

Of a very different opinion however was Erasmus, who, it may fairly be presumed, was not left unacquainted by his secretary, Talesius, with the tradition which assigned to Haarlem and Coster the origin of printing; but who shewed, by his public declarations assigning that honor to Mentz, that he deemed the tradition unworthy of belief, and destitute of even a basis of truth. Of a different opinion too, was Van Opmer, who must have been

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\* "The recently erected statue of Koster at Haarlem, is one of the finest works of its class that I have ever had the good fortune to examine. The dimensions are colossal, the work of a French sculptor, M. Rouger. I could wish the artist were a Dutchman. The attitude of the statue, nobly draped, and wearing the head gear of the time, is very impressive. The left hand clasps a book, while the right hand holds aloft, with an air of triumphant satisfaction, a "type," by means of which the book has been, as it were, magically produced."—HUMPHREYS, p. 216.

aware of the statements put forth in Coornhert's edition of Cicero's Offices, and had opportunity of judging of their truth ; although Spiegel, living at the same time and in the same city with Opmer, adopted them, and asserted Laurentius to be the inventor of separable wooden types. Carl Van Mander, however, a later writer, pursuing his investigations in the city of Haarlem, while preparing the materials for his History of the Lives of Painters and Engravers, which was printed there about 1605, is as silent on the subject of Coster, as Prior Gerbrant.

Notwithstanding all this, Meerman and the multitude who follow in his wake, cling to their faith in Junius. His assertions, contradictory as they have been shewn to be, to those of writers immediately preceding him, outweigh with them all other evidence. Enough for them the support he receives in the testimony of Ulric Zell and Mariangelus Accursius. The reader has that testimony before him, and

can form his own estimate of its weight on the Costerian side of the balance. Zell is the only authority for the statement that Block-book Donatuses were first printed *in Holland*. Accursius but recapitulates Zell's words, upon a Donatus which he states was printed by Faust at Mentz in 1450. Zell was a Fleming, and although he learned the art of printing at Mentz and carried it thence to Cologne, he had without doubt his national partialities; his account is not however borne out by that of Schœffer, given to Abbot Trithemius in 1484, although the two statements are not contradictory. Neither do they contradict the account of the origin of the art as stated by Bergel. Each may supplement the other. The first idea of printing may have occurred to Gutenberg from the impressions made in wax by his signet ring, and his cogitations upon the subject have been further confirmed by Block-books bought at Aix-la-Chapelle. It may therefore be admitted, that Block-

book *Donatuses* were printed and sold in Holland, prior to 1436. But what then? Haarlem is not Holland, any more than Liverpool is England. And to argue that if such books were printed in Holland, they must therefore have been produced at Haarlem,\* and if the work of a Hollander, why not of

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\* "If," says SANTANDER, "we examine all the authors without exception who have written in favour of *Haarlem*, we shall not find the smallest proof, the least contemporaneous document, in support of their pretensions; all that we read in them, all that they allege, reduces itself to the narrative of Junius, which was itself composed from light hearsay evidence, and which each writer comments upon according to his fancy." &c., &c.

"What!" exclaims OTTLEY, "are the fragments of *Donatuses*, found in *Holland*, and printed in the same type as the *Speculum*, to be considered as no evidence whatever of early printing in that country," &c., &c., &c.—*Invention of Printing*, p. 117.

"*Coster was the first* to use moveable [cast metal] types . . . . This view is not only supported by one of the earliest writers on the subject, but by . . . Ulric Zell," who says "Item: although this art was discovered at Mentz at first in the manner in which it is now commonly used, yet the first example of it was found in *Holland*," &c.—BLADES'S *Life*, &c. of *W. Caxton*, vol. i. p. 59.

Coster?\*" is simply to attempt to cut through a difficulty which has defied every other effort to penetrate or solve; and moreover it leaves untouched the question, whether separable types were first made in Germany or Holland, which is the hinge whereon the whole controversy in regard to the origin of Typography turns.

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\* After enumerating several works "printed with what may be termed Kosterian types," Mr. HUMPHREYS says:—"Thus it is proved, not only that Koster is not a myth invented by the Dutch to glorify themselves, and that the 'Speculum' is not an isolated and unauthenticated monument; but that there was in all probability, a Koster (*and if not, some other native of Holland*) who was the printer of at least three out of the four editions of the 'Speculum,' and that his family successors, or pupils and workmen, continued to print in the same style after his death."—*Hist. of Art of Printing*, p. 65.

"The third edition [of the Speculum] has a much more important character than the second, being a Dutch translation in prose, printed by the same double process as the preceding, all the text being typographic, and only printed on one side of the paper. The issue of this edition (evidently from the same establishment), in the Dutch language, is an all sufficient proof of the celebrated 'Speculum' being beyond doubt, the production of a Dutch artisan, or rather artist, *and if so, why not of Koster?*"—*Ib.* p. 63.

But Junius specifies the "Mirror of Human Salvation," as a work, the like of which, or of which sort, was the work which had been printed by Coster:—a work with wood-cut figures and descriptive text below, and printed on one side only. There were several works of this kind known; and although some have been alluded to in the previous chapters, a more extended notice of them may here be given.

*Temptationes Demonis*; a large block covering one side of an entire sheet of paper, and containing texts of Scripture, with figures of angels and devils.

*Donatus, de Octo Partibus Orationis.*

*Biblia Pauperum*, consisting of forty leaves of small folio; each leaf contains a central design of three scriptural subjects, with two half-length figures of prophets or holy men both above and below; on either side of these are explanatory descriptions, while beneath are their names, with additional inscriptions on scrolls.



*Historia Sancti Johannis Evangelistæ, Ejusque Visiones Apocalypticæ*; folio designs of scenes from the Apocalypse, two subjects on each page, with labels and scrolls containing descriptive matter.

*Historia seu Providentia Virginis Mariæ, ex Cantico Canticorum*, or the Book of Canticles; consisting of eight blocks, each containing four designs, with Latin inscriptions on scrolls interspersed among the figures.

*Historia Beatæ Mariæ Virginis ex Evangelistis et Patribus excerpta et per Figuras Demonstrata.*

*Defensorium inviolatæ Virginitatis Mariæ Virginis.*

*Der Entkrist*, or the Book of Antichrist; consisting of thirty-nine cuts with text.

*Ars Memorandi*; a quarto work of fourteen pages, consisting of whole page engravings of symbols of the four Evangelists, with accompanying pages of explanations.



*Ars Moriendi*; a series of quarto cuts, exhibiting the deaths of good and bad men, with descriptive pages of text opposite the cuts.

A quarto work of thirty-two cuts, containing subjects of Sacred writ; under each cut are fifteen verses in the German language.

*Speculum Humanæ Salvationis*; fifty-eight leaves, each containing two designs, mostly from the Old or New Testament; each design has a Latin inscription of one line engraved on it. Beneath is placed the descriptive text. In the Latin edition there are five leaves of preface, and in the Dutch four.

*Die Kunst Cheiromantia*; a work treating of palmistry.

*Planetenbuch*; treating of the influence of planets on human life.

*Mirabilia Romæ*; a guide to the principal shrines in Rome.

*Opera nova contemplativa.*

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Of the above, Koning ascribes all those printed in italics to Coster,\* together with the *Catonis Disticha*, and *Horarium*, the latter a book of eight small pages discovered by M. Enschedé of Haarlem, containing the letters of the Alphabet, the Lord's Prayer, the Ave Maria, the Apostles' Creed, &c., printed with moveable characters.† Including separate

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\* Baron Heineken, Santander, and others, assign a German origin to them.

† "The *Horarium* (or more correctly *A B C Darium*) rendered so celebrated by the detailed notice of so many learned Biblioplists, as one of the earliest efforts of Koster, and by some considered positively his first experimental work with moveable types, either of bark (?), wood (?), or metal, I have examined very closely, and do not consider that it has any claim whatever to be so considered. It is true, that both type and printing are rude, but that is no sufficient reason for assigning to it a strictly primitive character, as many rudely executed works might be cited long after the practical establishment of the Printing Press. The fact is, that its being printed on both sides, and the imposition for folding being arranged after the regular manner adopted when printing with moveable types was in general use, induce me to believe that it was printed long after the '*Speculum*,' probably by the successors of Koster

editions, Koning gives Coster the credit of printing seventeen works. Now the time, as well as labour, involved in designing and engraving these works must have been very great. In the *Biblia Pauperum* there are 200 designs, besides the text; in the *Book of Canticles*, 32; in the *Speculum Humanæ Salvationis*, 116; besides those in the *Ars Moriendi*,

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who used his types. Even the specimens of Donatuses, which I have examined in Holland (and elsewhere) especially in the Royal Library of the Hague, under the learned guidance of Dr. Holtrop and Mr. Campbel, lead me to the conviction that they were not essays by Koster anterior to the production of the 'Speculum.' It is true, that I was shewn a specimen of a Donatus printed on vellum, and *on one side only*, which has been recovered from the binding of an old Dutch book. But I look upon it as a rough 'proof,' that was never completed, and eventually used like ordinary waste to stiffen bindings."—HUMPHREYS, p. 215. This Horarium was discovered in the binding of an old book, forming in fact a portion of the binding. The pages are printed on vellum on both sides; and it has been pointed out that the letter i has a modern peculiarity in being dotted, instead of having, as in the ancient manuscripts and printed books, a stroke above it, thus, *í*. Enschedé who discovered the work, published a fac-simile of it in

and the *Apocalypse*. These are among the very earliest specimens of design and engraving on wood that are known to exist. If then these were executed, as alleged, by Coster in Haarlem,\* how came it, that his contemporaries knew nothing of them; that Van Mander,—himself an artist and an engraver, who describes in his *History*, written and printed at Haarlem, the works of Flemish

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1768. Chatto, who critically examined it, says, in Jackson's *Treatise on Wood-engraving* (2d edit. 1861, p. 162,) "It is certainly such a one as he was most wishful to find, and which he in his capacity of type-founder and printer would find little difficulty in producing. I am firmly convinced that it is neither printed with wooden types, nor a specimen of early typography. I suspect it to be a Dutch typographic essay on popular credulity."—This I think a harsh judgment; and, of the two, I prefer to believe, with Humphreys, that Enschedé was mistaken in supposing the pages he found to be a work, perhaps the earliest work, of Coster, rather than with Chatto, to suspect that he forged it himself.

\* The Town-hall at Haarlem possesses a collection of Costerian relics, but Mr. Humphreys says (p. 215) "they are not, as it seems to me, so important as many writers have deemed them."

and Dutch artists living both before and after Coster's time,—is silent in regard to both the man and his works?—although he says that the city of Haarlem “dares to pretend to the glory of having invented printing.”

By this expression it is contended by Coster's advocates, Van Mander “intended to say, that the claims of Haarlem were well founded.” And furthermore, that his silence is to be accounted for from the fact, that “none of these wood engravings bear the initials of the artists who designed or engraved them, and that he may have been uncertain as to their names.” But what a lame and impotent conclusion is this to arrive at. Van Mander, it is plain, knew of the tradition about the origin of printing in Haarlem. His own work was carried down to the year 1604, and Junius's *Batavia* was printed in 1588—sixteen years previously. He could not therefore have been ignorant of what was said in that work about Coster, and his printing works with woodcuts similar to those

of the *Mirror of Salvation*. Knowing that, he must have made inquiry concerning both, and have arrived at the same conclusion as Erasmus and Van Opmer. Otherwise, how is his silence to be accounted for? The very fact of the woodcuts being without initials should have stimulated inquiry. They are the work of an artist of no mean skill; and to suppose that he passed them by without notice, or without an attempt to discover their designer, engraver, or printer, who was alleged to have been a wealthy and influential burgher of the city in which he was writing, is to cast a slur on Van Mander's reputation as an historian which he does not appear to deserve. Even as the works of an unknown artist they demanded, and would have received, notice, had they been printed and sold in the manner described by Junius, and those who have subsequently amplified his narrative.

With regard to the engravings in the "Poor Man's Bible," Ottley says (p. 87,) "the style



of these cuts has considerable resemblance to that of the two Van Eycks," and he considers that the designs in this work, together with those in the Book of Canticles, and the Mirror of Salvation, were, with the exception of the last ten cuts of the latter, the production of the same artist, or at any rate of artists of the same school; all the others being of a different style, and of inferior merit. He regrets his inability to speak with certainty upon their age, but relies upon the following note in Dr. Dibdin's *Bibliotheca Spenceriana*, (vol. i. p. 4.)

"Mr. Horn, a gentleman long and well known for his familiar acquaintance with ancient books printed abroad was in possession of a copy of the *Biblia Pauperum*, of the *Ars Moriendi*, and of the *Apocalypse*, all bound in one volume, which volume had upon the exterior of the cover, the following words stamped at the extremity of the binding, towards the edge of the squares:—'HIC LIBER RELEGATUS FUIT PER PLEBANUM ECCLESIE—ANNO DOMINI 142[8].'  
Mr. Horn having broken up the volume and parted with its contents, was enabled to supply me with the foregoing information *upon the strength of his memory alone*; but he is quite confident of the three following particulars:—1,



That the works, contained in this volume, were as have been just mentioned:—2, That the binding was the ancient legitimate one, and that the treatise had *not* been *subsequently* introduced into it:—and 3, That the date was 142...odd—but positively anterior to the year 1430.”

This testimony Mr. Ottley considers it ungracious to question; but “with all this,” he says, “I wish that the volume still existed entire, or that, at least, the cover had been preserved. . . . But, whatever the antiquity of the first block-books, which almost all writers are of opinion preceded the first attempts to print with moveable characters, it is certain, *that for many years after the invention of typography*, the engravers in wood continued to publish works of this kind.”\*

The most interesting of these works is the *Speculum Humanæ Salvationis*, which in one of its four folio editions has the text partly in block, and thus forms a connecting link between Xylographic and Typographic print-

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\* *Inquiry*, pp. 202—203.

ing. The whole of these four editions are thought by many to have been printed previous to Gutenberg's first production at Mentz. They are attributed to Coster and his descendants solely on account of the obscure passage in reference to them which occurs in the narrative of Junius; and because of that reference, and their manifest superiority over others of the same class, all those which resemble them in general appearance and style of types, and that have neither initial, date, name or place, to indicate by whom and when and where they were printed, are in like manner claimed as the product of Coster's Press, by every writer who from the days of Meerman to the present, has advocated the pretensions of Haarlem in opposition to those of Mentz to be the seat of the origin of the Typographic Art.\*

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\* "The works which may almost to a certainty be ascribed to the Costerian press after the death of the inventor, and

Of these four editions, the first and third, says Ottley, are those in the Latin language; the second and fourth those in Dutch. The engravings are the same in each; but differences exist in the texts; and it is on the assumption that the text was printed previous to taking the impressions of the cuts, that he deduces the order of the editions from the condition and appearance of the cuts. According to this arrangement, the text of the second edition is printed with the same type that was used in the first, with the exception

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the publication of the *Speculum*, are various editions of the Donatus, Catonia Disticha, Laurentii Vallensi Facecie Morales, Ludovici Pontani de Roma Singularia in Causis Criminalibus, Gulielmus de Saliceto de Salute Corporis, Horarium, Alexandri Galli Doctrinale, Petri Hispani Tractatus, Francisci Petrarchæ de Salibus Virorum Illustrium et Faceciis Tractatus, &c., all of which are without date or name of printer, but are issued from the same press, and the types of which, perfectly like those in the *Speculum*, cannot be attributed by any such similarity to any other printing office either in Germany or even in Holland and the Low Countries."—P. H. BERJEAU, p. xxxvi. *Introd. to OTTLEY'S Inquiry.*

of two pages containing cuts 45 and 56, the type of which is inferior to that of the rest of the book. In the third edition (the second Latin) twenty pages of the text are engraved on solid blocks. The types of the text of the fourth edition, although similar in appearance to those of the three preceding, are somewhat smaller and coarser.\*

To account for these differences, Mr. Ottley has framed a theory which exactly fits the narrative given by Junius, viz:—that while the second edition (the first Dutch) was in

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\* MEERMAN considered that this edition was the first, and only one printed by Coster, between the years 1430 and 1440; that the Latin edition with twenty pages of block-printing came next; then the other Dutch, and lastly the second Latin. HUMPHREYS (p. 56,) concludes that all four editions were printed by Coster, the first being the one with twenty pages of xylographic text. OTTLEY allows him one, and the greater part of another. Of the first edition (following Humphreys' classification), ten copies are known—two in the Bibliothèque Nationale at Paris, one in the British Museum, one in the Bodleian library at Oxford, one in the Spencer library, and five in Holland. Of the second edition there are six copies—one in the Imperial

progress and nearly finished, the original printer died and his types were stolen, which compelled his successor, who was unable to replace the original types, either to use some older discarded ones, or to avail himself of a supply of an inferior description in order to finish it; that while the first Dutch edition was in progress a second Latin one was demanded, to meet which, and to bring both the Dutch and the Latin out as quick as

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library at Vienna, one in the Palazzo Pitti at Florence, the third, without preface, in the Town Hall at Haarlem, the fourth with but 40 pages, in the library at Hanover, the fifth in the Royal library at Brussels; and the sixth and most perfect, the Inglis copy in the possession of Mr. Quaritch. Of the third edition (the first Dutch) copies are in the libraries of Lord Spencer, and Mr. Westreenen Von Tiellandt at the Hague; the fine copy formerly in the Enschedé collection is now in England. Of the fourth edition, only three copies are known—one in the Town Hall of Haarlem, the second in the public library of that city, and the third in the library at Lille. It is possible there may have been a larger number of early folio editions, as several of the above copies appear to have been made up from more than one.

possible, the wood engraver was employed to make fac-similes of the texts of 20 pages; and that for the fourth edition, an old inferior fount was used. And upon this theory he says, (p. 298,) "I am of opinion that the concluding passage of his (Junius's) narrative, wherein, upon the authority of Nicholas Galius and Quirinus Talesius, he relates the story of the robbery which they had formerly more than once heard from the mouth of Old Cornelius the book-binder, who in his youth had lived in the service of the printer who was robbed, merits to be considered as one of the best attested accounts that we possess respecting the early history of typography."!

But Messrs. Berjeau, Bernard,\* Paielle,† and Humphreys, who have also made the *Speculum* a special subject of study, do not

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\* "De l'Origine et des Débuts de l'Imprimerie en Europe." *Paris*, 1853.

† "Essai Historique et Critique sur l'Invention de l'Imprimerie." *Paris-Lille*, 1859.



admit the assumption that the text was printed before the cuts; they adduce good arguments to shew that the impressions of the cuts might have been, and probably were, rubbed off before the text was printed; and the character of the Gothic framework of the cuts that surmount the pages with solid text, being much plainer than that in those where moveable type is used, affords strong ground for the belief that the edition in which they occur was the first instead of the third; the first, that is, that was issued in a completed form; for there can be no doubt but that the splendid copy owned by the late J. B. Inglis, Esq., was the first as regards the impression of the cuts,—the body of some of the scrolls in that copy having been left untouched by the wood engraver, while in all others it is cut away. This peculiarity it was that led Mr. Ottley to the belief that it was the first completed edition, both as regards cuts and texts; while



Mr. Humphreys, with more reason on his side, considers that the edition with the twenty pages of xylographic text was the first. "The execution of the subjects," he says, (p. 60,) "is not equal to those of some of the pages with the typographic text, and there is no foliage in the architectural spandrils. This may serve to prove that the entirely xylographic pages were older than the typographic ones; and that only a few of the best of them were used in the edition which has typographic texts to most of the illustrations."\* The conclusion to which these

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\* Mr. Humphreys concludes from his examination of the Dutch copy of the *Speculum*, formerly in the Enschedé collection at Haarlem, that this edition was "by far the most finely executed." It was sold, on the dispersion of the Enschedé collection in 1867, for 700 guineas. The purchaser, Mr. Quaritch of Piccadilly, it is understood has since resold it in England at a considerable advance. The same spirited bibliographer bought the Inglis copy (sold in 1871)—a specimen of the Latin edition with all the text in moveable types, in the most fine and perfect condition,—for £525.

writers have come, upsets Mr. Ottley's theory, and renders nugatory his opinion, that Junius's story of the thief "is one of the best attested accounts that we possess respecting the early history of typography."

The weight which is attached to Mr. Ottley's deliverances on the subjects upon which he has written, (and particularly in regard to the *Speculum*, to which four chapters of his work are devoted,) makes it necessary to consider with care whatever he advances upon matters wherein he is largely quoted as an authority by those who have not had similar opportunities for examining the documents upon which he bases his conclusions; and as he does not scruple to denounce those as sophists whose arguments run counter to his own, and to triumphantly expose any slips or inconsistencies which he can detect in the writings of those to whom he opposes himself, it will be well to see whether he is himself free from the failings he so ruthlessly exposes

in others. On the question of the separable types which were used in the various editions of the *Speculum*, I shall therefore give his argument entire. He first says—"this type appears to have been formed upon the exact model of the genuine black letter, commonly used from an early period in Holland, and which is of almost constant occurrence in old Dutch manuscript Missals, and other books of prayer. It is similar, in the forms and joinings of the letters, and in the contractions used in it, to what we often find in the most highly embellished books of devotion of the fourteenth century . . . . . this broad-faced type, this genuine black-letter, is a characteristic of early Dutch typography. This, indeed, is now so generally acknowledged by Bibliographers, that it is unnecessary to insist upon it further; as every judge of old printing will at once declare, upon looking at the *Speculum*, that the type it is printed with, is Dutch type." To all which a ready

assent may be given. He proceeds as follows:—

“Any person at all conversant with printing, upon first viewing the *Speculum*, naturally determines that, except the twenty pages of block-printing, so often noticed, in one of the Latin editions, it was printed with *cast metal types*. Upon an attentive examination of a page, however, he discovers small, but yet, sometimes, very evident variations of form in different specimens of the same letter, which it appears difficult to account for: he finds, perhaps, by measurement, that the same word, although spelt exactly in the same manner, does not always occupy the same space; he is induced perhaps, to hesitate as to the correctness of his first judgment, and to suspect that the type was prepared by the painful and tedious operation of cutting each individual character on a separate piece of metal by the hand.

“If he embrace the latter opinion, he finds, in the work before him, ample cause to admire the invincible patience, the skill, and the exactness of the artist, who could succeed, not only in giving to the sculptured characters that general uniformity of appearance, which at first occasioned him to consider them as cast type; but even so strict a resemblance between perhaps a dozen specimens of the same letter in the first six lines of a page, as to baffle the exertions of the most correct eye to detect any sensible difference between them, except such as must necessarily occur even in the ordinary method of printing with cast type; either in consequence of one letter happening to have been more used and worse than another, more charged with printing

ink, or from an irregularity not unfrequent in ordinary presswork, forced deeper into the paper than the rest."

Having been "conversant with printing" for more than forty years, during thirty-two of which I have been constantly engaged in superintending the passing of works through the press, and in the general management of extensive private and public printing establishments, and having besides a practical knowledge of the arts of wood-engraving, stereotyping, and type-founding, I must own, that the impression made on my mind upon examining the fac-similes of the *Speculum* given in Wetter's, Ottley's, and Humphreys' books, was, that the separable types used in printing that work were cut in wood, and were not made of cast metal; and the longer I have studied the subject, the more satisfied I am, that Meerman was right in rejecting the opinion of Enschedé,\* who was strenuously

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\* From the fact that Enschedé was a printer and type-founder, his opinion has had great weight with subsequent

opposed to the idea of wooden types having been used. The eye that has been trained to trace out and instantly detect the most minute differences in the shapes of letters of different founts of the same sized types, from the largest of those ordinarily used in book-work to the smallest employed in newspapers,—to mark out for correction n's and p's and q's that have been turned upside down in order to serve for u's and d's and b's, and *vice versâ*, as well as to reverse turned s's and o's—all common enough occurrences with careless compositors, and which only practised eyes can detect;—the eye of a “reader” who has had only a few years' experience of such work cannot but note the multitudinous differences, the variations in shape externally and internally, of specimens of the same

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writers. I have no doubt, however, but that his eagerness to secure for his own countryman and birth-place the honour of the invention of metal types, blinded him to the evidence which the letters in the *Speculum* present to the contrary.

letters which occur in every line of the fac-simile pages of the *Speculum* given in the books quoted; and which cannot be accounted for by one being more worn than another, or more or less charged with ink, or more deeply pressed into the paper than the rest. Such imperfections are of a totally different character, and produce appearances altogether dissimilar to those which distinguish the different specimens of the same letters in the same lines of the *Speculum* one from the other. Looked at through a magnifying glass, these differences are of course much more easily discernible, and as they are of precisely the same kind that are found in the letters in the solid xylographic blocks, the conviction finally forces itself upon the mind, that such types could not have been cast, but must have been cut, and cut in wood. In an examination of this nature, the letters of a single page, or at the most those of the two pages of a single sheet,



are all that can be attended to; for in their early efforts, the oldest printers usually printed but one small folio page, and seldom if ever more than two such pages at a time; and when as many copies as were wanted were struck off, the types were broken up for the next page, or two, and so on until the work in hand was completed. The types therefore that were used in the two pages first printed would constantly recur in all the following pages; and it is principally owing to this recurrence of particular letters bearing on their faces some special peculiarity, that the fact is detected that such ancient books as the *Speculum* are printed with moveable letters. Mr. Ottley goes on:—

*“But let him (the person at all conversant with printing) turn from the page which he has been examining, to one of those printed from a wooden block; AND HE WILL SOON BE CONVINCED, by the comparison, that the uniformity of appearance which he witnessed in the characters of the former, could not have been produced by means similar to those used in the execution of the latter; for in the page printed from the engraved block he will discover, throughout, a sensible*

difference of form, as well as dimensions, between the various repetitions of the same letter: and in the capital letters especially, he will find this difference so material, as to render it easy for him to trace with a point the precise variations of form by which, for example, each of a dozen letters, S, is to be distinguished from all the others. It will then occur to him, *that it must have been a task of less difficulty to preserve uniformity in the shapes and dimensions of the letters, in a page of text engraved upon a plain block of wood, which would have afforded the artist not only the means of a constant comparison, but also a convenient and steady rest for his hand during the operation of engraving, than it could have been to cut the numerous characters required, with so strict a resemblance to each other, on small separate pieces of wood or metal; and he will perceive his second opinion to be untenable.*—(pp. 257—259.)

The means of such a comparison are afforded in the absolute fac-similes in Mr. Humphreys' book, and the differences of form and dimensions in the various repetitions of the same letter are not by any means so material as Mr. Ottley intimates. He moreover assumes, that if the separate letters were cut by hand, they must have been cut on "separate pieces of wood or metal," and therefore, he argues, there could not have been

preserved the same uniformity "in the shapes and dimensions of the letters," as in a page of text engraved upon a plain block of wood, because there would be lacking "the means of a constant comparison," as well as "the convenient and steady rest for the hand during the operation of engraving." But this assumption is utterly uncalled for. What was to hinder the engraver, after calculating the probable number of each kind of letter he required, to trace the whole in alphabetical order on his blocks of wood, and to engrave them all, before he cut them into separate pieces? He would thus have the best possible means for constantly comparing every specimen of the same letter, as he proceeded with his task, and be able to preserve a steady and convenient rest for his hand until all were sculptured out, leaving the minor operation of separating the letters for use in combination to the very last moment. But Mr. Ottley forgets himself; for in the next chapter, after

pointing out sundry differences in the orthography of the pages printed with moveable types in the two Latin editions, he writes (p. 294):—

“If the pages printed from engraved blocks, in the Second Latin Edition, be compared with same pages in the First Edition, we shall not find these changes.

“Although, when I wrote upon this subject twenty years ago, I was fully satisfied, as I then said, that the twenty pages of block printing in the Second Latin Edition, were of later date than the rest of the work, and that they had been engraved for the express purpose of completing the copies of this edition; still I was not then aware that such undeniable evidence existed of the fact, as I afterwards discovered. Suffice it to say, that, upon an opportunity being afforded me of comparing this edition with the First Latin, I immediately perceived (and I was rather gratified than surprised at the discovery) that those twenty pages in the Second Latin are no other than *fac-simile imitations of the same pages, as printed with type in the first edition.*

“The printer, or his successor, as has been said, having been deprived of the type hitherto used in the work, printed the two pages wanting to complete his Dutch edition with the remains of some old type, a little different, which had previously been thrown aside, as no longer fit for use. But in doing it, he experienced, perhaps, more trouble than he anticipated; and as twenty pages, instead of two, were wanting to complete the second Latin edition, he now be-  
thought himself of another mode of procedure. Having

taken from a copy of the first Latin edition the ten sheets containing the twenty pages wanting to complete the second edition, and having corrected with a pen a letter here and there misprinted, he delivered those sheets to a wood engraver, with directions to copy them exactly; and the engraver executed the commission, by first glueing these ten sheets with their face downwards upon ten prepared blocks of wood (according to the method then used), then, rendering the paper transparent by oil or otherwise, and lastly, by cutting away the wood around the letters."

The whole of the last of these paragraphs, it is to be remembered, is purely conjectural; there is not the slightest foundation for it, beyond the necessity for thus accounting for a certain fact, and making that fact dove-tail in with the writer's theory that the edition with twenty-pages of xylographic text was the second, and not the first; a theory which equally able writers, writers too on the Costerian side of the controversy, deny; maintaining, with a better show of reason on their side, that the xylographic edition was the first. But apart from this consideration, *if the twenty pages engraved on blocks, are fac-simile imitations* of the twenty corresponding pages in



the other Latin edition, what are we to think of Mr. Ottley's previous assertion, that in these identical pages, there is "*throughout, a sensible difference of form as well as dimensions between the various repetitions of the same letter; and in the capital letters especially, this difference is material.*"? Both statements cannot be correct; and how they are to be reconciled I know not.

After confessing that the changes of opinion he had previously described were those which had taken place in his own mind, Mr. Ottley proceeds:—

"At length the following mode occurred to me of accounting satisfactorily, as I still think it does, for the dissimilarities above noticed in the type of that work. The type of the *Speculum* was, I conceive, made by pouring melted lead, pewter, or other metal, into moulds of earth or plaster, formed, whilst the earth or plaster was in a moist state, upon letters cut by the hand in wood or metal; in the ordinary manner used, from time immemorial, in casting statues of bronze and other articles of metal, whether for use or ornament. The mould thus formed could not be of long duration like a matrix, cut or stamped in metal, since it was obviously subject to fracture; nor could it be

equally true and perfect in other respects, as it was liable to warp in drying. From moulds thus constructed, but a small number of specimens of each letter could be taken, before they would require to be renewed. This it is reasonable to suppose, was effected *by forming new moulds upon the various pieces which had been cast out of the old ones.* Those characters however, before they could have been fit for use, it had been necessary to clear, by means of the graver, from certain small particles of extraneous metal left upon them by the process of casting; so that the small accidental dissimilarities in different specimens of the same letter, originally occasioned by this imperfect mode of casting them, were necessarily augmented by the after process of finishing or clearing them with a sharp instrument, (the marks of which are very clearly to be perceived in the type of the Speculum); and thus the renewed moulds, formed upon the letters thus prepared, would necessarily differ, and in some cases very materially, from the former moulds, and also (for these moulds could be multiplied at pleasure) from each other. That a book, printed with type thus manufactured, should present a never ending variety in the forms of the different specimens of the same letter, is therefore not surprising; it is rather a subject for our admiration that the dissimilarity in the characters in the work before us is not greater and more immediately apparent."

The above mode of accounting for the discrepancies in the appearances of the different specimens of the same letter, is



opposed to that put forward by Koning, who takes it for granted that the types were cast by the printer of the *Speculum* in the same way, and with the same kind of apparatus, as that now used by type-founders, only that the punches were made of hard wood, and the matrices of lead or pewter; and he accounts for certain peculiar fractures he had perceived in several instances on the top of the capital **E** as well as in a number of the capital **M** in which a part of the central upright stroke was broken in the middle, by supposing that some of the punches had been continued in use after they had received small injuries.

On the supposition that the types of the *Speculum* really were of cast metal, Koning's idea is much more reasonable than that of Ottley; but he is wrong in his notion that matrices could be struck in lead or pewter, from punches of hard wood on which letters of the size and character of those used in the *Speculum* had been engraved. A few

indifferent matrices might indeed be struck from some of the larger letters, say the letter **m**, but of the smaller ones, and those which had fine hair strokes, both capitals and minuscules, the fine strokes and faces of the letters would invariably be crushed. That, at any rate, is the result of a series of experiments made by the writer, with the view of ascertaining whether with letters so engraved on wood and with the softest procurable sheet lead, matrices could be struck from which types might be cast; and in which he was not successful in a single instance.

Admitting, however, for the moment, that the printer of the *Speculum* succeeded in striking a complete set of matrices; it has been proved by experiments, that from matrices of soft lead as many as from 120 to 150 letters can be cast,\* before they are rendered useless; only after 50 or 60 had

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\* PRUNELLE, au Magazin Encyclopédique de 1806.

been made, the fine strokes would begin to thicken. Now it has already been shewn, that the oldest printers did not put to press more than a single page, or at most two pages, at a time, in their earliest attempts in the new art. This is a fact, acknowledged by every one who has made the *Incunabula* of the Fifteenth century a subject of special study. Admitting then that two pages of the *Speculum* were printed together, what amount of type, and how many of each letter would be required for those two pages?

An analysis of the fac-simile given in Mr. Humphreys' work yields the following results. About 1430 separate types in the one page gives 2860 as the number required for two. The following figures (twice the number occurring in the specimen page) shew the numbers required of each of the letters most commonly used, a 44, e 122, i 182, o 146, u 74, d 44, h 28, m 60, n 100, s 84, t 82; there are, besides, the following duplicate and

triplicate characters, of which no other printed work shews so large a number,—an, ca, cā, cc, ce, ch, ci, cī, co, cō, ct, cti, cu, cū, cp, cy, da, dā, de, dē, do, du, dū, eē, et, ect, fa, fā, fe, ff, fi, fl, fo, fr, fu, ga, ge, gē, gi, go, gu, gū, gp, gr, gy, ii, ib, in, la, le, lē, li, ll, lle, llz, œ, ori, no, nō, nu, pe, pp, ra, rā, re, rē, ri, ro, rō, ru, rū, ria, sa, se, si, so, ss, st, ssi, ssz, ste, ta, tā, te, tē, ti, to, tu, tū, tri,—varying in the frequency of their occurrence from twice to twenty-two times, leaving but 1082 other letters for the rest of the alphabet, including the capitals: and of these last from 6 to say 40 would be the utmost of each required. It is thus shewn, that out of the whole number of matrices, upwards of 300, which would be required for a complete fount, not more than *eight* would be used up to or beyond the point where the fine strokes (supposing the matrices to have been of soft lead) would begun to thicken; and of these it would be a most easy matter to

provide duplicates or triplicates, in order to preserve the uniformity of character aimed at by the first printers, in imitation of the manuscripts they intended their works to supersede. *All the letters thus cast, would moreover, be fac-similes of each other,* and would not, nay could not, present those dissimilarities of appearance observable in specimens of the same letter occurring in every line of the *Speculum*. Koning's idea is thus proved to be erroneous.

But Ottley's is much more so. Types of the size of those used in the *Speculum* could no doubt be cast in the way he describes, either in plaster, or in the fine prepared sand or earth used by workers in metal. The original letter cut by hand would be the *pattern* type, from which every mould for that description of letter would be made; but the mould so made would suffice for *but one specimen* of that one letter; for after it had dried, and the fused metal had been poured

in and cooled, the cast letter could only be extracted by breaking away the earth or plaster in which it had been moulded; and if the mould had been made with ordinary care by an expert workman, the letter would turn out an exact fac-simile of the pattern on which the mould had been made. There would not be the slightest necessity for clearing off particles of sand or plaster adhering to the face of the letter, so as to leave upon it marks of the graving tool, nor yet of continually re-casting new types in moulds made from others so disfigured. From the one pattern type first made of each letter, as many moulds as were wanted for the whole supply of every letter could be made, before the operation of casting a single type was commenced; and whatever defect was observed in any of the types after the casting, could be much more satisfactorily remedied by a fresh cast in a mould from the original pattern, than by



graving the face of the letter and so altering its appearance. The main object of casting the types was to make every letter the exact counterpart of its fellow; and if the mode of casting was so imperfect, that each one had to be touched up and cleared out with a graver, before it could be used, that object was defeated. But for so complicated a process there was no need, for wooden types can be cut and completed in much less time than would be occupied by the moulding, drying, casting, clearing and touching up, necessitated by the Ottley-method of producing metal types. This has also been proved by actual experiment: and my previous conviction that the separable letters used in the *Speculum* were, and could only be, hand-cut wooden types, was thus still further confirmed. The marks of the graver, which, as Mr. Ottley points out, "are very clearly to be perceived in the type of the *Speculum*," are just those that were produced



by the "letter-snyder" in the course of cutting out his letters, which, as they were finished, were sent direct from his hands to those of the printers.\*

The extraordinary number of duplicate and triplicate (logographs) as well as ligatured letters, that are made use of in the *Speculum*, has already been referred to. Mr. Ottley considers that they are a proof

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\* In plate 10, opposite page 295 in Mr. Ottley's work, fac-similes are given of the types of the *Speculum*, taken from the text beneath cuts 17 and 18. In these the capital D occurs twice, O three times, Q three times, S twice, T thrice, and V twice. And in every instance the differences are such as to shew that it was impossible for the several specimens of each of these letters to have been cast from a mould taken from either a pattern or a touched-up-type. What is true of the capitals is equally true of the smaller letters. The word 'Tres' for instance, occurs three times running, repeated exactly one under the other, thus affording the best possible condition for comparison. Each of the T's—each of the compounded re's,—and each of the s's differ; they could not have been cast from the same matrix, nor could any one of them have stood for the original of successive mouldings for the rest, as suggested by Mr. Ottley.

of the antiquity of that work; but in that direction they only exhibit a peculiarity which is not observable in other works: they furnish however a strong argument in proof of the types of the *Speculum* having been cut in wood. For, taking into account the limited number of letters required for that work (printed but two pages at a time), to cut *ninety* separate punches, and to strike the same number of matrices, when one-third of that number would suffice, was a gratuitous waste of labour; whereas, in cutting wooden types sufficient for the composition of two pages, a great saving of time would be effected by duplicating and triplicating as many characters as possible; and not only would time and labour be thus saved, but the types themselves, by being double or treble the thickness of single letters, would be so much the stronger and more durable.

But, say certain writers, amongst whom is Wetter: "It is impossible to print with

such small wooden types" as those used in the *Speculum*.\* Now Wetter's object was to shew that the *Speculum* was of a much later date than is attributed to it by Dutch authorities,† and he argues that the types used must have been metal, although Meerman insists upon it that they were of wood. It is singular that Wetter should have committed himself to such a statement, when in Tab. II. of his work he has printed a whole column from wooden-types, some of which are of the same size as those

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\* "Der Heilsspiegel und alle andere Druckwerke, welche Meerman dem Laurens Koster und seinen Erben zuschreibt, sind alle mit gegossenen Typen gedruckt, und zwar gar nicht schlecht. Es ist unmöglich, mit hölzernen Buchstaben von solcher Kleinheit zu drucken."—*Krit. Gesch. der Erf. der Buchdruckerkunst*, p. 590.

† For the whole of his argument see pages 620—692 of his work. His object is to shew the probability that all the four folio editions may have been the work of Veldener at Utrecht. At page 654 he says, "that almost all the types used in the Netherlands have their original in those of the Rhine "Officinen," is seen from the resemblance of the types of the Brethren of the Common Life at Marienthal on the Rhine, to those of Therhoernen

in the *Speculum*. Possibly he considered that the numerous hair strokes, and particularly those which front the capital A and the minuscule t, (peculiarities found only in letters of the *Speculum* school) were too fragile to withstand the pressure of printing.

Baron Heineken,\* from whom Wetter in all probability borrowed some of his ideas, is of opinion that all the separable letters used in the four folio editions of the *Speculum* were of cast metal, and that they were printed

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of Cologne, and the Brethren at Brussels. Witness the fac-similes 1, 2, and 3, of Tab. 11, and especially all the fac-similes of Tables 9, 10, 11, and 12, (with the exception of Nos. 4 and 8 of Tab. 12.) Even the types of the *Speculum* are nothing else than a diminution of the types of the 42-line (Mazarin) Bible, with sundry alterations in the capital letters.—The Dutch work of Ludovicus de Roma, ‘Singularia in causis criminalibus,’ (1471,) is printed with types, which, with the exception of the capital letters, are almost all such exact copies in size and shape of those of the Mazarin Bible, that they could cover each other reciprocally.”

\* “Idée Générale d’une collection complète d’Estampes.”  
8vo. *Leips.* 1771.

by Germans who imitated the Gothic style of type first used by Gutenberg at Mentz. In one place he writes:—"It is almost certain that the *Speculum Salvationis* in Latin was first printed in Germany; and that it was afterwards translated and printed in the Low Countries." Elsewhere he says, "I come at last to the new edition of the *Speculum*, which the printer Johan Veldener published in 1483, with his name, in the Flemish language. The vignettes which are placed at the head of each discourse, are the same as those we see in the ancient editions. He cut the engraved blocks, which represented always two sacred or historical subjects, sawing through the middle of the central pillar which divided them, so as to make them into two pieces, in order to insert them in this new edition, which is in small 4to." "It was probably Theodore Martens," he remarks further on, "that brought these vignettes with him from Germany, or from France . . . . We may also

conjecture that Johan of Westphalia was the printer of the first Flemish editions, and that Veldener received the blocks from him . . . . . Veldener, after having learned Typography at Cologne, went to live at Louvain, where he printed in 1476, among other books, the *Fasciculus Temporum* in Latin, with figures engraved in wood. This same printer afterward went to Utrecht, where in 1480, he published the same work in Flemish, introducing also the same cuts which he had brought with him from Louvain . . . . . Nothing seems more natural than that he should have brought with him from Cologne the ancient moulds or matrices, from which the rude type of the two first Flemish editions of the *Speculum* already spoken of was cast; nothing more reasonable, than that he should afterward abandon that type at Louvain or at Utrecht, or rather at Culemborch, after having made better; for he was certainly a man of enterprise and genius."

Heinecken concludes this part of his argument by saying, "I trust that this extravagant notion of finding books, and sometimes even large volumes, printed with these moveable characters of wood, will by degrees cease, and that able printers may be found, *who will shew the impossibility of it.*"

There is not however, any *impossibility* in the matter. Box wood will bear printing from better than soft lead; and Mr. Blades has demonstrated that types of unhardened lead can be used at an ordinary printing press,—the half of plate IX. B, in the 2d volume of his *Life and Typography of William Caxton* being printed from such types. Argument however is needless in the presence of a fact, and in the word **Srri** here given, each of the three letters is separately engraved on a piece of box-wood, the shanks of the letters being two sizes smaller than those of the *Speculum*, while a portion of the upper part of the capital overhangs its shank; each letter



is also perforated and nicked, and is therefore altogether weaker than a letter of the same size as in the *Speculum* would be. As a proof that it was perfectly possible for such works as the *Speculum* to have been printed with wooden types, three such letters are as good as three thousand; and letters with the finest strokes most exposed to damage have been purposely selected, in order to demonstrate the fact.

The existence in the middle of the Fifteenth century of Guilds or confraternities of trades connected with book-making, in Antwerp, Bruges, and Brussels, amongst whom were included 'Prenters,' 'Letter-,' and 'Form-snyders,' and 'Beelde-makers;'—Letter and Form and Figure engravers, and those who printed them;—is brought forward as a part of the "vast mass" of so-called "unanswerable evidence," which sustains the claims of Coster and Haarlem to be the man and the place by whom and where the Art of Typography was invented.

“The ‘figure engravers’ (writes Mr. Blades,) were doubtless the artists of the playing cards, the images of saints, and the block-books, then manufactured to a great extent in Holland and Flanders. The term ‘letter engraver’ may have been applied to the sculptor of the legends on the block-books, when not executed by the same artist as the figure itself, but of this there is no evidence, and it seems far from impossible that the term was used to denote artists employed to produce moveable types. The ‘printers’ were doubtless workmen who took the impressions, whether by friction or a press, from the engraved blocks delivered to them; but there is no reason to restrict the meaning of the word, and the same term was from the commencement always applied to printers from moveable types. There is therefore, *primá facie*, evidence to support the supposition that at a very early period there were workmen in Bruges who employed themselves, albeit

in a very rudimentary way, in printing from moveable types."

But if moveable types were at this date in use at Bruges or elsewhere in Holland, and if these were of cast fusile metal, how comes it that "Letter-zetters" and "Letter-geiters,"—compositors and type-founders,—are not included among the crafts incorporated by the Guilds? How comes it, too, that no mention is made of the "Drukker," and the "Drukkers-maker"—the press and press-maker? "Printer" is a common enough term applied to pressmen now-a-days, but as late as 1454 it had an exclusive reference to the producer of prints—the printers of the figures sculptured by the "Beelde-makers" on the solid blocks; and it may safely be inferred that these prints were produced after the Chinese manner, by friction, seeing that the term "Drukker," is that which is applied amongst the Dutch to letter-press printers,—the pressmen of modern days.

If, moreover, from the mention of "letter engravers" and "printers" in the records of the Dutch Guilds referred to, we are to understand that there is "*primá facie* evidence to support the supposition that at a very early period there were workmen . . . who employed themselves in working from moveable types,"—typographic printers in fact,—then, upon the same ground, it must be admitted that there is *primá facie* evidence for admitting the priority of the art in various parts of Germany, for as early as 1428 we find a record of a "letter-printer," one Wilhelm Kegler, at Nördlingen, besides card-makers at Augsburg in 1418. And in 1440 there is found a record of Henne Cruse of Mayence, one of the fraternity, on the roll of the citizens of Frankfort.\* But so far from there being any such *primá facie* evidence, the inference to be drawn lies, I think, in an opposite direction; and the

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\* See WETTER, p. 23.

absence of all mention of "Letter-zetters," "Letter-geiters," "Drukkers," and "Drukker-makers," is rather to be considered a proof that they were not then known; that moveable types and presses had not at that time been introduced; and that "Letter-snyders," and "Prenters" were wholly and solely engaged upon block-books, just as much as the "Beelde-makers," the figure-engravers were.

"The general opinion of late writers,"\* Mr. Blades continues, "is, that the art was first *perfected* at Mentz . . . . but that nevertheless the *earliest use* of moveable types must be recognized in the rude specimens attributed to Laurence Coster of Haarlem. Coster died in 1440, and nothing is known to have issued from his press between that period and 1483; but what became of his assistants?"

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\* M. BERNARD; and P. C. VAN DER MEERSCH, in his "Recherches sur la Vie et les Travaux des Imprimeurs Belges et Néerlandais, établis a l'étranger." 8vo. *Gand*, 1856:—are here referred to.

Did they, after gaining some insight into the curious effects of Coster's trials, resign all further attempts, or did they seek to imitate him, some in one town, some in another?" These are very pertinent questions, inasmuch as if they are asked in reference to the assistants of Guttenberg, Faust and Schœffer, they can be answered in the affirmative, and their respective movements traced. But asked with reference to Coster, the disappointing answer is, "NO ONE KNOWS; yet it seems more than probable that *experiments in the direction of printing from moveable types were making about this period in every city where wood engraving and block-printing were practised . . . .* The idea was simple enough, in the execution was the difficulty. Nor need the opinion that at Bruges there existed at a very early period rude printers, be based on the notice of 'letter - snyders' and 'prenters' only; there has fortunately been preserved in the



Archives at Lille an original manuscript, containing a diary of Jean le Robert, Abbé de S. Aubert de Cambrai, among the entries in which the two following are especially worthy of notice:—

“Item pour .j. doctrinal gette en môle anuoiet querre a Brug. par Marquet .j. escripuain de Vallen. ou mois de jenuier xlv. pour Jaq. xx. s.t.”

“Item enuoiet Arras .j. doctrinal pour apprendre ledit d. Girard qui fu accatez a Vallen. et estoit jettez en molle et cousta xxiiij. gr. Se me renuoia led. doctrinal le jour de Touss. lan. .lj. disans quil ne falloit rien et estoit tout faulx. Sen anoit accate .j. x patt. en. papier.”\*

“Item. For a printed Doctrinal (doctrinal gette en molle) that I have sent for to Bruges, by Marquet, a writer of Valenciennes, in the month of January, 1445 (*i. e.* 1446) for Jacquet, xx sous tournois.”

“Item. Sent to Arras a Doctrinal for the instruction of dom. Gerard, which was purchased at Valenciennes, and was printed (jettez en molle) and cost xxiiij. gros. The same Doctrinal he returned to me on Christmas Day 1451, saying ‘it was worthless, and full of errors;’ he had bought one on paper for xx patards.”

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\* The manuscript from which these extracts are taken was brought to light by the Abbé Ghesquiere of Cambrai, in the year 1772. See “Esprit des Journaux,” June 1779, Nov. 1779, and April 1780.



In these memoranda, says Mr. Humphreys, (pp. 66—67) “we have positive proof that printed Doctrinals were commonly sold in Flanders in 1445; and M. Bernard was the first to elucidate the full value and bearing of this passage, of which M. Van Praet,\* who had already mentioned it, failed to see the drift, from not understanding the meaning of the term *gette*, or rather *jette, en molle*, which simply means cast in a mould, in reference to the metallic types, which were so cast. That M. Bernard is correct in his explanation of the term, is clearly proved by many passages having reference to the same subject, in which the term is used as one well understood. For instance, in the letters of naturalization accorded to the first printers with moveable types established in Paris, a document dated 1474 (old

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\* “Notice sur Colard Mansion, Libraire et Imprimeur de la Ville de Bruges.” 8vo. *Paris*, 1829.

style) the terms *écriture en molle* or writing by means of moulds, or moulded letters, is used. Also, in 1496, on the occasion of the purchase of two books of prayer by the Duke of Orleans, the Constable describes them as both *escrites en moule*. Also, in the list of furniture and books of Anne of Brittany about the same time, books are mentioned '*tant en parchemin que en papier, à la main, et en molle;*' that is, both on vellum and on paper, both manuscript and printed."

Commenting upon these memoranda, Mr. Blades exclaims, "*Jettez en molle!*—Cast in a mould! What can this expression mean, except that the 'Doctrinals' were printed from cast types? As applied to manuscripts, or to stencilling, or to block-printing, '*jettez en molle*' has no meaning whatever."

"Drowning men," it has well been said, "will clutch at a straw," and surely a consciousness of the peril in which their argument stood, must have made the above

writers clutch at Abbé Jean le Robert's memoranda in the way they have. It may be admitted, that the phrase "à la main, et en molle," means "*both manuscript and printed;*" but upon what fair principle of philology M. Bernard and Mr. Humphreys make out that the words "jettez en molle," "écriture en molle," and "escrites en moule," mean "cast in a mould, *in reference to the metallic types which were so cast,*" and "writing by means of moulds, *or moulded letters;*" is more than I can make out. They may certainly be understood in such a sense *now*, but when originally used they could only have referred to the moulded appearance,—the indented impressions on the leaves of the book, totally irrespective of the types or blocks by which such appearance was produced.

Certainly, as applied to *manuscripts*, the phrase "*jettez en molle*" has no meaning. But with all deference to Mr. Blades, whose "Life and Typography of William Caxton,"

is a work of the highest possible merit with reference to all that concerns the introduction of Printing into England,—the words in question are pregnant with meaning in regard to both block-printing and stencilling. Every one acquainted with the ordinary processes of printing must know, that freshly-printed paper has exactly the appearance of having been moulded; the damped paper, in fact, is actually moulded on the type or wood-engraving, by the forcible pressure brought to bear upon it, and on being released from that pressure, the paper cast that has been made brings away with it, on removal, the colouring matter with which the blocks or types have been inked. In the old solid blocks, when the hollows cut to leave in relief the characters used for the School-books—the Donatuses and Doctrinals—would be wider, deeper, and more irregular than in the more modern types, this indented and moulded appearance would be much

more apparent, especially when impressions were taken by the Chinese method of rubbing the back of the paper, and the printer was careless about smoothing out and obliterating the evidences of indentation, in the manner adopted by typographers now-a-days. In stencilling too, the perforated plate, when laid upon the paper, became to all intents and purposes a mould. The bottom of the mould was the surface of the paper on which, through the perforations in the plate, the ink or pigment would be brushed, the paper being thus made to take a coloured cast of the hollows in the plate. With reference to either process therefore, the phrase "*jettez en molle*" might most naturally be used to express on the part of any one ignorant of the process of printing, the appearance of a book which he knew was not written, but which bore upon its face the evidence of having, in some way or other, been cast or moulded. As this evidence would appear the same, or nearly

so, whether produced from engraved blocks, or from separable letters, the phrase would be just as applicable in the one case as in the other. When thus examined, the assertion that "*jettez en molle*" means, and can only mean, "*printed from cast types*," is deprived of all its weight, and the phrase itself is valueless as an evidence that cast types were in use at Bruges, or elsewhere in Holland, at the time when Abbé Jean le Robert wrote his diary.

Xylographic and typographic productions, as well as that edition of the *Mirror of Human Salvation* which partook of the nature of both, may therefore be described alike, as books "*jettez en molle*."

But in endeavouring to ascertain the time when this latter work was printed, there are still two important points to be considered; and these are, the age of the paper, and the date of the costume and armour of the figures represented in the vignettes. On both of these



points Mr. Ottley's writings are most instructive. As regards the first, the only guides are the paper-marks, and as the same marks continued to be used by manufacturers for many successive years, it follows, that although the *Speculum* might possibly have been printed when peculiar marks were first made use of, the printing may, just as likely, not have taken place till many years later: the only certainty, therefore, that an undated paper-mark affords, is, that the work in which it appears could not have been printed prior to the time when it has been ascertained that that particular mark was originally introduced.

The marks observed in the paper on which the earliest edition of the *Speculum* is printed, consist of a fleur-de-lis (or anchor) an unicorn, two keys side by side, a hand, a St. Catharine wheel, a circle enclosing the letters M A with a coat of arms beneath; and the letter P; and in the later Latin edition, the letter Y. These three last are considered



the most important, and are dealt with as such by Mr. Koning.

As to the circle with the letters and coat of arms, he says, the initials signify without doubt, the initials of Margaret, widow of William, Count of Holland, and the mother of the Countess Jacqueline, the arms being those of Bavaria, whence he concludes, that the paper was manufactured during the reign of the Countess Jacqueline in Brabant and Hainault, after her marriage with the Dauphin, and before the treaty of transfer made to Philip of Burgundy in 1433, it being the custom of manufacturers of paper in the fifteenth century to put the arms of their sovereigns in their marks. Mr. Ottley, however, points out, that this usage was rare before the latter part of the century, although afterwards the practise became common.

The letter P, which Koning considers to have been the initial of Philip of Burgundy (who reigned in Brabant from 1430 to 1467,)

was found by him, he says, in a memorandum of accounts of the date 1432; and he remarks further, that "a large proportion of the books printed in Holland in the latter part of the fifteenth century, have this paper-mark, which will never be found in any book, nor in any paper, coming from Germany or from Italy."

This last assertion Mr. Ottley disproves, by citing several instances of its occurrence in various works of Zell, as well as the marks of the unicorn, the two keys, and the capital Y, &c., shewing, as he says, that Koning has "*erred egregiously.*" He also says (note, p. 160,) "The supposed *initial of Philip the Bold* is very doubtful. I have reason to believe that the paper on which it is found was made in Italy." And he moreover shews, that he could not find it in any of Mr. Koning's tracings, earlier than 1453. He himself saw it "in company with other papers which *he thought* not to be older

than 1438; but in a dated book he did not find it earlier than 1445."

"The letter Y," says Mr. Koning, "is, without doubt, the initial of Ysabel of Portugal, who was married to Philip le Bon in 1430."

Mr. Koning sums up the third chapter of his book by saying, "the paper-marks prove that the said works were published between the years 1420 and 1440; since it appears from what has been said above, that the paper of the first Dutch edition (of the *Speculum*) which is evidently the most ancient, bears alone the marks which are the most ancient; that is to say, the arms of Bavaria which were used by the paper-makers in the reign of the Countess Jacqueline, and consequently, before the year 1428; and that the paper of the second or third edition of the *Speculum* bears the letter P, the mark of the sovereign Philip of Burgundy, which certainly was not in usage until the year 1425."

Upon all this Mr. Ottley thus comments :—  
(pp. 163—164).

“Now, with respect to *the Gothic letter P*, which was so much used on paper, from the middle of the fifteenth to the early part of the sixteenth century, I shall not take upon me to deny Mr. Koning’s assertion, that it is to be considered as *the initial of Philip of Burgundy*; although, as it appears to have been used in other parts, as well as in his dominions, and continued so long after his death (as was the *Y* also, after that of *Ysabel*, the wife of Philip), the fact may be doubted. As to Mr. Koning’s hypothesis, concerning the *two* paper-marks with the *arms of Bavaria*, it is certainly ingenious: and, had he proved that the paper so marked, was manufactured in the dominions of *Jacqueline*, or of her mother *Margaret*, at the early period he speaks of, I should have thought it so strong a circumstance, in favour of that edition of the *Speculum* in which those paper-marks occur, that I should have felt disposed to carry back the three preceding editions of that work (for it certainly is the fourth) to a very remote period indeed, rather than have denied that it was printed at the early date he has assigned to it. But *first*, Mr. Koning has brought no evidence to shew that the paper was made in Brabant; (for the circumstance, supposing it true, that all the paper used in those times, at Haarlem, came from that great commercial depôt, Antwerp, proves nothing, since paper coming from different parts, was doubtless sold there); and, *secondly*, we have no proof that it was made at that early period. Suffice it for me to add, that neither of these paper-marks was to be found among the

tracings, made by Mr. Koning from the ancient registers of Haarlem, which, as I have said, he was so good as to lend to me; and that after a diligent search of several months in the extensive collections of original Books of Accounts, from 1352 to about 1470, in the archives at the Hague, I was unable to discover either of them; though at length I chanced to find them both, in a book in sq. fol. obligingly lent to me by Mr. De Jonge, now the principal archivist at the Hague; viz. the *Fasciculus Temporum* in Dutch, printed at Utrecht, by *Joh. Veldener*, in 1480; though perhaps the paper was not made from the same identical sieves or moulds, as the paper that is found in the *Speculum*."

Thus then, Mr. Ottley, who "shews a determined inclination to favour the claims of Laurent Coster,"\* also shews, that M. Koning, who obtained the prize from the Dutch Society of Arts and Sciences at Haarlem, for the best dissertation in support of the ancient tradition that the Art of Printing was invented in that city,—is wrong in his assertions in regard to the paper-marks; and that the earliest instances of the occurrence of those

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\* M. BERJEAU, in Introduction to Ottley's Inquiry concerning the Invention of Printing, p. xxxvii.

to which Koning chiefly refers, the Gothic P, and the arms of Bavaria, are in the years 1445, 1453, and 1480.

It follows therefore, from the evidence of the paper-marks, that the printing of the *Speculum* could not have taken place before 1445; that most probably it was not printed earlier than 1453; and that it may not have issued from the press before even 1480. Consequently, as the *Speculum* was the first Dutch work printed with separable types, it cannot claim priority over the invention of Gutenberg, which, as has been shewn in the preceding chapter, must have been previous to 1436.

As to the costume and armour of the figures in the vignettes of the *Speculum*,\* the following extracts from Sir Samuel Meyrick's letter to Mr. Ottley, and the observations

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\* The discussion of this subject occupies the last 65 pages of Mr. Ottley's work, the careful perusal of which will well repay the student of this most interesting branch of archaeological research.



of the latter thereon, are most pertinent. Sir Samuel says:—

“Next to actual dates, there is no criterion of age so sure as *Costume, which, changing on an average within every ten years, fixes the real period, almost precisely*; especially, as, all its parts not varying at the same moment, the one rectifies the vagueness of the other. After costume, ornament is a fair guide, as is architecture; and next to these, the style of writing, where the subject is a manuscript.

“You are, no doubt, well aware that the *designers of the middle ages, until the latter part of the seventeenth century, always dressed their figures from the objects before their eyes*; and those writers who would fabricate descriptions of what they wished should be supposed to have occurred before their times, always used the terms of costume applicable to their own period.”

Then follows numerous illustrations and references, in proof of the position laid down; amongst which are the different articles of armour used from the reigns of Edward I, to Henry VIII. With reference to some of these articles, Sir S. Meyrick continues:—

“On comparing these with what appears in the woodcuts to the *Speculum*, the identity will be evident. It is true that their use continued till the close of the fifteenth century; but this authority shews that they were also



known at its commencement. . . . .

“On a careful review and consideration of the whole, I am inclined to think, that the wood-blocks of the *Speculum* cannot be of later date than 1435, and that they may be a little earlier; nor is this opinion in the least degree shaken on an examination of the rest, besides that of which you more particularly asked it.”

But Mr. Ottley will not venture to assign to the woodcuts so early a date. He says:—

“I believe all will agree with Dr. Meyrick, that the artists of the times we are speaking of, and of earlier as well as much later periods, were universally accustomed to dress their figures according to the fashion of their own day, whatever the age of the subject they had to represent; and that, therefore *costume* (and I might add, the style of art) affords, next to actual dates, the surest means of determining the age of an illuminated manuscript or other monument.

“But, I suspect, if Dr. Meyrick means to speak generally, that he goes too far, when he says that, by such means, the true date of a work of art is to be ascertained to within the short period of five or ten years.

“In the early times we are speaking of, the main articles of dress continued so nearly the same for great part of a century, that the same suit of armour, and the same gown, descended from father to son, and from mother to daughter, and when altered, perhaps, in certain small details, rendering them so far conformable to the particular fashion of the day, served even for a third generation. These *small details*,

I admit, may in many cases greatly help us; and will sometimes point to a period of very small duration. But I suspect, that the *exact* date when one fashion had its commencement, and another went out, is known but in very few instances; and it can scarce be doubted but that in one country—nay in one part of the same country—certain fashions continued to prevail for some time after they had been discontinued in another.

“In addition to this, it seems probable, from the great costliness of armour, that when a suit, or part of a suit, had become too much out of fashion to be any longer worn by a man of rank, it would, instead of being thrown aside as useless lumber, be often handed over to one of his dependents: and in consequence, in designs and illuminations done in these times, it might happen that subordinate figures would here and there appear, dressed in costume of a more ancient character than the principal personages.

“Again, I think, that an artist advanced in years, when illuminating a manuscript, or making designs to engrave from, would often be likely, from habit, to represent his figures in costume more or less resembling that which had prevailed in his younger days, when he made his studies; and, hence, although he would scarcely fail to introduce also certain new changes of fashion, too remarkable to be overlooked, his work on the whole, would savour more of the costume of former days, than would be the case with the performance of a younger artist, executed at the same time.

“But our means of forming a correct judgment of the *date* of these cuts, are not in all respects so complete, as those which enable us to determine the country . . . Holland has no monumental effigies of these times, to which we may

refer as authorities . . . still, did Holland herself furnish us with more numerous authorities, we should, I think, be enabled to determine the date of the work in question, with fuller confidence than we can do under the existing circumstances.

“To conclude—I have found nothing in the costume of the cuts of the *Speculum*, that appears to me to militate directly against the supposition that they may be of the early date Dr. Meyrick has assigned to them, and, although the argument produced by that gentleman to shew that they cannot be later, is not perhaps in all respects conclusive, still, considering all the circumstances, I could with difficulty persuade myself that the work was not *commenced*, at least, within a few years of the period he has supposed, and certainly, I should say, not later than 1450.”

These reasons, and the conclusion they lead to, on the part of a writer so decidedly Costerian as Mr. Ottley undoubtedly is, are very important in a controversy of the kind such as that with which we are dealing. The 58 cuts of two designs each, and their engraving on wood, together with the twenty pages of texts, similarly engraved, must have taken a very considerable time to complete, on the part of the artist “Beelde-maker,” and “Letter-snyder,” employed upon them. Sup-

posing then the work of engraving the cuts was *commenced* in 1450, and the whole work was *completed* in three years, we are brought back to the same date for the earliest probable original printing of the *Speculum*, that we reached from a consideration of the paper-marks, a few pages previous; that is, at least thirteen years subsequent to the death of the man, whom Junius calls the first printer, and who, all those who have adopted his narrative, insist upon it, was, by the printing of that book, the original inventor and first practiser of Typography in Europe; but which, as we have seen, could not have appeared until more than seventeen years had passed away from the time when Gutenberg first made his separable metal types at Strasburg.

Enough, and more than enough, has already been stated, to prove that Laurent Janssoen Coster was not the inventor, nor Haarlem, the birthplace of the Typographic

Art; and that the *Speculum Humanæ Salvationis*, the first Dutch book printed with separable letters was not, and could not have been, printed at the place where, and by the man to whom, from 1588 to 1871, a host of writers, following the lead of Junius, have attributed it.

But it may fairly be asked,—If that work, as well as the others which have been imputed to Coster, were not the products of his press, by whom then were they printed? This question, although one of those seemingly more easily asked than answered, is yet one that need not be shrunk from, inasmuch as in the far-off vista of antiquity, and amid the dim mists of uncertainty which encompass it, certain ancient landmarks are perceivable, which may serve to guide the inquirer, and possibly help him to arrive at convictions capable of enduring the test of examinations as potent and searching as the touch of an Ithuriel's spear.

Reference has more than once been made to the impulse given to learning at the end of the fourteenth and the beginning of the fifteenth centuries. This movement was helped forward by no one in Holland and Germany more than by Gerhard Groote, or Magnus, of Deventer, (*b.* 1326, *d.* 1370), who after studying theology at Paris, became a canon of Utrecht and Aix-la-Chapelle, and founded the Order of the Brethren and Clerks of the Common Life, generally known as the "Gemeineslebens," or "Frères de la Vie Commune," but sometimes confounded with the Beghards and Lollhards of an earlier time. The headquarters of the Brotherhood was at Deventer, where a College was built and inhabited by them in the year 1400. Receiving the approval of the Council of Constance, the Order was propagated throughout Holland, Lower Germany, and other provinces. "It was divided into the literary Brethren or Clerks, and the unlearned Brethren, who lived in



different houses, but in bonds of the greatest friendship. *The Clerks devoted themselves to transcribing books, the cultivation of polite learning, and the instruction of youth; and they erected schools wherever they went.* The Brethren laboured with their hands, and pursued various mechanic trades. Neither were under the restraint of religious vows; but still they ate at a common table, and had a general community of goods. The Sisters lived in nearly the same manner, and the time which was not employed in prayer and reading, they devoted to education of female children, and to such labours as were suitable for their sex. The schools of these Clerks of the Common Life were very celebrated in this century, and in them were trained nearly all the restorers of polite learning in Germany and Holland; and among others the great Erasmus of Rotterdam, Alexander Hegius, John Murrnelius and others." Thus far Mosheim. Hallam, in his "Introduction to



the Literature of Europe," says, "they were distinguished by their strict lives, their community, at least a partial one, of goods, their industry in manual labour, *their tendency to mysticism*. But they were as strikingly distinguished by the cultivation of knowledge, which was encouraged in brethren of sufficient capacity, and promoted by schools, both for primary and for enlarged education. These schools were, says Eichhorn, 'the first genuine nurseries of literature in Germany, so far as it depended on the knowledge of languages; and in them was first taught the Latin, and in the process of time the Greek, and Eastern tongues.' Some of them, such as that of St. Edward's at Groningen, and the one at Zwoll, presided over by Thomas à Kempis, were of considerable reputation. In the year 1430 they had established as many as forty-five houses in Germany and the Low Countries, and in 1460 they had more than thrice that number. Amongst other occupations, they

busied themselves in copying and binding books.”

Bound to live by labour, and under a semi-ascetic discipline, self-abnegation was a distinguishing characteristic of the Frères de la Vie Commune; while the instruction of youth, and the promotion of piety, were the objects to which they devoted their lives and labours. The multiplication of books, which formed a portion of their occupations, could not but prove a powerful means for assisting them to the attainment of the objects which they had at heart. These books were naturally divided into educational and devotional, according to the classes of individuals for whose use they were designed. Among the former would be A B C Dariums, Catonis Disticha, Donatuses, Doctrinals, and such like. Among the latter, the Poor Man's Bible, the Apocalypse of St. John, the Book of Canticles, the History of the Virgin, the Arts of Memory and Dying, and the Mirror of Human Salvation.

As the operations of the Brotherhood extended, and their schools increased, the greater would be the demand for the above works, and the more laborious the efforts of the copyists to meet that demand. At their establishments, whether at Deventer, Bruges, Brussels, Zwolle, or elsewhere, artists and illuminators would be found among their ranks. And as Zwolle is known to have been a very early seat of the engraver's art, such pictorial embellishments as these artists designed would speedily be transferred to wood. That such was the case, and that Zwolle was the place where Block-books were first produced, seems to be certain, from the fact that in 1489 the Brethren there used the original blocks of the *Biblia Pauperum* in printing the work "Passye ende dat Leven van onser liefs hern." The silver cross and arms of Zwolle are also to be found in the cuts of the Book of Canticles. As the labours of the copyists increased, and as scrolls and inscriptions were added

to the engraved figures, and the art of the 'letter-snyder' was called in to assist that of the 'beelde-maker,' and the 'formen-' and 'figure-snyder,' there can be no question but that it not unfrequently occurred to the minds of thoughtful copyists, that whole texts of books could be so engraved. A representation to that effect to the chief of the brotherhood would lead to an order to carry the idea into execution. In the descriptive text of the *Ars Moriendi* and like works, and in the twenty xylographic pages of the first Latin edition of the "Mirror of Salvation," we see the realization of the idea. But in the course of continually cutting the letters on the wood, an intelligent 'letter-snyder' would be struck by the constant recurrence of certain letters and combinations of letters,—a fact much more likely to attract his attention than a copyist's,—and he would find, in counting over these letters, that his future labours could be greatly abridged, by

merely cutting as many separate letters and combinations of each sort, as would suffice for printing a page or two at a time; the same letters answering again and again for the work in hand, or for any other that might be required. In the reduction of this idea to practice, the reason may be seen why the first edition of the *Speculum* is partly xylographic and partly typographic.

The success attending these first Dutch efforts at printing with separable types would at once lead to further applications of the art in the production of elementary educational books; and as the reputation of the Brethren as schoolmasters was great, and they were often invited and sent for by the magistrates of cities to open schools in Germany as well as in Holland, they would carry such books with them. The fact of fragments of early Donatuses and Doctrinals being found in Germany is thus accounted for, without any necessity for supposing, with Junius and his followers,

that the types from which they were printed were stolen from Coster of Haarlem, and carried away to Mentz: while sets of types cut by different 'letter-snyders' would also account for the differences observed in the typography of the four folio editions of the *Speculum*.

Bearing in mind then, the objects to which the Brethren and Clerks of the Common Life devoted themselves;—the classes of books, educational and devotional, of which the block-books consisted, and their special adaptability to promote the objects of the fraternity:—the fact, that Zwolle was one of the earliest seats of the engraver's art, as well as a central station of the brotherhood;—that the original blocks of the *Biblia Pauperum* were reproduced at the Brethren's printing press there in 1489;—that large editions of these works were never required,\* and that therefore one printing establishment might suffice for the

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\* See *ante*, p. 86.



needs in this respect of the whole fraternity;— that the arms of the city were engraved on one of these books, the Song of Songs;— that all those with pictorial embellishments, claimed as Costerian productions, are, in the opinion of so competent a judge as Ottley, the work of the same artist, or at least of the same school, as regards design and execution, as the *Biblia Pauperum*;—and that from the paper-marks, as well as the character of the costume and armour of the figures in the *Speculum*, that work could not have been printed until about the year 1453, or later:—the conclusion seems reasonable, that all the works which from 1588 have been traditionally attributed to Coster and his alleged successors, came in reality from the establishment of the Brethren and Clerks of the Common Life at Zwolle:—and if so, this satisfactorily accounts for there being neither name nor initial nor date, to indicate either author, designer or printer;



the principles of the fraternity being such as to merge the individual in the brotherhood, and to make the work of one a portion of the common work of all.

Setting aside, therefore, the conclusions of Baron Heineken and Wetter in regard to the party by whom, and the date when, the *Speculum* was originally printed, (which nevertheless are not without grounds for their support), this view of the question gives to some unknown brother or brethren the merit of having independently worked out the idea of separable letters on wood about the years 1450—53; thus adding one more to the number of known instances, when at certain historic periods the minds of individuals wholly unknown to each other, and in widely different parts of the world, have almost simultaneously worked out the same invention, or made the same discovery. Instances of such coincidences will no doubt at once occur to the minds of intelligent readers; I shall

therefore only refer by way of illustration to the invention of Photography by M. Niepce and Mr. Fox Talbot, and the discovery of the planet Neptune by the English and French astronomers, Adams and Leverrier.

The rarity of copies of works in which the types used in the *Speculum* have been recognised, is accounted for by the fact of their speedy supersession by cast fusile metal types, when a knowledge of the Arts of Typography and Typefounding became spread throughout Europe by the dispersion of the workmen at Mentz, on the capture and sack of that city in 1462. Most, if not all of the early printers, were men of learning. Many of those who first practised the art in the Netherlands would consequently have been educated by the Brethren and Clerks of the Common Life; and amongst these some were very probably members of that fraternity. It is certain that at Brussels (1476) and at Zwolle, as well as at Rheingau (1474) and Rostock (1476), the

Brethren speedily practised the new art as first brought to perfection at Mentz. And at one or other of these places, it is much more likely that Veldener obtained the cuts of the *Mirror of Salvation*, which he reprinted at Culembourg in 1483, than that he purchased them from the descendants of Coster at Haarlem; — a statement which, however much insisted upon by Dutch, and reiterated of late by French and English writers, is purely suppositious, and utterly void of the slightest foundation in fact.

## Early Typography.

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### CHAPTER V.

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THE WORKS OF FAUST AND SCHCEFFER.—LEGEND OF THE PRINTER'S DEVIL.—MONUMENTS IN GERMANY TO GUTENBERG, FAUST AND SCHCEFFER.—SEPARABLE LETTERS FIRST INVENTED IN CHINA.—CHARACTERISTICS OF ANCIENT PRINTED BOOKS.—THE "COMPOSING-STICK" AND "SETTING-RULE."—EARLY BINDINGS.

THE first book published by Faust and Schoeffer, after their separation from Gutenberg, was a beautiful folio edition of the Psalter, finished on the 14th August, 1457. This is the celebrated work, so often alluded to, the first to which the name of the printer was affixed, as well as that of the place where, and the date when, it was printed. It is from this circumstance that the origin of the Art of Typography has been by certain early writers attributed to Faust rather than to

Gutenberg. The fine large Gothic type with which the book is printed, (22 lines to a foot,) is exactly double the size of that cut for the 'Mazarin' Bible. The initial capital letters, of which there are in all 288, are from four to six lines in depth, printed in red and blue, with ornamental flower-work and figures cut in the body of the letter, and bordered with scroll-work running into the margins. In the case of the commencing initial, the letter B, this scroll-work extends from the top to the bottom of the page. The capitals commencing each sentence in the body of the work, are also in red ink, as well as whole lines interspersed here and there. The music is on a staff of four lines instead of five, the notes square-headed and diamond-shaped, the words beneath being in roman characters. These portions of the work are engraved on solid blocks. At the end of the Psalter is inserted the Faust and Schœffer badge, which thenceforth appeared in all

their works.\* This consisted of two shields (on which were their coats of arms) suspended from the branch of a tree. Beneath this was the following imprint or colophon:—

“*Presens spalmorum codex venustate capitalium decoratus Rubricationibus que sufficienter distinctus, Adinventionem artificiosa imprimendi et caracterizandi absque calami ulla exaratione sic effigiatus. Et ad eusebiam Dei industrie est consummatus* † *Per Johannem Fust Civem moguntinum Et*

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\* “The early printers generally marked their publications by some monogram or cipher peculiar to themselves, and containing their initials, their arms, or some curious device. These are all well known to the initiated bibliopole, and their presence on a title-page is received as evidence of the genuineness of a scarce copy. The oldest of them is that of Faust and Schœffer, annexed to their first Psalter, and consisting of two shields tied together and hanging from a branch. Raphelengius, of Leyden, adopted the anchor; Sporinus of Basle, chose the arion; Jansen of Amsterdam, the sphere; the Elzevirs exhibited the olive tree, and the celebrated Aldus had for a device, the anchor and dolphin.”— (“History of Printing,” published by the Society for Promoting Christian Knowledge). Gotfridus de Os, of Gouda, had for his device an elephant and castle, combined with the arms of the city.

† In the colophon to the second edition of this Psalter, printed in 1459, the word ‘spalmorum’ is corrected to ‘psalmorum,’ and instead of the words “ad eusebiam Dei

Petrum Schöffer de Gernszheim. Anno domini Millesimo CCCCLVII. In vigilia Assumpcionis.”

The declaration contained in this colophon seems incompatible with the truth, as well as with the admissions of Schœffer himself, on other occasions, unless it be understood as applying to the exquisite initial letters, these being printed wholly in colours, instead of being sketched in by the hand of the rubricator or coloured by illuminators. These very letters however, it is believed by some, including Mr. Humphreys, (see p. 86 of his work,) were the work of Gutenberg; and M. Fischer in his interesting essay\* has shewn, that in several small works† which issued

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industrie est consummatus” etc., the following occur:—“ad laudem Dei ac honorem sancti Jacobi est consummatus per Johannem Fust, civem moguntinam et Petrum Schoiffer de Gernszheim clericum. Anno Domini millesimo CCCCLIX, XXIX die mensis Augusti.”

\* “Essai sur les Monumens Typographiques de Jean Gutenberg, à Mayence, l’an X.” [1801.]

† Among the works referred to was a Donatus. Mr. HUMPHREYS, remarking upon these letters, says:—“If these



from Gutenberg's press before the forfeiture of his plant to Faust, the identical letters (the smaller initials) used in the Psalter, as well as some of those printed in two colours, and of which he has given fac-similes, appear. But if, as there is abundant reason to believe was the case, Schœffer was engaged as an assistant at the Zum Jungen at, or soon after the year 1450, when Gutenberg first obtained advances from Faust, these capitals, the beauty of which is undisputed, may have been, and most probably were, designed by him for the projected

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initials, of which M. Fischer gives admirable fac-similes, were really executed under the direction of Gutenberg, they must of necessity greatly enhance the wonder and admiration felt for the author of the marvellously perfect workmanship of the first Bible; and also detract, to an equal extent, from the repute long held by Schoiffher as the Printer of the famous Psalter, with its fine coloured initials vaunted as the work of the press alone, and not produced by the illuminator's pencil; for if M. Fischer be correct in attributing the work in question to Gutenberg, then the credit of the initials printed in colours in the Psalter must also be given to Gutenberg, as all the lesser initials in that noble specimen

works for which the money was advanced; and, as his 'inventions,' and not the work of Gutenberg, they would be included in the

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of the printer's art, are the identical letters found by M. Fischer illustrating the 'Donatus' attributed by him without hesitation to the press of Gutenberg, as being printed with the same type as the first Bible. The fine free style of these letters, and their perfect execution, is very remarkable..... That the 'Donatus' in question was printed, not only before Schoiffher's Psalter, but also before the Bible, appears incontrovertibly proved by the fact, that the five leaves in question of this 'Donatus,' were found in the cover of a book of accounts dated 1451. The testimony of M. Fischer is above suspicion; but it is to be regretted, that this most important and interesting monument of the labours of Gutenberg is now no longer to be found. At the time that M. Fischer's examination and description were made, it was in the public library of Mayence; but at that time several national monuments were removed to Paris, and others lost in the general ransacking that took place, and the interesting 'Donatus' described by M. Fischer is among the documents now no longer to be found either at Paris or Mayence. Although it would thus appear that the credit of the letters in question is due to Gutenberg, I shall have some further remarks to make on the subject in describing the famous Psalter of Schoiffher. The Bibliothèque Nationale possesses two leaves of a 'Donatus' printed with Gutenberg's Bible type."—*Hist. of Art of Printing*, p. 77.

property which was transferred to Faust on the termination of the law-suit. Looked at from this point of view, they may be thought to justify the assertion in the colophon of the Psalter of 1457, although there can be no doubt but that that work was partly completed while the whole property was still in the possession of Gutenberg, and that therefore to him must be attributed the honour of planning, and cutting the fount of types with which it was executed.

“The most perfect copy known of this work, (says Mr. Timperley,) is that in the Imperial Library of Vienna. It was discovered in the year 1665, near Innsbruck in the castle of Ambras, where the Archduke Francis Sigismund had collected a prodigious quantity of manuscripts and printed books; taken for the most part from the famous library of Matthias Corvinus, King of Hungary, from whence it was transported to Vienna. The book is printed in folio on vellum, and of

such extreme variety, that though not more than six or seven copies are known to be in existence, all of them differ from each other in some respect. The Psalter occupies one hundred and thirty-five, and the recto the hundred and thirty-sixth, and the remaining forty-one leaves are appropriated to the litany, prayers, responses, vigils, &c. The Psalms are executed in larger characters than the hymns; the capital letters are cut in wood, with a degree of delicacy and boldness which are truly surprising: the largest of them—the initial letters of the Psalms—which are black, red, and blue, must have passed three times through the press.”

From 1457 to 1466 the following works were printed by Faust and Schœffer.

(1) The Psalter, 2d edition.—1459.

(2) *Rationale divinatorum Officiorum* Guiljelmi Durandi.—1459.

A folio work consisting of 160 leaves, with the text in two columns of 63 lines each. For

this work two new founts of type were cast, of smaller sizes than those used for the Psalter of 1457, and Bible of 1455. The first was of the depth of 53 lines to a foot; the smaller 66, equivalent to the *English* of type-founders of the present day. The latter was used for the body of the work.

(3) Constitutiones Clementis V. Papæ cum Apparatu Joannis Andreae.—1460.

This consisted of 51 leaves of folio, two columns to a page. The text was in the larger of the above two types, surrounded by a glossary or commentary, ten times its bulk, in the smaller type. Of this work two subsequent editions were published in 1467 and 1471.

(4) Manifest des Erzbischofs von Mainz, Diether von Isenburg, gegen Adolph von Nassau.—1462.

(5) Biblia Sacra Latina Vulgatæ editionis, ex translatione et cum præfatione S. Hieronymi.—1462.

This is the Bible commonly known as the 'Mentz,' in order to distinguish it from the 'Mazarin.' It is the first published with a date; the colophon being nearly the same as that appended to the Psalter of 1457. It is, however, believed that it was originally issued with the intention of selling it as manuscript; that portion of the colophon containing the words "artificiosa adinventione imprimendi seu. caracterizandi absque calami exaratione," being omitted from some of the copies. The subsequent insertion of the above words, it is supposed, was owing to the compulsion of circumstances, which will be hereafter alluded to. The book consists of 1001 pages, each in two columns of 48 lines of the same type as that used for the text of the 'Constitutiones.' Copies were printed on both vellum and paper, many of the larger initials being beautifully illuminated.

(6) Bulla cruciata Sanctissimi Domini nostri Papæ (Pii II.) contra Turchos.—1464.



The heading is in the Psalter type, the text in that of the 'Rationale.'

(7) Liber sextus Decretalium Domini Bonifacii Papæ VIII. cum glossa.—1465.

A work of 141 leaves of large folio, in double columns. The type of the text is the same as that of the Bible of 1462; the glossary is in that of the 'Rationale.'

(8) M. T. Ciceronis De Officiis Libri III Paradoxa et Versus XII sapientium.—1465.

This work, "the first tribute of the new art to polite literature," and the first in which Greek characters (cut in wood) appeared, is a handsome quarto (or small folio) of 88 leaves\* with 28 lines to a page, in the same

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\* WETTER, p. 527; but HUMPHREYS, p. 88, says "twenty-eight leaves." Not being in a position to make a reference to any copy of the work itself, I am unable to say which of these authorities is right. One of the finest specimens of this work extant, is that in the celebrated Astor Library at New York. The paper is as clean and the ink as fresh as the day on which it was printed. There are also in this Library several other Typographical treasures. Amongst



type as the 'Rationale.' The striking peculiarity of this book is, that it is the first in which 'leads,' spacing the lines apart from one another, are used. Great care seems to have been taken to print it with the utmost elegance. The fine large initial letters of the Psalter of 1457 were again used, printed in blue and red inks; and in some copies the blank spaces left for illuminated letters were filled up in the highest style of art. The most elaborately finished specimens are decorated with borders round the pages, in the same style and evidently by the same hand that was employed for that purpose, on the superb copies of the Mazarin Bible of 1455. That the printers were growing proud of their

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them will be found the "Catholicon" of John of Genoa, printed at Augsburg in 1469; two specimens of Caxton, one of them a few leaves of the "Recuyell des Histories de Troye," printed in 1471, and the other, Higden's "Polychronicon," printed in London, 1482. Glanville's "De Proprietatibus Rerum," printed by Wynken de Worde, the successor of Caxton, in 1494, is also a handsome specimen.

art is evident by the colophons they now used. That to the Decretals is in the following terms:—

“Presens hujus sexti Decretalium opus alma in urbe Magontia inclyte nationis Germanice, quam Dei clementia tam alto ingenii lumine donoque gratuito ceteris terrarum nacionibus preferre illustrareque dignatus est. Non atramento, plumali canna, neque ærea, sed artificiosa quadam adinventione imprimendi, etc. etc. per Joh. Fust civem et Petrum Schoiffer de Gernsheym. Anno. Dom. MCCCCLXV. die verò 17, mensis decembris.”

The colophon to the ‘Offices’ differs. It is as follows:—

“Presens Marci Tuly clarissimum opus. Johannes Fust Mogintinus civis non atramento plumali canna neque ærea, sed arte quadam perpulcra, Petri manu pueri mei feliciter effeci finitum Anno MCCCCLXV.”

(9) Grammatica vetus rhythmica.—1466.

A work of eleven leaves of small folio, in the type of the ‘Rationale.’ The concluding lines are as follows:—

“Actis ter denis jubilaminis octo bis annis  
Moguntia Rheni me condit et imprimit annis  
Hinc Nazareni sonet oda per Ora Johannis  
Namque sereni luminis est scaturigo perennis.”

In the same year the book "S. Augustini Liber de Arte Predicande" appeared. It is attributed to the press of Faust and Schœffer, but I have no means of further particularising it.

The year 1462 was memorable for the siege and sack of Mentz by the Elector Archbishop, Count Adolphus of Nassau. After the capture of the city, Faust proceeded to Paris with a supply of Bibles, amongst which were no doubt a goodly number of the edition only just then completed. Tradition has it, that he sold one of these Bibles to the King for 750 crowns, and another to the Archbishop for 300; and that gradually lowering his prices he at last disposed of copies for 50 and 40 crowns a-piece.\* The King and the Arch-

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\* The differences in these prices lead to the conclusion that the higher prices must have been given for copies of the Bible of 1455, and the lower for those of 1462; the charge made for each varying according to the amount of ornamentation in illuminated letters and marginal decorations.

bishop, comparing their purchases, which they had bargained for as manuscripts, found so exact a conformity between them, as to be convinced that they were produced by some other method than that of transcribing; besides which, it was impossible that two such Bibles could be executed by the same hand in a lifetime. Upon inquiry, it was found that a considerable number of similar copies had been sold in the city. Hereupon orders were given to apprehend Faust, who was accordingly seized, tried for witchcraft, and condemned to be executed as a wizard in league with the Devil. So runs the tale; in which fact and fiction have been strangely blended, the latter greatly predominating, — John Faust the banker, and one of the three first printers of Mentz, being confounded with Jean Frederic Faust, a charlatan and almanac maker of the sixteenth century, who to ensure his almanacs a large sale, advertized them as actually dictated to him by Beelzebub. It was thus that

the legend obtained currency, that Faust of Mentz invented printing in consequence of a compact entered into between himself and the Evil One. The diabolical stigma once attached to the profession, the monks and scribes, the 'brief-men' of the day, took care that it should remain. Hence the origin of the term "Printer's Devil," the by no means complimentary honorific bestowed upon youngsters on their first initiation into the mysteries of the Divine and Noble Art.

No doubt the sale of his Bibles in Paris, the great book-mart of the day, excited a considerable cabal against Faust, on the part of the scribes; who would readily enough assert that such works could only have been produced by the aid of witchcraft. An assertion of this nature was, at that time, dangerous in the extreme to the party against whom it was made. Authors, writing shortly after the time of Faust's visit, say that such a charge was made, and that he had to leave

the city in consequence. The most effectual way of rebutting it would be the avowal of the method adopted in bringing out the work, and this was done by the insertion, in freshly printed leaves, of the words mentioned in page 358 as having been omitted from the early copies. It has been urged, that it was impossible for Faust to have attempted the imposition of passing these Bibles off as manuscripts, inasmuch as he had already divulged the fact of his printing such works in the imprint to the Psalter of 1457. But that imprint applied to that work alone; and Faust, who was a sharp man of business, would not have purposely omitted from the imprint to the Bible, that part of the sentence which notified that the work was done "by a newly invented art of casting letters, printing," &c., unless he had intended to derive a profit by so doing. There does not however, seem to be any foundation for the assertion that he was brought to trial. His absence from Paris



was a very temporary one. It is certain he was well received by persons of eminence there, and ultimately succeeded in establishing an agency for the sale of his books in the city, in spite of the opposition of the scribes. In 1466, he made another business visit to Paris, where he was taken ill, and died, as some suppose, of a pestilence which was raging at the time, to which, as he was then seventy-one years of age, he would have fallen an easy victim. His remains were interred with honor, in the Church of St. Victor. "An anniversary mass was afterwards appointed to be said for the repose of his soul, on the presentation by Peter Schoiffher and Conrad Fust of a copy of the 'Epistles of Jerome,' printed on parchment, and considered so important a work, that the Abbé of St. Victor deemed it right to pay back the sum of twelve gold crowns, the work exceeding by that sum the value of the fees due for the annual masses. This

fact is contained in an entry in the 'Necrology of St. Victor,' which is preserved at Paris, in the Bibliothèque Nationale, (MSS. fonds St. Victor). The copy of the 'Epistles of St. Jerome' here alluded to is now in the library of the Arsenal."\*

After Faust's death, Schœffer continued the business in partnership with his father-in-law Conrad Faust, who did not however take an active share in its management, and who died about the year 1479. Conrad Helif and Dr. Humery seem also to have been for a time connected with him. From 1467 to 1503, the date of Schœffer's death, he printed, according to Wetter, 49 works,† several of

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\* HUMPHREYS, p. 89.

† The following is a brief list of these works:—

1. Thomas de Aquino, *secunda secunde*, 1467.
2. Clementis V. *Constitutiones*, 2d edit. 1467.
3. *Institutiones Justiniani*, 1468.
4. *Grammatica vetus rhytmica*, 2d edit. 1468.
5. Thomas de Aquino, *Expositio quarti libri sententiarum*, 1469.

which were second, third, fourth, fifth and sixth editions of those previously issued. The agency which John Faust the elder had established in Paris for the sale of his books, became an emporium to which other printers

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6. Bonifacii VIII. Liber Sextus decretalium, 2d edit.
  7. Hieronymi Epistolæ, 1470. [1470.]
  8. Mammothtractus, sive Dictionarium vocabulorum, 1470.
  9. Decretalium liber Sextus, 3d edit. 1470.
  10. Valerius Maximus, liber factorum, etc. 1471.
  11. Clementis V. Constitutiones, 3d edit. 1471.
  12. S. Thomas, Prima pars secunde, 1471.
  13. Biblia Sacra Latina, 1472.
  14. Decretum Gratiani, 1472.
  15. Justiniani Institutiones, 2d edit. 1472.
  16. Bonifacii VIII. liber Sextus decretalium, 4th edit. 1473.
  17. Augustinus, de civitate Dei, 1473.
  18. Gregorii IX. nova compilatio decretalium, 1473.
  19. Turrecremata, Expositio psalterii, 1474.
  20. Henrici Herp Speculum aureum, 1474.
  21. Justiniani codex institutionem, 1475.
  22. S. Bernardi Sermones, 1475.
  23. Bonifacii, &c., 5th edit. 1476.
  24. Turrecremata, &c., 2d edit. 1476.
  25. Justiniani, &c., 3d edit. 1476.
  26. Bonifacii, &c., 6th edit. 1476.
  27. Decisiones rote Romane, 1477.

besides Schœffer sent the productions of their presses. This was managed by one Hermann de Stathoen, who had been appointed by Schœffer; but he dying in Paris, in 1474, an unnaturalized foreigner, the whole stock

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28. Justiniani Novellæ constitutiones, 1477.
  29. Pauli Burgensis Scrutinium Scripturarum, 1478.
  30. Turrecremata, Expositio super psalterio, 1478.
  31. Bartholomæi de Chaymis confessionale, 1478.
  32. Gregorii IX. Decretales, 1479.
  33. Turrecremata Meditationes, 1479.
  34. Joannis de Wesalia Paradoxa, 1479.
  35. Agenda Moguntina, 1480.
  36. Herbarius, 1482.
  37. Missale Moguntinum, 1483.
  38. Herbarius cum herbarum figuris, 1484.
  39. Ortus sanitatis, 1485.
  40. Missale Ecclesie Misniensis, 1485.
  41. Breviarium Moguntinum, 1487.
  42. Missalium opus ad usum Ecclesie Cracoviensis, 1487.
  43. Legenda et miracula S. Goaris, 1488.
  44. Psalmorem Codex, 1490.
  45. Chronicken der Sassen, 1492.
  46. Missale Moguntinum, 2d edit. 1493.
  47. Ordnung des kaiserl. Kammergerichts, 1495.
  48. Missale Wratislaviense, 1499.
  49. Psalterium, 1502.

of books in his charge was confiscated by the King, Louis XI. Schœffer at once made such representations to the monarch as led to a royal decree, awarding him the sum of 2425 crowns, by way of compensation for the confiscated property. Besides the agency at Paris, Schœffer established business relations at Frankfort-on-the-Maine, where in 1479, he was entered on the roll of burghers. In 1489 he became one of the secular judges of Mentz. A wealthy, an honoured, and an influential citizen, he died, it is supposed, in the year 1503. His last work was a fourth edition of his celebrated Psalter, published in 1502. The next year, his eldest son, John, issued the "Mercurius Trismegistus," which is declared in the imprint to be his first work, and by him the business was continued until 1538.\*

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\* Another son, or perhaps a grandson, Peter, established himself as a printer in the city of Worms, not far distant from Mentz. It was at his press that William Tydnale's

The death of Schœffer brings us to a point in the narrative, where we may pause a moment, to note the progress of the art, of which, next to Gutenberg, he was the most eminent founder. Perhaps no art ever rose to perfection with such rapidity, after its groundwork had been completed, as that of Typography. Little more than thirty years had elapsed from the time of printing the *Biblia Pauperum* from wooden blocks, when Gutenberg's separable hand-cut letters were followed and superseded by Schœffer's cast fusile metal types. The art, which with Faust's assistance, Gutenberg founded and Schœffer perfected, remains to this day essentially the same that it was in 1455. Steam power and machinery may to a large extent have superseded the old hand-press invented

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version of the first English translation of the New Testament was printed (in 1525 or 1526), after failing to get it done at the press of P. Quentell of Cologne. A press was established at Friesingen in 1495, by Joann. Schæffier.



by Gutenberg; and the art of stereotyping may also have multiplied the power of the types in disseminating and cheapening useful knowledge; but the foundation and principles of Letter-press Printing remain unaltered and unalterable. Types, ink, and pressure, still produce books as they were first produced, and the finest productions of the present day are not superior in Typographic beauty, or aught else that stamps a work a masterpiece, to the best efforts of the Fathers of the Art, four hundred years and more ago.

It has been reserved for the Nineteenth century to render due honor to the "grand Typographical Triumvirate," as they have been termed, for the noble Art by which

"New shape and voice the immaterial thought  
Takes from the invented speaking page sublime;  
The Ark which mind has for it refuge wrought,  
Its floating Archive down the floods of Time."

With this object in view, the Gutenberg Society, to which all the writers of the

Rhenish provinces belong, meet yearly at Mentz, there to celebrate the fame of Gutenberg, the chief inventor. And in 1837, a grateful posterity, animated by similar sentiments, erected in the same city, in commemoration of the Four Hundredth anniversary of the Origin of the Art, a monumental statue to his memory. On the festival at the inauguration of the statue (August 14, and following days), the Provost of Mentz published an address, to the following sentences from which every reader will doubtless most cordially assent. "If," says the ardent Provost, "the mortal who invented that method of fixing the fugitive sounds of words which we call the Alphabet, has operated on mankind like a divinity, so also has Gutenberg's genius brought together the once isolated inquirers, teachers and learners,—all the scattered and divided efforts for extending God's kingdom over the whole civilized earth, — as though beneath one temple. Gutenberg's

invention, not a lucky accident, but the golden fruit of a well considered idea,—an invention made with a perfect consciousness of its end,—has, above all other causes, for more than four centuries, urged forward and established the dominion of science; and what is of the utmost importance, has immeasurably advanced the mental formation and education of the people. This invention, a true intellectual sun, has mounted above the horizon, first of the European Christians, and then of the people of other climes and other faiths, to an ever-enduring morning. It has made the return of barbarism, the isolation of mankind, the reign of darkness, impossible for all future times. It has established a public opinion,—a court of moral judicature common to all civilized nations, whatever natural divisions may separate them, as much as for the provinces of one and the same state. In a word, it has formed fellow-labourers at the never-resting loom of Christian European civilization

in every quarter of the world, in almost every island of the ocean.”

The example set by the citizens of Mentz was a few years later followed by those of Strasburg, in which city, as already stated, Gutenberg's earliest efforts were made; nor were the inhabitants of Frankfort-on-the-Maine long behind,—excelling even those of Strasburg and Mentz, by combining in one grand group the statues of Gutenberg, Faust and Schœffer. Of these several specimens of the sculptor's art Mr. Humphreys gives the following account:—

“It was not till the nineteenth century that worthy memorials of the great founder of the Printing-Press in Germany were erected. The first was that at Mayence. As a statue it is not equal to the one of Coster at Haarlem, although the work of Thorwaldsen. It was executed at Rome in 1835, and cast in Paris in 1837. The gown of the period with its fur collar, or rather cape, is effective enough as a mere matter of costume, and so is the furred cap closely copied from supposed authentic portraits of Gutenberg. One hand holds a book, and the other, types; but the general effect is tame and unimpressive. It is well that the great name of Thorwaldsen should be thus allied to that of Guten-

berg, but it is not one of the great Dane's most successful works. The inscription, stating that it was erected by the citizens of Mayence, with the concurrence of the whole of Europe, is grandly simple, as it ought to be.

“The statue at Strasburg, the scene of Gutenberg's first typographic efforts, is the work of the celebrated French sculptor David d'Anger, and the market-place in which it is erected is now called La Place Gutenberg. The position of the figure is full of life and spirit; a proof-sheet is held proudly forward, bearing the inscription, as though in answer to one of the first fiats of Creation—‘Let there be light.’ It is intended to express that, through the medium of the Printing Press, intellectual light came, as expressed in the words, ‘And there was light.’ On the pedestal are four bassi-relievi, in which the dissemination of knowledge by means of the Printing Press is illustrated. In the one on the front, all the great authors of modern Europe are grouped round a Printing Press; among them Shakespeare, Corneille, Bacon, Dante, Voltaire, and Goethe, are conspicuous.

“The Memorial at Frankfort is, on the whole, more impressive than either of the preceding. It consists of three separate statues, forming together a single group. The statues are those of Gutenberg, Faust and Schœffer, who each assisted in the first great work of founding the Printing Press in Germany, and whose memorials found a fitting place in the imperial city, which was still the seat of the Germanic Diet at the time of the Memorial in 1837. The subsidiary figures which embellish the face of the structure,—Literature, &c., &c.—are very good and appropriate. The entire composition is imposingly raised on

steps connected with the secondary pedestals, which support the allegorical figures. Altogether, the memorial is a fine one. But it has one defect—there is no name nor description of any kind—so that travellers unacquainted with the subject, might mistake the group for that of any other celebrated triumvirate. A statue, even of Shakespeare, should be accompanied at least by the simple name.”\*

Still, although Gutenberg is most justly entitled to the honour of being considered the inventor of the Art of Typography, as now practised in Europe, he was not, in fact, the first who printed books from separate moveable types. In this, as in block printing, the Chinese again bear away the palm. For, singularly enough, it is ascertained that although the general mode of printing in China is, and always has been, from wooden blocks, yet separable letters were known to the Chinese as early as the Eleventh century. For a time, single characters made of clay and baked hard were used in that empire, but were soon abandoned for the mode now almost

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\* *Hist. of Art of Printing*, p. 216.



universally practised, except for the Imperial Calendar, published once a quarter, and the Pekin Gazette, issued daily, which are still wretchedly printed from moveable types made of a plastic gum.

The account of the invention is too interesting to be omitted. In the period King-li (between 1041 and 1048) one of the people, a blacksmith named Pi-ching, invented another manner of printing with *ho-pan*, or tablets formed of moveable types. This name is still retained in the Imperial Printing Office at Pekin. On a fine and glutinous earth, formed into plates, Pi-ching engraved the characters most in use. Each character was a type. These he burnt in the fire to harden them. When he wished to print he took a frame of iron, divided interiorly and perpendicularly by strips of the same metal (Chinese being read vertically); this he laid on a table of sheet iron coated with a fusible gum composed of resin, wax, and lime; he then inserted

the types, placing them one close against the other. Each frame, when filled, formed a tablet. This was brought near the fire to make the gum melt, after which a level piece of wood was pressed forcibly on the surface of the types, by which means they were pushed down into the gum and became firm and even as a stone. The tablets were then printed from in the usual manner. When a new character was wanted it was immediately prepared on the spot, and the inventor shewed the advantage of clay over wood; there was neither grain nor porosity, with a greater facility of separation from the gum when required for distribution.

At Pi-ching's death, all this apparatus was carefully preserved by his successors. Printing, however, went on in the old way, the reason being that the Chinese has not, as other languages, an alphabet made up of a few characters, with which all sorts of books may be printed, but a separate type is wanted

for every word; and as the language is divided into classes of 106 sounds, so 106 cases (part of the furniture of a Printing Office) would be required, each one to contain a prodigious number of types, thus rendering the mechanical task of composing and distributing, one of enormous difficulty and labour. It was easier and cheaper to follow the usual method, and print either from blocks of wood or plates of stereotyped copper.\*

All honour to the memory of Pi-ching, the Chinese blacksmith! One might almost be tempted to suppose, did we but believe in the doctrine of metempsychosis, that after

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\* "One of the most remarkable typographical displays in the great Exhibition of 1851 was the collection of Chinese types, or at least types to represent Chinese characters, in the Zollverein department. They were manufactured by Beyerhaus of Berlin, for the American Missionary Society. The Chinese vocabulary is made up of a number of distinct words, which are not built up from component letters, as in European languages, but have a good deal of the hieroglyphic effect about them. To imitate these words or characters by moveable types has always been deemed a

a lapse of 400 years, disgusted at the neglect of his invention in the East, his spirit migrated to the West, and that in Gutenberg he was permitted to be born again. A like spirit animated them both, and to the end of time their labours will live and their memories be blest.

The account given in the foregoing description of the method of composing his types used by Pi-ching, is not very dissimilar to that said to have been adopted by the first Typographers of the Western World. Frames, or coffins, were made of planks of wood, in which rectangular hollows were cut the size

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difficult matter. M. Beyerhaus has analyzed the lines and dots of the Chinese language, so as to make 4200 letters out of them, or elements which will serve the compositor in lieu of letters. The steel punches of all these 4200 types were shewn; and by various combinations of them, about 24,000 Chinese words or characters can be imitated; and it was very interesting to see copies of the Bible and the New Testament printed in Chinese by the aid of these types.”  
—*Curiosities of Industry*—Printing; its Modern Varieties, by G. DODD, p. 4.

of the pages to be printed; and in these the types, after having been strung together, were placed in horizontal lines, the ends of the lines and the bottoms of the pages being tightly wedged in, to prevent slips and damage while on the press.

All works printed during the first few years after the invention of Typography, were of the size of large or small folio. The latter was what is now-a-days called quarto, from the sheets being folded into four; — then, for the smaller size, whole sheets were cut into two, on each of which two pages were printed, in order to suit the presses, and the stocks of type the printers possessed. These sheets, or half sheets, were printed in sections of 3, 4, or 5, called ternions, quaternions, and quinternions. On the backs of these sections strips of parchment were sometimes pasted, to guard against tears when the sheets were stitched together by the book-binder. The first and third pages

so printed were called those on the *recto* of the sheet, the second and fourth those on the *verso*. A quaternion consisted of eight formes; the first, containing pages 1 and 16, and the second 2 and 15, formed the outer sheet; the next sheet consisted of pages 3 and 14, 4 and 13, the third and fourth formes; the third sheet consisted of pages 5 and 12, 6 and 11, the fifth and sixth formes; the fourth sheet consisted of pages 7 and 10, 8 and 9, the seventh and eighth formes: the next quaternion commenced with pages 17 and 32, and so on. When all the formes were printed, the sheets of which the quaternion consisted were folded one inside the other, the pages then reading regularly on from the first to the sixteenth. So long as books represented fac-similes of manuscripts, —which was the object originally aimed at,—to print in this way was a matter easily accomplished. But as the new art drove out the old, and scribes turned compositors and



pressmen, and manuscripts came to be carelessly written, this could no longer be done. Larger founts of type then became necessary, to enable the printer to complete the whole number of pages contained in the section; and to avoid this necessity as much as possible, quartos, octavos, and duodecimos would be resorted to, a single sheet folded and re-folded serving equally as well in binding as a ternion, quaternion, or quinternion of folio sheets. This, of course, led to the 'imposition' of pages in formes of 4, 8, and 12 pages and upwards, according to the size of the book printed.

Title-pages, folios, running head-lines, catch-lines, signatures, and imprints with dates and names, were matters about which the Fathers of Typography did not at first much concern themselves. Their orthography, as well as their divisions of words, was arbitrary; their abbreviations abominable, and their punctuation absurd; the comma and the semicolon were

unknown, the points made use of being an oblique dash (/) the colon (:.) and the full point (.); these were occasionally varied as follows, ./ / . / . / . / . // . . . . . &c. A straight dash | supplied the place of a hyphen, and a parallel || indicated the end of a paragraph. The first leaf of a book was generally left a blank, and a blank space was left at the head of the commencing chapter of a work, to be filled up with a vignette or an illuminated scroll. Spaces were also left for initial capitals, and for capitals commencing sentences, when small letters were not used instead. These were so left in order to be filled in by the rubricator, who sometimes carelessly inserted a wrong letter. Names of persons and places were printed indifferently with or without capitals.\* But in all these

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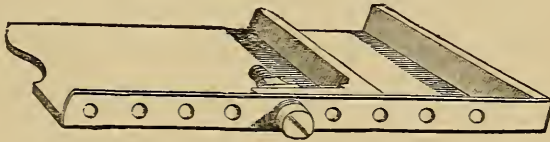
\* This may sometimes have been owing to a scarcity of capital letters. An amusing story is told of a jobbing printer, who was seen printing the label "Lodgings to let," in gold capital letters on a blue ground, with the second

matters the printers merely followed bad examples—that of the scribes whose downfall they were effecting. One feature is especially characteristic of the oldest books, viz. the irregularity of the lines on the right hand margin of the columns or pages, particularly when the larger kinds of type were used. This arose from the mode of composing, which interfered with the spacing out of the words to the ends of the lines. When however that ingenious implement, the metal composing stick—the printer’s space-compelling gauge,—was invented, this defect was remedied; and before the first generation of printers passed away, all the blemishes above recounted had disappeared from the works of those who deserve to be distinguished as Masters in their Art. The engraving given below will explain

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G left out. Upon the omission being pointed out to him, he said “Pshaw! I should like to know why a printer should not spell Lodgings with one G, when he has but that one in his fount!”

the nature of this implement better than any written description. The slide, running parallel with the head, with its slotted foot



into which was inserted the nut for the screw which passed through and fastened it down to the ledge on which the types rested, enabled the compositor to 'set' his types with accuracy to any measure required, and to space out the words to the right hand, so as to make them line in the margin as straight and even as the commencing letters on the left hand. With the aid of the useful adjunct to the 'stick,' the 'setting-rule,'—(a strip of brass the height and length of the line, with a projecting neb at the top right hand corner)—he could compose line after line with ease and speed. The special use of the 'rule' was to prevent the letters as they were lifted

into the 'stick,' catching on those of the line below, which, without the interposition of the polished strip of brass, they were liable to do from the nicks in their shanks. When the 'stick' was full, he could also with the assistance of the 'rule' empty out its number of lines into his 'galley,' where, when a sufficient number was collected, they would be made into pages, ready for the forme. The inventor of the composing stick is not known; but as it appears in the hands of the compositor in the engraving facing page 116, and the original of that engraving was first printed about 1498, and the 'stick' must have then been in use for some time; and as the principle of the slide is analogous to that which would be adopted in regulating the width of the chamber in the moulds for casting types, it is highly probable that the credit of its invention is due to Schœffer, who had previously immortalized himself by inventing the art of type-founding.

Besides the appearance of the insides of early printed books, their ordinary outside bindings demand attention here. Many of the finer specimens were cased in sumptuous covers, in which the art of the goldsmith and jeweller was richly displayed; but for common use a stiff sheet of parchment generally sufficed, the edges of which were folded in, a blank leaf being pasted over them. Others, somewhat superior, had boards of beech or oak for their sides, over which was pasted a sheep-skin leather, on which figures were stamped or embossed;\* while others again had stiff covers made of waste sheets, or remnants of unsaleable copies, cut down and pasted together. These last have furnished

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\* Some of these bindings were wonderful specimens of patient labour. Wooden boards as thick as the panels of a door, studded with large brass nails with ornamented heads and massive metal corners, for sides, the backs solid with paste and glue, and the fronts fastened with heavy clasps, were by no means rare. Sometimes these covers were so

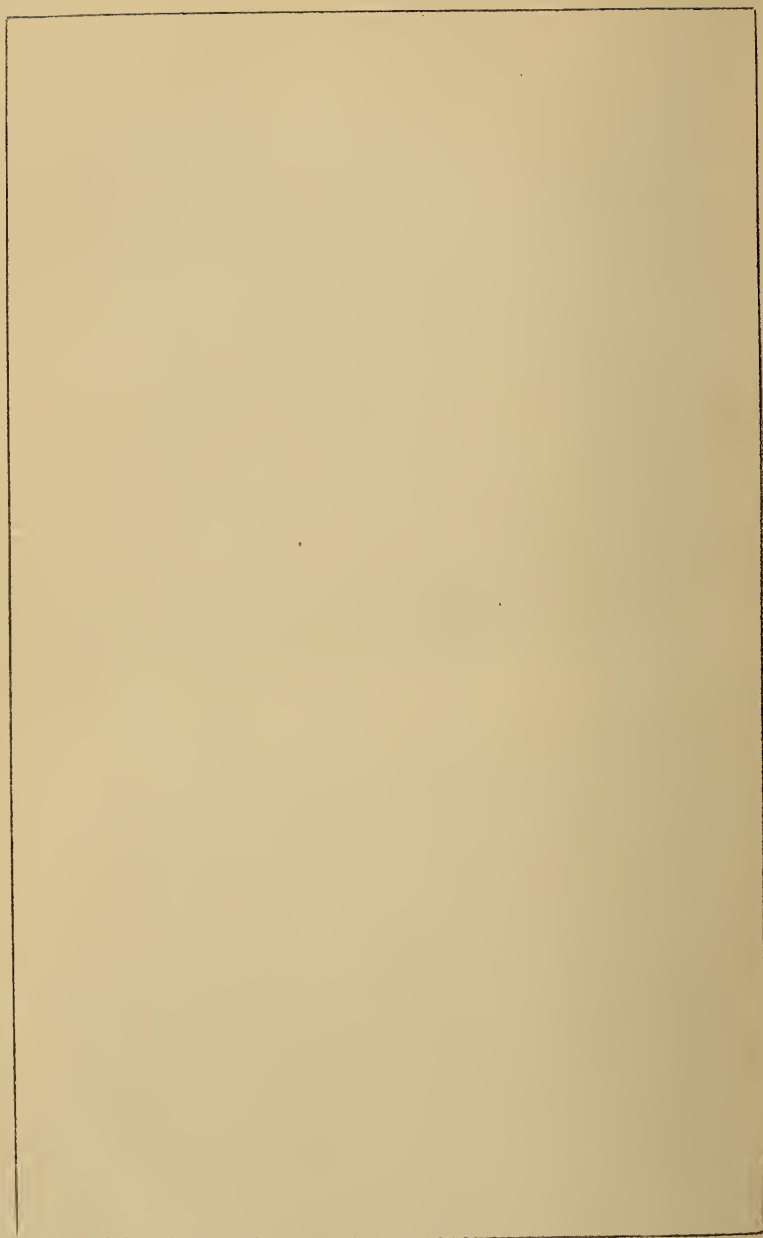


many unique specimens of the works of the earliest printers; and whenever any such are suspected to lie beneath an ancient book-cover, the cover is carefully removed and subjected to a variety of processes to separate its parts, and compel it to give up to the ardent gaze of the palæotypographer, its possible treasure of an invaluable unique specimen of the work of a Gutenberg, a Schœffer, a Zell, a Jenson, a Martens, a Caxton, or some other worthy of the olden time.

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made as to serve as receptacles for relics. Scaliger tells us that his grandmother had a printed Psalter, the cover of which was two inches thick, the inside forming a kind of cupboard in which was a small silver crucifix; and Mr. Hansard relates having seen an ancient book, in the cover of which was a recess for a relic—a human toe!

Appendix.



## APPENDIX.

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 I.—ACCOUNT OF THE ORIGIN OF PRINTING, BY  
 J. F. FAUST OF ASCHAFFENBERG.
 

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Joh. Fried. Faust, ein Sohn des im Jahre 1619 verstorbenen Schöffen des Reichsgerichtes und Rathes zu Frankfurt, erzält, aus den Familienpapieren, welche die Fauste von Aschaffenberg (Abkömmlinge der Fuste von Mainz) in ihrem Archive aufbewahrten, die Geschichte der Erfindung in folgender Weise:—

“Diese jetzt erwähnte und andere mehr Scribenten, welche es von Hörensagen theils genommen, theils von einander entlehnet, seind nicht allein an dem Ort und der Zeit, sondern auch an der Person vom ersten Anfenger zweifelhaftig, ja gar ohngewis, und ist uns Teutschen nicht ein geringer Spott, dass wir solche edle Kunst zu allererst von Gott empfangen, und so mancherlet frembde Historien und Auctores lesen und schreiben, den unter anderen vortrefflichen Sachen, nicht eine Gewissheit des ersten Anfengers, ihme und gantzem Teutschland zu ewigen unsterblichen Ruhm und Lob, solten auch in getruckten und

also unsterblichen Zeugnissen beglaubt machen und beweisen, und so lange Zeyt im Zweifel haben stecken lassen. Darumb habe ich nicht unterlassen können, dieser Sachen und Kunst gantzen Verlauf und Anfang, so viel ich dessen aus glaubhafften alten Zeugnissen und *Documentis*, wie auch von meinem Vatter seelig, und der von seinen Eltern und also fortan, *quasi per aures et manus* eingenommen, auch zum Theil aufgazeichnet hinterlassen, der Wahrheit und Kunst ja vielmehr Gott zu ehren, ettwas umstendlich zu erzehlen und zu beweisen."

"Und ist anfänglich wahr, dass ein Bürger, eines ehrbarn Geschlechts und Herkommens zu Mentz gewohnt, so Johann Faust geheissen; dieser den *Studiis* sehr ergeben, hat betrachtet, wie manch edles *ingenium* aus Mangel der Bücher, die sogar eine lange Zeyt und hohen Verlag abzuschreiben erfordert, und nicht in eines jeden Beutel gestockt, ohnbillig verliegen, ja gar verderben müssen, und dero wegen lang nachgesonnen, wie doch allerhand nützliche Bücher mit weniger Mühe gemanigfeltigt, und um geringen und billichen Preys mitgetheilt werden könnten. Solchem seinem wohlmeinenden nützlichen Wunsch und Vorhaben hat Gott wohlerspriesliches Mittel und *Modell* gezeiget, also dass er eine *Alphabet* Taffel, erstlich in einem *Format* mit erhöhten Buchstaben geschnitten. Es hat ihm aber grosses Nachsinnen erfordert, bis er besondere Tinten darzu erfunden; dann die

gemeine Tinte ist in den Buchstaben von Holtz und in Holtz geschnitten, verflossen, und hatt alle Buchstaben zusammengeheugt, so haben auch die Licht-Flammen, daren Rus er sich auch zu gebrauchen unterstanden, ob sie wohl einen ziemlichen Abdruck geben, dennoch keinen Bestandt haben wollen, bis endlich eine schwartze zähe Tinten erfunden worden, die einen Bestandt gehabt. Als solche erfunden und solche Taffeln mit kleinen Pressen leichtlich zu trucken erst an Tag kommen seynd sie mit groser Verwunderung umb geringen Preys von jedermänniglich erkaufft und berühmt, und er darauf weiters fortzufahren verursacht worden, und den *Donat* ebenmässig an Tag gegeben. Weil aber derselbige auf gantze Bretter geschnitten, ohngleich an Buchstaben gefallen, und auch sonst sich bald abtruchen lassen, hatt Erfinder der sich erinnert, das es besser were, mit einzlichen Buchstaben und A. B. C. ein Buch zu setzen, als mit gantzen *columnis* oder *paginis* zu schneiden. Derowegen hat er die Bretter von einander geschnitten, die gesammten Buchstaben herausgenommen, und damit die Setzerey angefangen, und die abgegangene Buchstaben mit newen ersetzt."\*

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\* As wooden types were the first with which the original printers made their earliest essays in the art of Typography in Europe, it is interesting to learn that in America such types are now being used to so great an extent, that it requires the aid of the most finished machinery to supply the demand that has arisen for them. The following ac-



“Weil aber solches mit ohnaufhörlicher Arbeyt geschehen müssen, und sehr langsam von statten gehen wollen, hatt es abermahl nicht geringe Hindernuss der angefangenen

count of their manufacture is condensed from a narrative in the *Boston Weekly Spectator* (Oct. 12, 1871).—About 1853 Mr. William H. Page, originally a printer, entered into the employ of Mr. J. G. Cooley, a wood type cutter at Greenville. Noticing the many defects of the process he busied his mind in devising and inventing methods for its improvement. Succeeding in his efforts, he started in business on his own account; and in 1869, having bought out Mr. Cooley, transferred the whole of the works to Norwich, Eastern Connecticut. Here, with extensive and perfect machinery, and from 35 to 40 workpeople, one-seventh of whom are females, he supplies the greater part of the wooden types used throughout the United States. The process of manufacture is as follows:—All ordinary wood type is made of rock-maple, which grows abundantly in Connecticut. The logs are first sawed across the grain into blocks an inch and an eighth thick, then steamed to force out the sap, and when dried, packed away in the seasoning house for two years. When wanted for type, they are taken to dressing machines, where horizontal revolving cutters rapidly smoothe and reduce their size with perfect uniformity; they are then skilfully planed by hand, next gum-shellaced, and dried for half a day, and sand papered, which process is again repeated. After this, they are taken to felt buffing wheels, covered with beeswax and tallow, which, revolving with exceeding swiftness, thoroughly polish the surfaces on which the letters are to be cut. The blocks are then sawed into the desired shapes, and transferred to the letter makers. These place the prepared blocks in a machine not much unlike in its appearance to an eccentric lathe, although it is not one. Set in one angle of a horizontal frame like a pentagraph, is a pencil or tracer, moved by the hand of the operator exactly in the lines of a stationary pattern or model letter. In an opposite angle, and directly over the

Kunst, auch der Pressen halben, geben wollen, darüber der Erfinder nicht in geringe Sorg und Schwermuth gerathen. Nun hatt er aber bey solcher *Invention* etliche Diener gehabt,

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block to be carved, is a corresponding pencil of fine steel, in reality a small bit, or gouge, which is belted to the driving power, and makes from 17,000 to 20,000 revolutions a minute, following minutely all the lines and flexions of the tracer on the pattern. A skilful operator can thus make a letter in half a minute. This part of the work is chiefly performed by girls. After leaving the cutter the letters are further dressed by a trimmer who gives them their finishing touches, when they are thoroughly oiled with linseed oil, and packed for transport to wherever ordered. The ordinary size of letters, used for Advertising placards, is 1 ft. 8 in., though occasionally some are ordered 14 ft. long, [made and printed in sections it is presumed]. These monster letters are made of a softer white wood, and gouged out on a great machine called a "router." The smallest size manufactured is about one-third of an inch. [B. W. S.] This is just the size of the types used for the "Appeal to Christendom against the Turks," printed at Mentz in 1454 or 1455. What steam-driven machinery is doing for wooden types it is also doing in another form for types of cast metal. The greatest number that an expert workman could cast by the hand-mould process was about 1800 in an hour. After many years of costly experimentalizing, and frequent but not wholly fruitless failures, a machine was at last perfected in 1862, by which as many as 7600 letters an hour are turned out. With type manufactured at this rate, with steam type-composers that put together 40,000 letters an hour, (the invention of Mr. A. Mackie of Warrington), and with steam printing machines capable of perfecting 12,000 sheets (equal to 24,000 impressions) in the same space of time, (the *Times* "Walter" machine, invented by Mr. J. C. Macdonald); the latter half of the nineteenth century is truly an era of marvels in all that concerns Letter-press Printing.

die ihm solch Truckerei verrichten und in andern nöthigen Sachen, als Dinten siedern, setzen, und dergleichen fleissige Hand und Hülffe gebotten. Unter denen ist einer Peter Schöffner von Gernsheimb genannt, gewesen, welcher als er seines Herrn Vorhaben erlernnt, und selbst Lust darzu bekommen, hatt ihm Gott das Glück und Gab eingeben, wie man nemlich die Buchstaben in Buntzen schneiden und nachgiessen, und also vielmahls mannigfaltigen könne, und nicht jeden Buchstaben oftmahls einzeling schneiden müsse. Dieser hat in geheim eine Buntzen von einem gantzen *Alphabet* geschnitten, und seinem Herrn sampt den Abgus oder *Matricibus* gezeyget, welches dam seinem Herrn Johann Fausten so wohl gefallen, dass er vor Frewden ihme sobald seine Tochter Christinam zur Ehe zu geben versprochen, und balden nachmalen auch solches würcklich vollzogen."

"Es hatt aber mit dem Abdruck oder Nachguss dieser Buchstaben eben so viel Mühe genommen, also mit den Hölzern, dann man lang gekünstelt, biss man eine gewisse *Mixtur* so der Gewalt der Pressen eine gute Zeyt ausstehen könne, erfunden. Als solches auch glücklich erfolget, damit solch edle Gab Gottes in geheim verbleiben möge, haben Schwäher und Tochtermann ihre Gewerken mit Eydpflichten verbunden, solch Sachen alle in höchster Geheim und Verschwiegenheit zu halten, haben auch die Bretter und ersten Anfang, wie auch die höltzern Buchstaben in

Cortel oder Schnur eingefasst, aufgehoben und zu zeyten guten Freunden gezeiget. Quæ primordia avum meum Doctorem Joh. Faust inque manibus suis Donati primam partem inter cætera vidisse MSStum posteris nobis relictum testatur.”\* (D. h.: Dass mein Grossvater, der Doctor Johann Faust, diese Anfänge und, unter andern, den ersten Theil des Donats gesehen und in Händen gehabt habe, bezeugt eine uns Nachkömmlingen zurückgelassene Handschrift.)

“We hart aber sie ihre Gewerken verknüpfet, und sich diese Kunst in geheim zu halten unterstanden, hat es doch aus sonderlicher Schickung Gottes nicht seyn wollen noch sollen. Dann es hat sich begeben, dass Johann Faustens nechster Nachbawer Johann von Gutenberg (man ist auch der Meinung, dass Johann Faust und Gutenberg zusammen in einem Haus genannt zum Jungen in Mentz, gewohnet haben, dahero solch Haus den Nahmen auch von der Truckerey nachmahlen

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\* Dr. Van Der Linde treats this writer with but scant ceremony. He says, (p. 76 of Hessels' Translation) "The father of this arch-liar had written frankly and in accordance with truth—'Joh. Faust (Fust) war Mitverleger der Buchdruckerei in der Stadt Mentze; etliche wollen wider seiner Dank ihn zu einem Inventorem haben und macken, so aber nur mit seinem Vermögen und guten Rath in der That geholfen.'—'Joh. Faust was partner in the printing office at Mentz; some persons would make an inventor of him against his own wish; he really helped only with his money and good advice.'"

behalten) innen worden dass solche edle Kunst nicht allein einen grossen Ruhm bey aller Welt gemacht, sondern auch einen guten und erlichen Gewin gebracht, darumb er sich freundlich zu gemelten Fausten gethan, und seine Dienste mit Darschiessung nothwendiges Verlags anerbotten, welches er Faust gerne angenommen, bevorab weil das Werk, so er zu trucken vorhatte uff Pergament zu verfertigen, einen grosen Kosten erforderte darob sie sich vereiniget und einen aufgeschnittenen Zettel oder *Contract* nachfolgend beygesetzten Inhalts aufgerichtet, dass was auf solch Werk gehen würde, zu Verlust und Gewinn ins gemein gehen, und alles was darzu gehörete, uff gemeinen Sold entlehnet und aufgenommen werden solte. Weil aber er Faust mehr aufgenommen und der Unkosten höher geloffen, als Gutenberg vermeinet, hatt er solchen halben Theil nich zahlen wöllen, darüber sie beyde vor das weltliche Gericht zu Mentz gerathen, das hatt auf alles Ein- und Vorbringen, auch geschenen Beweistum erkannt würde Johann Faust mit lieblichen eyd betewren, dass solch uffgenommen Geld auf das gemeine Werk gegangen, und nicht ihme allein zu Nutz kommen sey, solte Johann von Gutenberg solches zu erlegen schuldig seyn. Solchem Rechtsspruch hat Johann Faust im Refender zu Mentz zun Barfüssern ein Genügen gethan wie aus copenlich beygesetzten *Instrument* gründlich und wahrhaftig zu ersehen. Aber Johann von Gutenberg ist darüber sehr zornig worden,



darumb er nicht allein bei Anhörung des eydt nicht gewesen, sondern auch bald darauf von Mentz sich hinweg gen Strasburg gethan, vielleicht daselbst seinen eygenen Verlag gehabt, und sindt ihm dahin etliche Gefährde nachgefolget, und eine gänzliche Trennung geschehen, dass solche herrliche Kunst nicht mehr ist geheimb behalten blieben, sondern allenthalben von *dato* angeregten *Instruments*, so *An. 1455 datiret* ausgebreitet worden. Und Hans von Petersheim, ein Diener Johannes Fausten und Peter Schöffers, im vierten Jahr hernach Ao. 1459, zu Frankfurt, andere, sonderlich als Mentz; Ao. 1462 verräthlichen erobert, und umb ihre Freyheit kommen, folgendt anderstwo sich niedergethan, und solche Kunst ohngescheuet getrieben, offenbahret, und gemein gemacht haben. Est ist auch diess Unglück mit zugeschlagen, dass als sie ein vornehm Juristisch Buch gen Paris in Frankreich uff Pergament gedruckt, geführet und die Wahlen [Wallischen oder Wälschen] ihnen solche Kunst missgönnet, das Buch in Laugen gestossen, und mit Kratzbürsten auszuthun, aber vergeblich, unterstanden, sie solche *Exemplaria* alle, unter dem Schein als ob der Trucker eine frembde Waar ohne *Special* Erlaubnuss des Königs in Frankreich gebracht, *confiscirt*, darauf er *repressalias* vom Kayser Fridrichen III. verlangt, und soviel frantzösische Kaufleute niedergeworfen, dass er seines Schadens wohl zukommen, und viel Französische Waare in sein Haus allerhant



*Sorten* bekommen, dass die Sach endlich durch beyde *Potentaten* verglichen, uffgehoben, ut er Peter Schöffler befriediget worden."

Man sieht, dass in diesem Berichte über den Gang der Erfindung der objektive Thatbestand, besonders was die Anfänge betrifft ganz richtig erzählt wird, und dass er nur *quoad personas* verfälscht ist; indem Fusten das zugeschrieben wird, was Gutenbergen angehört. Es erbellt ferner daraus, dass er weder aus Trithems Werken noch aus dem Lobgedichte des Bergellanus geschöpft ist; da er umständlicher als beide in's Einzelne der Verfahrungsweisen eingeht. Auch die Angabe, Fust und Schöffler hätten nach Erfindung der gegossenen Buchstaben ihre Arbeiter mit Eiden zur Geheimhaltung der Kunst verbunden, die ersten Holztafeln aufgehoben, die einzelnen hölzernen Buchstaben in Schnüre gefasst und nur zu Zeiten guten Freunden gezeigt, deutet, als auf ihre Quelle, auf handschriftliche oder mündliche Ueberlieferungen, die sich in der Familie Fust erhalten haben müssen. So haben sich in dem an die Herren von Glauburg übergegangenen Familienarchive des mainzischen, nach Frankfurt ausgewanderten Patriziergeschlechtes zum Jungen viele die Familie Gutenberg betreffenden Urkunden, und darunter auch das bei dem Prozesse zwischen Gutenberg und Fust errichtete Notariatsinstrument erhalten. In dem Archive der Familie Faust, welche von Aschaffenberg nach Frankfurt gekommen, und dort durch Heirath unter die Patriziergeschlechter

aufgenommen worden ist, hatten sich gewiss ähnliche Urkunden und Nachrichten über die Angelegenheiten der Familien Fust und Schöffer erhalten, wie auch in dem Berichte, bei 1 und 2, ausdrücklich gemeldet wird. Joh. Friedrich Faust, durch Familieneitelkeit verleitet, verfälschte sie nur in Betreff der Personen, indem er (so wie Johann Schöffer in seinen Schluszschriften die Erfindung allein seinem Grossvater Fust zuschrieb) demselben Fust, den er mit Recht für seinen Ahnen hielt, alle Ehre zuwendete, und zu diesem Behufe sogar das Instrument des Notars Helmasperger verdrehte.—WETTER, pp. 271—277.

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II.—ACCOUNT OF THE ORIGIN OF PRINTING, BY  
HADRIAN JUNIUS.

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Dicam igitur quod accepi a senibus et autoritate gravibus et Reipublicæ administratione claris, quique a majoribus suis ita accepisse gravissimo testimonio confirmarunt, quorum auctoritas jure pondus habere debeat ad faciendam fidem. Habitavit ante annos centum duo de triginta Harlemi, in ædibus satis splendidis (ut documento esse potest fabrica, quæ in hunc diem perstat integra) foro imminentibus e regione Palatii Regalis, Laurentius Joannis cognomento Aedituus Custosve (quod tunc opimum et honorificum munus familia eo nomine clara hæreditario jure possidebat) is ipse, qui nunc laudem inventæ artis Typographicæ recidivam justis vindiciis et sacramentis repetit, ab aliis nefarie possessam et occupatam, summo jure omnium triumphorum laurea majore donandus. Is forte in suburbano nemore spatiatus (ut solent sumpto cibo aut festis diebus cives, qui otio abundant), cœpit faginos cortices principio in litterarum typos conformare, quibus, inversa ratione sigillatim chartæ impressis, versiculum unum atque alterum animi gratia ducebat, nepotibus, generi sui liberis exemplum futurum. Quod ubi

feliciter successerat, cœpit animo altiora (ut erat ingenio magno et subacto) agitare primumque omnium atramenti scriptorii genus glutinosius tenaciusque, quod vulgare lituras trahere experiretur, cum genere suo Thoma Petro qui quatuor liberos reliquit, omnes ferme consulare dignitate functos (quod eo dico, ut artem in familia honesta et ingenua, haud servili, natam intelligant omnes), excogitavit, inde etiam pīnaces totas figuratas additis characteribus expressit. Quo in genere vidi ab ipso excussa adversaria, operarum rudimentum, paginis solum adversis, haud opistographis. Is liber erat vernaculo sermone ab auctore conscriptus anonymo, titulum præferens: *Speculum nostræ salutis*, in quibus id observatum fuerat inter prima artis incunabula (ut nunquam ulla simul reperta et absoluta est) uti paginæ aversæ glutine cohærescerent, ne illæ ipsæ vacuæ deformitatem adferrent. Postea faginas formas plumbeis mutavit, has deinceps stanneas fecit, quo solidior minusque flexilis esset materia durabiliorque; e quorum typorum reliquiis, quæ superfuerant, conflata cœnophora vetustiora adhuc hodie visuntur in Laurentianis illis, quas dixi ædibus, in forum prospectantibus, habitatis postea a suo pronepote Gerardo Thoma, quem honoris causa nomino, cive claro ante paucos hos annos vita defuncto sene. Faventibus, ut fit, invento novo studiis hominum, quum nova merx, nunquam antea visa, emptores undique excitet, cum uberrimo quæstu crevit simul artis amor,

creuit ministerium, additi familiæ operarum ministri, prima mali labes, quos inter Joannes quidam, sive is (ut fert suspicio) Faustus fuerit ominoso cognomine, hero suo infidus et infaustus, sive alius eo nomine, non magnopere laboro, quod silentum umbras inquietare nolim contagione conscientiæ, quondam dum viverent, tactas. Is ad operas excusorias sacramento dictus, postquam artem jungendorum characterum, fusilium typorum peritiam, quæque alia eam ad rem spectant, percalluisse sibi visus est, captato opportuno tempore quo non potuit magis idoneum inveniri, ipsa nocte, quæ Christi natalitiis solennis est, qua cuncti promiscue lustralibus sacri operari solent, choragium omne typorum involat, instrumentorum herilium, ei artificio comparatorum, supellectilem convasat, deinde cum fure domo se proripit, Amstelodamum principio adit, inde Coloniam Agrippinam, donec Magontiacum perventum est, ceu ad asyliaram, ubi quasi extra telorum jactum (quod dicitur) positus tuto degeret, suorumque furtorum aperta officina fructum haberem meteret. Nimirum ex ea intra vertentis anni spacium, ad annum a nato Christo 1442, iis ipsis typis, quibus Harlemi Laurentius fuerat usus, prodisse in lucem certum est *Alexandri Galli Doctrinale*, quæ Grammatica celeberrimo tunc in usu erat, cum *Petri Hispani tractatibus*, prima fœtura. Ista sunt ferme, quæ a senibus annosis, fide dignis, et qui tradita de manu in manum, quasi ardentem tædam in decursu acceperant, olim intellexi,

et alios eadem referentes attestantesque comperi. Memini narasse mihi Nicolaum Galium, pueritiæ meæ formatorem, hominem ferrea memoria et longa canitie venerabilem, quod puer non semel audierit, Cornelium quendam bibliopegum ac senio gravem, nec octogenario minorem (qui in eadem officina subministrum egerat) tanta animi contentione ac fervore commemorantem rei gestæ seriem, inventi (ut ab hero acceperat) rationem, rudis artis polituram et incrementum, aliaque id genus, ut invito quoque præ rei indignitate lachrymæ erumperent, quoties de plagio inciderat mentio: tum vero ob ereptam furto gloriam sic ira exardescere solere senem, ut etiam lictoris exemplum eum fuisse editurum in plagiarium eum fuisse editurum in plagiarium appareret, si vita illi superfuisset: tum devovere consuevisse diris ultricibus sacrilegum caput, noctesque illas damnare atque execrari quas una cum scelere illo communi in cubili per aliquot menses exegisset. Quæ non dissonant a verbis Quirini Talesii Cos, eadem fere ex ore librarii ejusdem se olim accepisse mihi confessi, etc.—*Batavia*, p. 253, *et seq.*

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### III.—THE HAARLEM-COSTER-LEGEND.

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[The Haarlem Legend of the Invention of Printing by Lourens Janszoon Coster, critically examined by Dr. A. VAN DER LINDE. Translated from the Dutch by J. H. HESSELS, with an Introduction and a Classified List of the Costerian Incunabula. *London*, Blades, East, and Blades. 1871. Roy. 8vo. pp. xxvi. and 170.]

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A copy of the above work having reached me while the preceding sheet was being prepared for press, I am singularly gratified to find, that by means of a wholly independent process of investigation, I have arrived at a conclusion, almost identical, on the main point, with that to which other and more direct sources of information have led Dr. Van Der Linde. Writing for English readers, and dealing chiefly with the statements and arguments of the leading English Costerians, the confirmation thus given to my views is as great as it was unexpected.

Dr. Van Der Linde shews, most conclusively, that the whole story of the Origin of Printing in Haarlem arose from the fabrication of a pedigree by an innkeeper named Gerrit

Thomaszoon, who was sheriff of Haarlem in the year 1545, and who died about the year 1563 or 1564. This pedigree, made a few years before his death, traces his descent from one Thomas Pieterssoen, by Lucye "his second wife, who was the daughter of Louris Janssoens Coster, who brought the first print into the world Anno 1446." Authority for this statement there is absolutely none; and no proof whatever exists that Lucye the daughter of Louris Janssoens, ever existed otherwise than by her creation in the fertile fancy of the pedigree maker. But proof there is in abundance, that one Lourens Janszoon Coster kept a tallow-chandler's shop in Haarlem between the years 1440 and 1450; that about the latter year he transferred that business to his sister, Ghertruit Jan Costersdochter, who died in 1454; he himself starting as an innkeeper in 1451, in which occupation he continued until 1483, when he left Haarlem with all his goods, and is heard of no more. This Lourens Coster was a member of a festive body, called the "Holy Christmas Corporation." It consisted of 54 brethren and sisters, each one of whom possessed a chair specially set apart for him or her at their regular meetings. These chairs passed by inheritance or purchase from one to another; the corporation apparently having had its origin in a family gathering. Its transactions were minutely recorded, and particular care was taken to note the transmission of the chairs from one holder to another. Lourens

Coster's chair passed in 1484, (the record does not state how), into the possession of Frans Thomas Thomaszoon, and in 1497 Gerrit Thomaszoon Pieterszoon inherited it from his father. This is the individual who kept the inn on the market place, and was made sheriff in 1545. Now Jan Van Zuyren and Coornhert were partners in business, and "sworn book-printers" to the town in 1561, in which year Van Zuyren also became Burgomaster. They could not but have been intimate with the sheriff and innkeeper Gerrit Thomaszoon, who lived to the year 1563 or 1564. He would also be well known to Junius, living as he did in Haarlem from 1560 to 1572. In one of the rooms of his inn Gerrit Thomaszoon hung up the pedigree he had had made, and in which was set forth his descent from "Lucye, second wife of Thomas Pieterszoon, daughter of Louris Janssoens Coster, who brought the first print into the world Anno 1446." Here then, as in a nutshell, lie the whole of the circumstances which Junius, in 1568, worked up in his *Batavia* into an account of the Origin of Printing in Haarlem, by Laurens Janszoon Coster; but with the date of the pedigree altered from 1446 to 1440. The cogent reasons for this alteration are fully shewn by Dr. Van Der Linde.

The statements of Van Zuyren and Coornhert; the story of the family mansion, and the wine-pot relics; the cursings of the old book-binder Cornelis; the confirmations of the tale

to Junius by Nicholas Galius and Quiryn Dirksz Talesius, are all now easily understood,—they were tavern gossip, suggested by the pedigree, which passing through the alembic of Junius's brain, issued thence in the shape of a circumstantial history, which national vanity has been induced to accept as a record of indubitable facts.

From first to last, the Coster-legend forms a very singular chapter in the history of national credulity. Scriverius, writing in 1628, and not knowing the source of Junius's information, makes one Lourens Janszoon, sheriff of Haarlem, who died in 1439, the Laurens Janszoon Coster,—(these names being as common in Haarlem as those of Brown, Jones and Smith in London,)—to whom was attributed the origin of printing; and to whose memory a stone statue was erected in 1722. In 1823 and 1824 bronze and silver jubilee medals were struck in honor of the same supposed first typographer, and two memorial stones put up; and in 1851, a third tablet was placed in front of the rebuilt Coster-house. But meanwhile, the pedigree is discovered, and Koning and others strive hard to identify the Lourens Janssoens Coster it mentions, with the Lourens Janszoon of Scriverius. Junius's account is unscrupulously amended and altered and corrected, in order to make room for the views of subsequent writers; and another statue in bronze is resolved upon, which is erected in 1856; but this one, in the secret

knowledge of the Committee engaged in its erection,\* is to the memory of the tallow-chandler and innkeeper, and not to that of the alleged sheriff. Finally, the pedigree is published, all other documents connected with the persons named in it, and in the history by Junius, are critically examined; and in 1870 the fallacy of the whole affair is thoroughly exposed.

The conclusion to which Dr. Van Der Linde arrives in his chapter on "The Spread of Typography in the Netherlands," is as follows:—

"The harvest of history on the field of typography concerning Haarlem may be scanty; it does not yield *anything*, as far as xylography goes. There existed there already very early a Lucasguild, like that at Antwerp, and like the Johannesgild at Bruges; but, however rich in painters, sculptors, and goldsmiths, the Haarlem Corporation may have been, it produces, notwithstanding the most patient researches, not a single *prenter* (*briefprenter*) or xylographer. The manufacture, therefore, of a whole series of blockbooks of the 15th century, ascribed, two, three, and four centuries afterwards, without any shadow of evidence, to a Haarlem innkeeper, has to be referred to the empire of fiction."

Mr. Hessels (a native of Haarlem, as is also Dr. Van Der Linde) says, in his very able Introduction: (p. vii.)

"Whatever may be said about the discrepancies and absurdities of the Coster-legend, now that we possess a full knowledge of it, there is one circumstance which has given,

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\* The name of Lourens Janszoon, the sheriff of Haarlem who died in 1439, is mentioned seventy-six times in the archives of the city, but *never* with the name of *Coster*. The name of the tallow-chandler Lourens Janszoon Coster,



and will give, an air of probability to the story, even now that it is deprived of its hero, so long as this circumstance cannot be sufficiently accounted for. I mean the existence of a comparatively large number of works—blockbooks and incunabula—which are of an incontestably early, and Dutch origin, and which cannot, even at present, be ascribed to any known printer, but of which it is certain that they belong to the printer who produced the four editions of the *Speculum Humanæ Salvationis*, the book referred to by Junius.”

He then gives, on pages xi. to xvi., a classified list of the Costeriana as far as known, amounting in all to 43 separate works and editions, distinguishing seven different types used in their production.

“The earliest date (he says) we can assign for the present to the Costeriana is 1471—74. Mr. Holtrop tells us on p. 31 of his *Monuments*, that the Hague copy of the *Saliceto* (No. 25 of his list) contains two MS. annotations: 1st, ‘Hunc librum emit dominus Conrardus abbas hujus loci xxxiii., qui obiit anno mccccclxxiiii, in profesto exaltationis sanctæ crucis, postquam profuisset annis fere tribus.’ Another inscription indicates that this copy had belonged to the convent of St. James, at Lille. Now, the abbat Conrad, who bought this book for his convent, was Conrad du Moulin, who was abbat only from 1471 to 1474.

“This is the only date we can use at present. It is, as Mr. Bradshaw observes in his ‘List,’ mentioned above, ‘a singular circumstance that this one fact should compel us to place the printer of the *Speculum* at the head of the Dutch printers, though it only just allows him to take precedence of Ketelaer and De Leempt,’ from whom we have

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appears much later, (as late as 1483); *but his name was never brought before the public*, in connection with the origin of printing, until the year 1867.—See *Haarlem Legend*, pp. 124, 125.



the date 1473, found in Peter Comestor, *Scholastica hystoria.*—pp. xvii.-xviii.

The above considerations go far towards supporting the suggestions I have thrown out (see pages 323—348) in regard to the dates when, and the parties by whom, the *Speculum*, *Donatuses*, &c., were printed. And these suggestions are further confirmed by the extracts cited by Dr. Van Der Linde from the archives of Utrecht, in a note on p. 85 of Hessels' Translation, where it is stated that in the year 1466, the name of Peter Dirxsz, described as a "beeldedrucker"—a *prenter*,—appears. "Perhaps," adds Dr. Van Der Linde, "the printer of the plates of the *Speculum*."

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IV.—CUT WOODEN, *versus* CAST METAL TYPES.

However much my views may be found to coincide with those of Dr. Van Der Linde, Mr. Hessels, and Mr. Bradshaw, upon the Origin of Printing, and the date of the production of the so-called *Costeriana*, there may be wide differences of opinion on the question, whether the types made use of in the production of those works were made of wood or of metal. Dr. Van Der Linde writes upon this point in very dogmatic strains. In his eleventh chapter,—“A Beech in ‘Den Hout,’”—the object of which is to shew the impossibility of Junius’s statement about Coster having printed with wooden types, he quotes the following from Enschedé, written about the year 1770.

“I have exercised printing for about fifty years, and wood engraving for about forty-five years, and I have cut letters and figures for my father’s and my own printing office in wood of palm, pear, and medlar trees; I have now been a type-founder for upwards of thirty years; but to do such things as those learned gentlemen (Junius and Meerman) pretend that Laurens Coster and his heirs have done, neither I nor Papillon, (the most clever wood engraver of France) are able to understand, nor the artists Albrecht Durer, De Bray, and Iz. Van Der Vinne either; but such learned men, who dream about wooden, moveable letters, make Laurens Janszoon Coster use witchcraft, for the hands of men are not able to do it. To print a book

with capitals of the size of a thumb, as on placards "HOUSE AND GROUND," which are cut in wood, and which I have cut myself by hundreds, would be ridiculous; to do it with wooden letters of the size of a pin's head is impossible. I have made experiments with a few of a somewhat larger size. I made a wooden slip of Text Corpus, and figured the letters on the wood or slip; thereupon I cut the letters; I had left a space of about the size of a saw between each letter on purpose, and I had no want of fine and good tools; the only question now was to saw the letters mathematically square off the slip. I used a very fine little saw, made of a very thin spring of English steel, so cleverly made, that I doubt whether our Laurens Janszoon had a saw half as good; I did all I could to saw the letters straight and parallel, but it was impossible: there was not a single letter which could stand the test of being mathematically square. What now to do? it was impossible to polish or file them; I tried it, but it could not be done by our type-founder's whetstones, as it would have injured the letters. In short, I saw no chance, and I feel sure that no engraver is able to cut separate letters in wood, in such a manner that they retain their quadrature (for that is the main thing of the line in type-casting.) If, however, I wished to give my trouble and time to it, I should be able to execute the three words 'Spiegel onzer Behoudenis,' better than the Rotterdam artist has done in the Latin work of M. Meerman; but it is impossible, ridiculous, and merely chimerical, to print books in this manner.'"

The above quotation, in the opinion of Dr. Van Der Linde, settles the matter once for all; and certainly such a statement, from such a man, is enough to deter any one from attempting a similar experiment. Dr. Van Der Linde clinches Enschedé's statement, with the following remarks:—

"We cannot wish for a more decisive and competent criticism of the story of Junius than this, given by a Haarlemer and a Costerian; for Junius represents Coster as having

printed the *Speculum* in Dutch with wooden types; he makes him, in other words, do something impossible, ridiculous, and chimerical. It is true that the wooden types have been patronized until our times; that Camus has given a specimen of printing with wooden types of two lines, Wetter of one column, Schinkel of half a page; that we are able to do much more with the means of the nineteenth than with those of the fifteenth century; but none of those specimens have proved what they should have proved; the practicability of printing a book with moveable wooden letters, *i. e.* to distribute the forms, to clean the ink from the letters, to submit them to frequent strong pressing, and to retain the usefulness of the letters employed, and without the aid of modern apparatus. They have only proved what men are willing to do for a favorite opinion, for a prejudice which they *insist*, for once and all, ought to be *true*." . . . "It is high time for criticism to make a fire of these imaginary wooden letters."

Determined that the advocates of wooden letters shall be beaten completely out of the field, the Dr. adds, in a note upon Schinkel in the above quotation.

"In a brochure entitled 'Tweetal Bijdragen,' Schinkel gives some 'experiments of his foreman H. le Blansch, namely, seven lines, printed with types of palm wood. The xylographic text runs:—'That the first Dutch *Spiegel onzer Behoudenis* was printed with cast types, is not to be doubted. Is it possible to print a book of some extension with *moveable* letters cut of wood? YES.—Le Blansch, *sculp.*' This YES is an unproved dictum, the contrary of which is evident already from the dancing lines of the experiment. Let a *book* be produced printed with moveable wooden letters, instead of all those experiments which signify nothing..... But apart from all this Costerian talk, the question may not be put as Schinkel did, but simply: Were ever books printed with moveable wooden letters? No."—pp. 72-73.

It may however be retorted upon the Dr:

that his No! is also an unproved dictum. But he says again, pages 78 and 79:—

“Those fatal unhistorical wooden types! Wetter spent nearly the amount of ten shillings on having a number of letters made of the wood of a pear tree, only to please Trithemius, Bergellanus, and Faust of Aschaffenburg, the first two, falsifiers of history in good, the last in bad, faith. His letters, although tied with string, did not remain in the line, but made naughty caprioles. The supposition—that by these few dancing lines the possibility is demonstrated of printing with 40,000 wooden letters, necessary to the printing of a quaternion, a whole folio book—is dreadfully silly. The demonstrating fac-simile demonstrates already the contrary. Wetter’s letters not only declined to have themselves regularly printed, but they also retained their pear-tree-wood-like impatience afterwards. He says, ‘I have deposited the wooden types with their forms in the town-library, where they may be seen at any time.’ Nothing is more liberal.” “I not only deny” [with M. Bernard] adds the Dr., “that they [books printed with moveable wooden characters] exist at present—I deny that they ever have existed.”

Nothing can be more emphatic. But, in the first place, “40,000 wooden letters” are not “necessary to the printing of a quaternion, a whole folio book,”—and if they were, the supposition is not “dreadfully silly,” for it was quite within the power of letter-snyders to cut that number if required. But they were not required. I have already shewn (p. 299), that to print two pages of the *Speculum* the number of letters necessary was under 3,000. It has also been shewn, that the early printers never printed more than one or two pages of their books at a time; while the impressions taken of such productions as the *Speculum* would in

their different editions vary from but 20 to 60 copies each ;—3,000 letters therefore were ample for bringing out a whole folio book or quaternion, and the pressure the types were subjected to in the course of a dozen or twenty editions would not more than equal the strain brought to bear upon a single edition of a thousand copies in modern times. It is however “dreadfully silly” to insist, that wooden types, if capable of being used at all in an experiment which proves their capability of printing a portion of a book, ought also to be proved capable of being used for printing a whole book with. In other words, that a whole book should be printed with such types, in order to prove, that as a whole book has been, therefore, a whole book may have been, printed with them. It requires, moreover, no great profundity of wisdom to profess a disbelief in the making and use of wooden types by the inventors of Typography, and to deny the assertions of older and contemporary writers, that they were so made and used. A whole book could just as easily be printed with wooden types, when they were once prepared and ready for use, as half a book, or half a page, or a single word. The real question at issue is not, Can a single book, or has a single book, ever been printed with wooden types?—a question answered with an emphatic, although an unproved No! by Dr. Van Der Linde and other anti-xylo-typographers ;—but, Did the earliest Typographers, in their first experiments, make use of wooden



types or not? Trithemius says, on information derived from Schœffer senior, that they did. His statement is borne out by that of Zell, who says Gutenberg got the *beginning* of this art from the Donatuses, *i. e.* block-books, printed in Holland. Bergellanus, an independent inquirer a generation later, and for fifteen years a corrector of the press at Mentz, confirms the statement of Trithemius; while Faust of Aschaffenburg declares that the family papers in his possession bore evidence to the same effect. What the first German printers did, it was most natural that the first Dutch printer would also do; and, as I have already pointed out (p. 346,) there are reasons for believing that wherever the *Speculum*\* was printed, (and later information

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\* Dr. Van Der Linde infers that the Latin edition of the *Speculum*, wholly printed with separable types, was the first, and the one with the twenty pages of solid blocks, the second. From the fact, that the curious manuscript of the "*Spiegel der behoudenis*," (written on 290 8vo. leaves of vellum), which is preserved at Haarlem, has the following inscription at the end, "Dit boec is gheeyndet int jaer ons heren MCCCC ende III ende tsestich opten XVI dach in jul. Een ave Maria om God voer die scrijver;" and that another inscription in it states, that it belonged to "Cayman Janszoen of Zierickzee, living with the Carthusians near Utrecht;" the Dr. comes to the following conclusion: "Therefore, the *Speculum* was written, and finished in the Dutch language at Utrecht in 1464, in the days *before* the introduction of the art of printing." . . . "Utrecht had an episcopal see, a gymnasium, a Burgundian prince,—indeed, if hypotheses are allowed, then is that of an *Utrecht* origin of the *Specula* provisionally, the only reasonable one."—pp. 34, 38.

seems to indicate that Utrecht may have been the place), the types used were the work of a letter-synder, and the material of which they were made was wood. It is quite a different question, Could a continued series of works, be produced by the use of wooden types, in a manner equal, or nearly equal, to that by which works are produced with metal types? To such a question, the advocates of the use, first, of wooden types by the earliest Typographers, reply, No; wooden types would only answer for a while; and because of their fragile nature, metal types, cut or cast, became sooner or later a necessity.\* It is, besides, if not "dreadfully silly," at least unwise, to argue against the possibility of the original use of wooden types, because the specimens given

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\* Seven different kinds of types of the *Speculum* school have been identified, and these are used in 43 different specimens, many of which are second and subsequent editions. It is not however, material to the validity of the argument, that the whole of these seven different kinds of types should be proved to have been made of wood; it is enough, in the absence of the actual types themselves, that there is reasonable evidence, from their appearance in print, as well as from the probabilities of the case, that some of them were so made. To argue, that because Trithemius, Bergellanus, J. F. Faust, or others, may have misrepresented, unintentionally or otherwise, some of the leading facts in connection with the origin, or the inventors, of typography, therefore, on this one point of the original use of wooden letters, in which they all agree, they are not to be believed, is unworthy of one who assumes the functions of, and desires to be looked up to as, a sound historical critic.

by Schinkel and Wetter are crooked and irregular, and do not *line*, although tied or strung together with string. Schinkel and Wetter both maintained that the *Speculum* was printed with metal types; so did Enschedé. For either of the three, therefore, to have thoroughly succeeded with his experiment, would have been fatal to his argument and preconceived opinion. Doubtless, it was scarcely possible for Enschedé to succeed in making wooden letters of "a size somewhat larger than a pin's head." His mode of stating that part of his experiment is not at all so straightforward or clear as it might and should have been. But he says further, "I made a slip of Text Corpus, and figured the letters on the wood or slip," &c. Now, what is the size of the Text Corpus? I am rather at a loss to understand this expression, as I find that the Dutch type called *Text*, is that which corresponds to the English Great Primer, which contains  $51\frac{1}{2}$  lines to a foot, while the *Garmond*, corresponding to the German *Corpus*, is equal to the English Long Primer, which has 89 lines to a foot. Neither does Enschedé say what particular wood he used in his experiment. But at any rate he avows, that, using the best and finest tools he could procure, he failed.

On the opposite side of the question, I have but to place my own experience; and I may say at the outset, that I have not practised wood engraving for nearly twenty years, that at best I was but an amateur, and that the only tools I had, when I ventured upon the experiment

a few months ago, were a common graver, an ordinary tenon saw, a penknife, and a rasp and file. With these implements then, I made, precisely in the way I have described the method I supposed the earliest printers would follow, the letters inserted in page 310. They are of box wood, Pica-size ( $71\frac{1}{2}$  lines to a foot) and are squared and line well, and are perforated and nicked, and are two sizes smaller than the letters used for the *Speculum*, which are only 54 lines to the foot. The letter ¶ I here insert again. More than 1,500 impressions have been taken from it; and it scarcely yet seems anything the worse for wear. Calculating by the time the cutting of the three letters occupied, I could, without difficulty, finish in nine months 3,000 letters equally good, as mathematically square, as true to line, as capable of being used again and again, and therefore as capable of printing a book, a whole folio, with. An expert Chinese 'chop' cutter (the modern letter-snyder) would with his simple tools, complete the same number in less than a third of that time: and I know of no reason why similar types of the *Corpus* or Long Primer size could not be cut on wood. Certainly there is nothing "impossible, ridiculous or chimerical" in the idea. Where then is the "silliness"—the "dreadful silliness"—of supposing that a whole book could be printed with such wooden types, even supposing, further, that 40,000 would be required in all? The "dreadful silliness" lies in the cry of those who argue on the opposite

side—"Let a *book* be produced, printed with moveable wooden letters, instead of all those experiments which signify nothing." The answer to that cry is, *Cui bono?*—Why should a book be printed, when 3 letters are as good as 3,000, or 30,000, or 300,000, to demonstrate the fact, that words are and can be, and that therefore pages and whole books may be, (and therefore also that they may have been,) printed from such separable wooden types? As well might the demand be made that a whole suburb of London should be lighted up with obsolete oil-lamps, in order to demonstrate to the rising generation the fact, that in that manner the streets of the city were lighted up in the days of their forefathers, before the introduction of coal gas. In the one case, as in the other, a single specimen, one demonstrative example, ought to be sufficient to carry, to every candid and reasonable mind, a conviction of the truth of the asserted fact. But perhaps it "signifies nothing" to a certain class, who are determined not to believe, how great or how small the demonstrative experiments may be. Of such, the voice of supreme wisdom has long ago declared,—"neither will they be persuaded, though one rose from the dead."

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#### ERRATA.

Page 104 last line,	for	<i>Vindicae</i>	read	<i>Vindicæ</i>
" 153	"	" Opolio	"	Opilio
" 175 line 10,	"	" have to	"	have had to
" 181	" 8,	" Historv	"	History
" 239	" 8,	" say,	"	says
" 331	" 17,	" follows	"	follow



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HIS ROYAL HIGHNESS THE DUKE OF EDINBURGH.

*Foolscap 4to. 412 pages.*

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ADAM'S PEAK.

LEGENDARY, TRADITIONAL, AND HISTORIC NOTICES of the SAMANALA and SRI'-PA'DA ;  
with a Descriptive Account of the PILGRIMS' ROUTE from Colombo to the  
Sacred Foot-print; to which are added, copious Notes, Appendices, and an Index.

Illustrated by a Map of the Mountain District, and 10 wood-engravings.

By WILLIAM SKEEN.

EDWARD STANFORD, 6 & 7, Charing Cross, London, S. W. 1871.

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*Opinions of the Press.*

“Adam's Peak may be considered the most interesting mountain in the world; not only from its height, position, and appearance, but as being sacred to the members of three out of the four great religions of the world. The origin of this singular agreement to regard the same place as holy by these three religions is to some extent obscure; but Mr. Skeen has collected a mass of evidence upon the subject, and has conveyed the result in a form interesting alike to the student and the general reader. The lovely scenery surrounding Adam's Peak, its general features, and its perilous ascent—so steep that near the summit chains are fastened into the rock by which pilgrims pull themselves up—are graphically described by Mr. Skeen, who accomplished the ascent three times. The book is of great interest, and we can warmly recommend it to our readers.”—*Standard*.

“There is, perhaps, no mountain in the world of which so wide-spread a knowledge exists, and yet of which so little is generally and definitely known, as Adam's Peak, in the Island of Ceylon. A description of this mountain, held sacred by far the largest portion of mankind, cannot fail to be of interest to the scholar; while the pleasing and anecdotal manner in which it is handled by Mr. Skeen, will attract the attention of even the most superficial reader. All classes will read the book with interest. It is brimfull of rich stores of original translations from rare MSS of Indian and Sinhalese literature, while the strange legends recorded are singularly romantic, and full of weird Eastern imagery. The author enters into a full and searching inquiry into the origin of the sanctity of the mount, and shows much discrimination and mastery of Oriental literature, in the progress of his inquiry. Much valuable information is imparted to the reader, not dry and dull as might be imagined, but invested with an interest which catches and retains the attention. The legends attached to this mount of expiation are singularly beautiful, and are related very felicitously by the author. Much interesting information is given about the inhabitants of Ceylon, and of the various religious beliefs which are held by them, from the serpent worship of the aborigines, to the present time, when Christian churches are scattered throughout the island. The civil and political history of the Sinhalese is also accurately and interestingly traced. The narrative of the pilgrims' route from Colombo to the shrine-crowned mount is very graphically described. The work is excellently illustrated with maps, plans, and views. In every particular it deserves commendation, and the author much praise for the successful manner in which he has



handled his materials, and presented the public with a book at once interesting and instructive; profound in the researches contained in it, and giving much valuable information on a subject on which so little has hitherto been known.—*Irish Times*.

“We believe this is the first time that a complete work has been devoted to this subject. The narrative portion of the work is supplemented by copious notes and appendices referring to the early history of the religions the members of which regard the Peak as a hallowed spot. These are of immense value to the historian and antiquarian, and prove that the author is no idle member of the Royal Asiatic Society.”—*London and China Express*.

“Mr. SKEEN, in his monogram entitled “ADAM’S PEAK,” has shewn that the subject was by no means exhausted by his predecessors, and has given us an interesting volume of Eastern lore and travel. Commencing with history, he fortifies his narrative by extracts from the antient Mahawanso, and various other native and foreign writers down to the present day. Having amply treated of its history, he proceeds to describe his own three visits to it, giving very full particulars of his route, and of places of interest in the vicinity. The volume does credit to both author and printer.”—*Trübner’s American and Oriental Literary Record*.

“A very valuable monogram on Adam’s Peak, embodying a vast amount of interesting information. Mr. Skeen has, in connection with this work, cleared up a mystery which had baffled all previous writers on Ceylon.”—*Ceylon Observer*.

“It has long been a wonder, and the wonder is a growing one, that so small an Island as Ceylon should attract so many writers. All the Books on Ceylon, about Ceylon, and touching Ceylon, if collected into one group, we are certain, would make a goodly library of itself, but the subject appears to be inexhaustible. The most recent contribution to this accretion of works on Ceylon, or rather touching Ceylon, is Mr. Skeen’s Book on Adam’s Peak, which, without laying ourselves open to the charge of indiscriminate or extravagant praise, we feel justified in pronouncing worthy the subject, and worthy the writer. Mr. Skeen has at last got into his natural groove, the exploration and elucidation of the romantic traditions, legends, and folk-lore which cluster round the sacred places of Ceylon. Adam’s Peak is pre-eminently a land-mark in the history of the Island, and while it serves to bridge twenty centuries of the past with the present, it has never lost its own peculiar distinctive character, which as the central object of a nation’s faith it has for so long occupied. As it is the most conspicuous and remarkable object in the physical geography of the Island, so has it stood the everlasting monument of a tradition, pointing to the mission of that great philosopher who, more than twenty centuries ago, succeeded in revolutionizing the faith of a whole continent. It is somewhat remarkable that a religion which aspires after annihilation and extinction of all corporeal existence, should yet recognize the imperishable, rock-crowned mountain, as one of the symbols of its faith. Mr. Skeen does not enter into the metaphysics of this question. His business has been to trace out the old traditions and legends, and while refraining from expressing an opinion himself, he has supplied the reader with abundant material from which to draw his own conclusions. He carries us throughout the whole range of ancient Eastern lore; and from the great Hindu epic, the Ramayana, down to the most recent works on the Island, he has ransacked the dark recesses of oriental literature, to illustrate his subject. Mr. Skeen has entered on his task in a spirit of research, and influenced by the strong poetic vein for which he has hitherto been so well known, he has embellished his subject—a subject which in the hands of a mere antiquarian threatened to become dull and prosy—with the life and spirit of romance.

Mr. Skeen, as we have already observed, has ransacked all the authorities, ancient and modern, that could throw light on his subject, and it is no small praise to state, that he has added to a great power of research an admirable talent for condensation, while his own narrative of personal investigation and exploration, written in flowing easy

language, often rising to the height of poetry, presents the gorgeous scenes which he describes in an animated tableau that brings within one focus, the cloud-capped mountains, the roaring torrents and the arid plains, through which lies the course of the pilgrims. It is hardly possible to imagine, looking at the heads of chapters in the table of contents, how Mr. Skeen could manage to reduce the heterogeneous mass of subjects indicated into one harmonious whole, but the reader has only to take up the narrative, and he scarcely perceives the transition from one to another.

We have great pleasure in recommending the Book to the Public. It is even worthy to stand by the best that has been written of Ceylon, and its value as a very readable book is enhanced by the use to which it may be put as a work of reference, not only with regard to the Peak itself, but also, to the History of the Island generally. The book is illustrated with a map of the Peak range, and ten well-executed wood-cuts illustrative of the Peak and its accessories; and, with a copious and well-arranged Index, it is admirably calculated to serve as a guide to those whom Mr. Skeen's Book may inspire with the desire of exploring the mountain region which has continued to attract to its sacred pinnacle the Traveller, the Historian, and the Pilgrim, from the days when Sindbad the Sailor "made a pilgrimage to the place where ADAM was confined after his banishment from Paradise."—*Colombo Examiner*.

"THE author of 'ADAM'S PEAK,' has accomplished a most difficult task uncommonly well."

"The book opens with introductory remarks on the origin of Buddhist, Hindu, and other pilgrimages to Adam's Peak. With Chapter III. the author commences an account of a pilgrimage to the holy mountain made by himself and three companions, and which forms a kind of cabinet made to contain the curiosities, with an inspection of which the author indulges us. In a pleasant chatty style the literary pilgrim-author describes the road to Avissáwela, dwelling upon all objects worthy of remark by the way, and noting all historical facts and curious legends connected with the towns and villages through which he passed. Leaving Avissáwela, the pilgrimage is continued towards what was for long considered the loftiest mountain in Ceylon, Adam's Peak; entertaining details being given of "Sita's bath," the Mányangama vihára or rock temple, and the Saman Déwálé, where the author mentions finding a most curious mural stone. After giving us a description of the curious old town of Ratnapura, the pilgrims again start onwards. After passing Palábaddala, where the travellers obtain a view of the Peak, which is greeted by cries of "Sadhu!" by all true pilgrims, the most enjoyable portion of the journey appears to begin. We can only pause long enough to draw the reader's attention to the interesting passages about elephants contained in chapter VI., and their supposed habit of retiring to one spot when about to die, and the curious legend of the Bēna Samanala, or "False Peak," in the same chapter. Space will not allow us to do more than glance at the Kuruwita Falls, and the halt at Heramiṭipána, where the congregation of pilgrims is graphically described.

There are many men who have determination and curiosity sufficient to induce them to set out on three different pilgrimages, which in spite of the pleasant places through which the way lies, plainly entailed much fatigue and inconvenience, but there are few gifted with the great powers of observation which the writer of "Adam's Peak" evidently possesses, or the ability to express their impressions which he evinces. Whether toiling over a mountain, rambling amidst the ruins of an old Buddhist temple, or excavating those curiosities of fact and tradition of which but for this literary pilgrim we should have remained in ignorance, the author has in almost every page got something new to tell us about, which he relates in a remarkably happy way.

Having attentively perused "Adam's Peak," it remains for us to pass upon it our carefully formed opinion. In a former notice we said that the author had "accomplished a most difficult task uncommonly well," and we reiterate our statement. To have compressed so much useful knowledge into so small a compass can only be the result of deep research and hard and persevering study. Mr. Skeen has collected a number of local traditions, legends, and facts, which he has elaborately arranged,

and by a pleasant account of incidents connected with his three pilgrimages to the holy mountain, unites the whole in a pleasing and sightly form. The book abounds in quotations which are generally apt and appropriate. The foot notes and copious appendix form by no means the least valuable part of the work."—*Ceylon Times*.

"In a careful perusal of the above production [ADAM'S PEAK] we have been most favorably impressed with its general character and ability; the labour that produced it must have been most painstaking, and involving great research. Nearly a hundred authors are quoted or referred to for confirmation or illustration of the text, which, with well executed engravings, a large and interesting Appendix, and an excellent Index for facility of reference, becomes a most useful addition to Eastern literature. Besides the direct textual matter of the book concerning the Peak, its history, and the pilgrimages made to it, we have a large amount of very interesting particulars respecting the Geology, Botany, and History of the Island, and the religions, manners and customs of the people, with much legendary and traditional lore, which, if not always reliable, is not without either interest or importance, in the assistance it affords to a fuller knowledge of the country and its inhabitants. Indeed the book is almost of encyclopedic utility concerning Ceylon.

For a knowledge of the route, viâ Ratnapura, and of its many interests and attractions of scenery, &c., and also for the many delights of the Peak itself, as given by our author, we recommend a careful perusal of his most interesting and able work."—*Colombo Friend*.

## MOUNTAIN LIFE AND COFFEE CULTIVATION IN CEYLON;—A

POEM ON THE KNUCKLES RANGE, with other Poems. By WILLIAM SKEEN.

1870. *Foolscap 4to.* 182 pp. EDWARD STANFORD, Charing Cross, London.

"Adam's Peak," and "Mountain Life and Coffee Cultivation in Ceylon,"—two companion volumes devoted to one of our most interesting though least known Eastern possessions..... abound in local colour and afford life-like glimpses into the industry of the society of an island which the Anglo-Cingalese not unpardonably regard as the centre of the earth."—*Daily Telegraph*.

"The poem contains interesting historical records which evince considerable research and extensive reading; also a very full account of the processes of planting the Coffee tree, of collecting the berries, and preparing them for use and exportation. As a picture of Eastern life and industry this book is not only interesting but instructive."—*The Messenger*.

"In the main poem Mr. Skeen records the impressions derived from a visit to the Knuckles District, and in the text alludes to, while in the notes he affords, valuable information respecting historical personages and events. The specimens quoted will give our readers some idea of a poem in which, clustered round the scenery of the Knuckles, we have described to us a large portion of the incidents of coffee planting life, much history, ancient and modern, more or less connected with the coffee enterprise, with striking references to Hindu mythology. The notes, which explain the brief allusions in the poem, embody a fund of interesting and curious information. The work is probably the most beautifully got up that has ever issued from the local press, and we trust the venture will be largely encouraged."—*Ceylon Observer*.

"The main poem treats of a well known Coffee District, its magnificent scenery, its hospitable planters, and its prosperity. There is abundant evidence in the poem that Mr. Skeen does not now come before the public for the first time. He has at least the assurance, gained from experience, to encourage him in his aspirations; and if he has not quite succeeded in establishing a poetic reputation of the highest order, he yet gives ample promise of better results in the future. With a wonderful facility for versification, and an inexhaustible resource for rhyme, Mr. Skeen has amplified his subject in a manner which less practised or more timorous hands would hardly have dared. We can recommend the book as well worthy perusal, not only for the sake of its poetic beauties, but also on account of the valuable mass of information it contains both in the body of the main poem, and the copious notes at the end."—*Colombo Examiner*.

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"This little work, issued from the [Ceylon] Government Press, does credit to the author and printer alike...We can say in all truth and honesty, that the work of Mr. Skeen would reflect credit on any Printing Office in the world. He has certainly illustrated what has been done for the improvement of Printing in Ceylon by *himself*, for to him it is entirely due. He has issued a pamphlet of sound historical matter, carefully written, admirably printed, and on excellent paper. The matter consists of a history of the discovery of the Art of Printing and its various improvements, down to the close of the Fifteenth Century; and while it contains much new and interesting matter, there is but one fault to find with it:—it is too short, and stops at a very interesting point...We welcome such works with the right hand of fellowship; and in conclusion, we will only add, that we hope Mr. Skeen will have the inclination and leisure to complete this history of the Art of Printing, in the first part of which, now published, he has imparted his information in so agreeable a manner, and illustrated the present state of the Art by so perfect an example."—*Colombo Examiner*, [1853.]

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