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# The Coming of the Book

The Impact of Printing 1450-1800



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and  
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*Translated by David Gerard*

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# The Book as a Force for Change

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In the last chapter of this study we shall try to draw up a balance-sheet, and to take stock of the distance we have travelled, by delineating the impact of printing on the men of the last decades of the 15th and the first decades of the 16th centuries. We shall attempt, in our study of the printed book over the century following its first appearance, to indicate the rôle played by the new techniques in the revolutionary changes that took place during the period of the Renaissance and of the Reformation.

## I From Manuscript to Printed Book

In the centuries before the invention of printing those whose job it was to copy books by hand had been able, as we have seen, to adapt their product and their methods of work to changing needs. Workshops capable of turning out dozens if not hundreds of copies of the most popular books at a time existed in many places in the early 15th century, the books most in demand being Books of Hours, works of popular piety and standard elementary text books. Gutenberg's contemporaries may have accepted printing as no more than a device for reproducing mechanically the texts most in demand.

But soon the potential of the new process became obvious, as did its rôle as a force for change as it began to make texts accessible on such a scale as to give them an impact which the manuscript book had never achieved. A few figures will show the extent of the change. Some 30,000-35,000 different editions printed between 1450 and 1500 have survived, representing 10,000-15,000 different texts, and if we were to take into account those which have not survived the figures would perhaps be much larger. Assuming an average print run to be no greater than 500, then about 20 million books were printed *before 1500*,<sup>143</sup> an impressive

total even by 20th-century standards, and even more so when we remember that the Europe of that day was far less populous than now. There were certainly fewer than 100 million inhabitants in the countries where printing developed, and of them only a minority could read.

There was obviously a change then, and a swift one. What was the result of it? What kind of books did the public want from its printers and booksellers? To what extent did printing ensure a wider circulation for the traditional medieval texts? How much of that earlier heritage did it preserve? In making a sharp break in the material conditions of intellectual work did the press promote the growth of a new type of literature? Or, on the contrary, did the multiplication of many traditional medieval books by the early presses ensure their unexpected survival for several decades more, as Michelet suggested? These are some of the problems we will now try to answer.

One fact must not be lost sight of: the printer and the bookseller worked above all and from the beginning for profit. The story of the first joint enterprise, Fust and Schoeffer, proves that. Like their modern counterparts, 15th-century publishers only financed the kind of book they felt sure would sell enough copies to show a profit in a reasonable time. We should not therefore be surprised to find that the immediate effect of printing was merely to further increase the circulation of those works which had already enjoyed success in manuscript, and often to consign other less popular texts to oblivion. By multiplying books by the hundred and then thousand, the press achieved both increased volume and at the same time more rigorous selection. If we keep that fact in mind we shall understand better the nature of the printing industry in the 15th century.

A few figures may help at the outset by giving us a general picture of the situation. A high proportion of books printed before 1500 (i.e. of the books referred to as *incunabula*) are in Latin - about 77 per cent. About 7 per cent are in Italian, 4-6 per cent in German, 4-5 per cent in French and just over 1 per cent in Flemish. Religious works are easily predominant among the books of this period, making up 45 per cent of the whole, with classical, medieval and contemporary literatures coming to just over 30 per cent, law just over 10 per cent and books on scientific subjects about 10 per cent.<sup>144</sup>

So the majority, or very nearly, of books were religious and among them of course were many editions of the Scriptures. What subject

was more likely in the eyes of printers to sell at a time when most readers were clerics? It is no accident that among the very first major books to issue from the press are two Bibles, the 42-line and the 36-line, and throughout the 15th century editions of the Bible were innumerable. Hain alone lists 109 Latin Bibles, and Copinger 124, with or without commentaries and notes by Walafridus Strabo, Rabanus Maurus, Alcuin or Anselm of Laon. In addition to Latin versions for priests and university students there were translations of the whole Bible: 11 German, 3 Low German, 4 Italian, 1 French and others in Spanish, Flemish and Czech, without counting translations of parts of the Bible, which were even more numerous, especially of the Psalms, the Apocalypse and Job.<sup>345</sup>

Parallel with the sacred texts, and infinitely more numerous, were the indispensable books needed for Church services and for the private prayers of clergy and laity. It would be difficult to suggest a total here, because many books in this category did not survive. Certainly there must have been a huge number of breviaries and missals, the very stuff of the printing trade in smaller places to which, when there was no established press, a printer was often summoned by the local priesthood for the very purpose of printing them. Books of Hours had been in demand, before the printed book, when their manuscripts were copied and illuminated according to standardised procedures. This kind of devotional work kept a great number of presses busy in the 15th century and, as we shall see, even more in the 16th.

Naturally there were far fewer editions of the great classics of medieval philosophy or theology. They were for a more exclusive public, yet an important one, consisting of the lecturers and students at the universities (many thousands at Bologna, Cologne and Paris) for whom the required reading of the syllabus and the essential works of reference were being turned into printed form by the new presses. For example, beside the Bible, there was all the material necessary for its exegesis, there were the *Sententiae* of Peter Lombard and, in even greater numbers, the works of the commentators, Duns Scotus, William of Ockam, Buridanus and Aquinas. The fact that printers specialising in the production of such works were established early in the great commercial towns rather than in the major university towns (Basel, for instance, Venice and Nuremberg) is suggestive. They could send their wares to all points of the compass from a good business centre, even the great unbound folios that had to be carried so cumbrously. Strategic siting of their offices meant more efficient marketing. Of the 16 editions of Lombard's *Sententiae* before 1500, 8 at least came from Basel, 7 from the one firm of Kessler,

and not one from Paris, site of the largest university of all at that time. Likewise, Aristotle was published mainly in Venice, Augsburg, Cologne and Leipzig, only one of which was a university town. However, while some of these classic texts were reprinted on a comparatively small number of occasions, the medieval compilations, often in the form of dictionaries and glossaries, ran into many editions: Giovanni Balbi's *Catholicon*, Giovanni Marchesini's *Mammetractatus*, and Pierre Comestor's *Histoire écolâtre* are examples.

Devotional literature found an audience much larger than that of professional theologians, particularly mystical works which by themselves amounted to one-sixth of the entire output: Thomas à Kempis's *Imitation of Christ* began in this period the career which was to make it the most frequently reprinted work of all (after the Bible) down to recent times. Among the Church Fathers it was the mystical rather than the doctrinal works which commanded a large number of editions. Augustine's *City of God* was the most popular, along with the works attributed to him, like the *Meditations* and the *Soliloquies*, the *Dialogues of the Soul with God* and the *Mannual*. St. Bernard's works of mysticism were often reprinted too, and to them likewise were added numerous apocryphal works. St. Bonaventura's *Meditationes vitae Christi* and the works of this type traditionally attributed to 'the seraphic doctor' were also popular. The little mystical treatises of Gerson and Pierre d'Ailly were printed and reprinted much more often than their doctrinal works. At the same time there were many editions of the *Fioretti* of St. Francis of Assisi, of Catherine of Siena's *Book of Divine Providence*, and of the *Revelations* of St. Brigid of Sweden. Even more in demand were the writings of those German mystical authors who were to influence so many generations — works like the *Speculum Perfectionis* of Heinrich of Herph, the *Horologium Aeternae Sapientiae* of Heinrich Suso, and many others of the same kind.

The probable reason for the success of such works was that they were not addressed only to the Masters of Arts of the universities but to simple clerks as well and even to the pious laymen for whose edification they were printed in the vernacular.

A large number of works which were intended for the specialised use of priests went into many editions, notably handbooks for the cure of souls: the *Epistola de Misericordia Curatorum* (Peddle lists 25 editions); or the *Manipulus Curatorum* by Guy de Montrocher printed about 100 times (Peddle lists 98 editions). Works of everyday use for practising clergymen were equally numerous: collections of sermons, already plentiful in

the diffusion throughout Europe of the lessons of Italian humanism. All over the place, but especially in Italy, where humanism had already developed long before, interest in the civilisations of antiquity and in the Latin language was growing. Without in any way abandoning traditional courses of study, men like Guillaume Fichet and Johann Heynlin of the Sorbonne were inspiring small groups of men with a love of pure Latinity and, as we have seen, such men were eager to encourage the setting up of presses with a view to making it at last possible to have access to correct texts and to make them widely known. The crucial role of printing in relation to humanist studies up until the last years of the 15th century was not so much to give a wide circulation to those texts which had recently been rediscovered or re-edited free of medieval corruptions by the humanist scholars, as to make generally known, by multiplying the number of copies that were available, those texts which had been most commonly used in the middle ages as an introduction to classical literature.

We must first take notice of the enormous increase in the number of elementary grammars which was brought about by the printing press, above all of copies of the *Doctrinale* of Alexandre de Villedieu, and of Donatus's *De octo partibus linguae latinae*. More than 300 editions of Alexandre de Villedieu's *Doctrinale* have come down to us. This book was the work of a 13th-century grammarian and since that time it had been used by generation after generation of schoolboys. It was a medieval work written in verse, and so revered that Villedieu's successors dared not alter it but merely added glosses and commentaries. Although the humanists often satirised it, Joost Bade considered it worth publishing with additional material, and Erasmus, for his part, listed it among those works to be classed as 'tolerable'. The Donatus was probably reissued as many times as the *Doctrinale*. As we have seen, it may have been the very first book ever printed. It too was a work entirely traditional in outlook, written by a 4th-century grammarian, Jerome's teacher. It had been on the degree syllabus until 1366 and from its pages all medieval schoolboys had learnt their basic Latin.

At the same time we must also note that the Latin classics which were the greatest successes for publishers undoubtedly continued to be those which had been most popular in the Middle Ages, those which had most frequently been adapted and translated into the vernacular. Among them the most popular were the works of Aesop and Cato, the sources for innumerable popular collections of epigrams and fables in the vernacular and the original models for much that was written in the Middle Ages.

manuscripts, and guides for the confessor — for example the *Confessionale*, generally attributed to St. Antoninus, which was reprinted several hundred times, the *Modus confitendi* of Andreas Escobar which was almost equally successful, Gritsch's *Quadragesimale*, in which the sermons were illustrated with fables (31 editions in Peddie) and, more popular still, the works of Johann Nider.

A whole literature designed to encourage popular piety grew up at the same time. The cult of the Virgin was in full flower during this period and many works celebrating the marvellous life and the virtues of the mother of Christ were printed and reprinted, like Francesco de Insula's *Quodlibeta*, or Cornazzano's *Vita de Nostra Dama* (15 editions according to Peddie). The cult of the saints led to the immense success of Voragine's *Golden Legend* (88 editions in Latin, 18 in French, 5 in English, 2 in German, 2 in Czech, 13 in Flemish, 6 in Italian),<sup>346</sup> and there were countless lives of the saints.

Alongside these books, homiletic and didactic works were in demand, often descending from the tradition of xylograph books and often with illustrations, like the various *Ars Moriendi* which appeared in every language, the various *Vitae Antichristi*, the *Vita Christi* of Ludolphus of Saxony, the illustrated Bibles and the countless other works of the same sort. In face of such a vast number of religious books one is forced to conclude that one of the first effects of the printing press was to multiply the number of works of popular piety generally available; the press thus testifies to the depth of religious feeling among people in the late 15th century.

In the earliest days of the printing press, therefore, among the most important tasks undertaken were those of making the Bible immediately accessible to a greater crowd of readers than ever before, not only in Latin but also in the vernacular; of supplying students and teachers at the universities with the major treatises from the great arsenal of the Schoolmen; of making prayer books for daily prayers and church services, that is to say breviaries and Books of Hours, abundantly available; and, even more important, of making works of practical piety and mysticism generally accessible. The reading public was extended by the sheer numbers of books which reached wider and wider audiences with increasing ease.

Printing also made for a more exact knowledge of the Latin language and of the authors of classical antiquity. Its appearance just preceded

Most schoolboys had begun to read the Latin classics with these two authors after having studied logic and before going on to the moral sciences. Knowledge of Cato's works was still reckoned so important in 1503 that the Rector of the University of Paris waxed indignant when he observed that young graduates were ignorant of Cato because they had spent all their time studying Aristotle. If they were ignorant of the *Disticha*, which Erasmus for example published in an annotated edition, then it was not for lack of printed editions. By 1500 there had been at least 69 editions in Latin, 36 in German and Latin, 9 in Italian and Latin, 2 in Spanish and Latin, not to mention those that appeared only in vernacular translation, of which there were one in Flemish, nine in French and three in German. As for Aesop's *Fables* they were no less popular; before 1500 there were more than 80 Latin editions, mostly printed in Italy, 15 Italian-Latin, 1 Greek and 1 Greek-Latin, 15 German, 1 Low German, 7 French, 3 English, 1 Czech and 2 Flemish, the last two being illustrated and probably meant for non-academic readers.

Thus, when printing first began, the study of Latin still started with the texts which had traditionally provided an introduction to that language. It was these works which the presses first reproduced in quantity, the texts of Aesop and of Cato, but also for example the *Auctores Octo*, a little primer widely used in schools and which the copyists who worked for the mass market had already produced in the hundreds. It contained Cato's *Disticha*, Aesop's *Fables* and some material which was rather more medieval in feeling and outlook: Theodolus, Facetus, Floretus, the *Tobias* of Matthieu de Vendôme, the *Paraboles* of Alain de Lille and a little treatise in rhyming verse, *De contemptu mundi*. At this time too Boethius's *De consolazione philosophiae* enjoyed a great vogue (70 reissues before 1500) – not surprisingly, given that to the great majority of scholars at the end of the 15th century, as indeed for many centuries previously, Boethius represented a perfect blend of classical and medieval thought.

The best Latin style was in fact learnt in those days first and foremost through the reading of the Fathers of the early Church: Jerome, Lactantius and above all Augustine were extraordinarily popular, perhaps partly for this very reason. This knowledge was extended by reading the Latin classics which had been best known and most often copied, translated and adapted in the Middle Ages. Among classical authors, Virgil was particularly often reprinted before 1500, very many editions coming

from Italy and intended for scholars, but often too appearing in translation. Ovid, also regarded as a classic throughout the Middle Ages, was as often reprinted as Virgil. He had been many times previously copied by hand, and printed editions were produced for both scholar and layman, both in the original Latin and in verse translations and illustrated adaptations. In the last, more popular form, he went into many editions in the 16th and 17th centuries.

Other classical authors who were popular included Juvenal (61 editions of his *Satires* listed by Hain), Persius (33 editions), Lucian (19) and Plautus (13). Terence, a dramatist held in peculiar esteem during the Middle Ages and whose comedies were so often imitated in the 12th and 13th centuries, went into no fewer than 67 editions. Among the historians Sallust was one of the most popular (57 printings according to Hain). Livy, who had often been summarised and adapted in the Middle Ages, went into 23 editions before 1500, leaving aside the abbreviated editions, and Vegetius went into 99 editions, both according to Hain. Caesar was published in 16 editions according to the *Gesamtkatalog*. Other historians were also widely reprinted.

Of the philosophers, Seneca was still extremely popular (77 editions listed in Hain). It is, however, the immense popularity of the works of Cicero which, among all the editions of classical authors, provides the best evidence for the existence of a new outlook. Cicero was the Latin author who was most frequently reprinted in the course of the 15th century. Not just his philosophical writings but also his speeches and above all his letters were in continuous demand. There were no fewer than 316 editions before 1500, most of them Italian, but many German and even more French. The *De Officiis*, *De Senectute*, and *De Amicitia* – his major works – went into 40 editions, but there were also 38 editions of his speeches and 84 of his Letters, the favourites being the *Epistolae ad familiares*.

This growing interest in classical literature, which had already developed to such a great extent in Italy, was to some people a source of concern, even to some of those who admitted that it was essential to cultivate a better Latin prose style. Already in Italy humanism had introduced paganism into the universities. Were there not Christian authors (the orthodox argument ran) who wrote hexameters comparable with Virgil's, Christian orators the equal of Cicero? Scholars like Dominici in Florence, Wimpfeling in Alsace and even Robert Gaguin in Paris seemed to think so. These Christian authors, moreover, could not be totally neglected, because it was from them that the medieval grammar

Bruni were also reprinted and translated many times.

Courtly love poetry was featured in French printing from the beginning, along with works composed by the writers of the Duke of Burgundy's court. The *Roman de la Rose* went into 8 editions in the 15th century and its popularity did not fade in the 16th. Martin Le Franc's *Champion des dames* was also printed. Among what could be termed the writings of the court circle were Pierre Michault's *Doctrinal de la Court*, and the *Abuzé en cour*, attributed to King René, Jean d'Arras' *Mélinesine*, the *Procès de Bélical* and, of course, the works of Christine de Pisan and Alain Chartier. By about 1500, Meschinot's *Lumettes des Princes*, Gringore's *Chasteau de labour*, the *Testaments* of Villon and Jean Michel's *Mystère de la Passion* were entering the period of their greatest popularity.

Some of these titles appear to have been printed only once or twice — the ones most in demand being the *Roman de la Rose*, the *Bélical*, the *Abuzé en cour* and the works of Alain Chartier, Gringore, Meschinot and Villon. Very soon another class of literature begins its printed career. These works had long been popular and their popularity was by no means coming to an end. They were the chivalric romances, especially those celebrating the more or less legendary exploits of the heroes of the Middle Ages. One such, called *Fierabras*, sometimes retitled *The Conquests of Charlemagne*, was printed 13 times in French and twice in Italian. The *Faitz et gestes de Godefroy de Bouillon* came out once in French, once in English, once in German and twice in Flemish. And there were others like *Merlin*, *Pierre de Provence*, *Robert le Diable*, *Lancelot*, *Tristan* and many more. With them should be associated, although they were adaptations and translations from the Latin, the countless Histories of Troy (one called the *Historia destructionis Trojae* was particularly popular) and other works like the *Mer des histoires*, of which more later.

Moralities and improving moralising narratives were among the works most popular with the reading public. Alongside the purely pious tales there were also works displaying a bawdy sense of humour such as the *Cent nouvelles nouvelles*, a collection of tales by courtiers. There were other works, the forerunners of the *plaquettes gothiques* (little books printed in black letter) addressed to the widest possible public of the 16th century. Many of these books which were once, it seems, present in large numbers on the booksellers' stalls have now quite disappeared. There are few of them on the shelves of libraries' rare book collections today and they are rarely referred to. There were, for example, numerous treatments from different points of view of the old theme of the pleasures and pains of marriage, from the *Quinze joies de mariage*, attributed to

books which were still in use had drawn their examples. For these reasons many printers were led to publish editions of Christian poets whom they hoped to rescue from oblivion. Thus, writers like Juvenecus, Prudentius, Sedulius and Arator were intended to replace Virgil, and the *De Amicitia Christiana* of Peter of Blois was placed on a par with Cicero's *De Amicitia*. Such rescue attempts in the end came to nothing, though it must be admitted that publication by the press gave a new lease of life to some writers whose days of popularity had seemed to have finally come to an end. At the same time, and with greater success, contemporaries who admired classical literature sought to provide schoolboys with Christian texts written in a good Latin style. The work of Baptista Mantuanus (1448-1516), whose poems, notably his *Parthenicae* and *Bucolicae*, were reprinted more than 100 times between 1488 and 1500 alone, was felt to be suitable, and his popularity continued far into the 16th century. The Italian humanists did not yet reach a large public outside Italy, nor did authors like Tacitus whose works were just being rediscovered. Only with the very last years of the 15th century and the beginning of the 16th century do we find many editions corrected and edited by philologists, and only then do numerous editions of Plato and Homer appear. However the models of Latin composition produced by the humanists had already begun to enjoy great popularity in the 15th century, in particular the works of authors like Andrelini, Beroaldus, Filelfo and Gasparino de Barzizza, whose *Rhetoric* was, as we have seen, the first book printed in Paris. Their popularity is evidence of a change in outlook which only bore fruit in the early 16th century.

Compared with works in Latin, the vernacular works printed were, as we have indicated, very much in the minority — about 22 per cent of the total production of the press in the 15th century. Many texts in modern languages — probably most — were simply translations from Latin, whether of moral tracts, devotional texts, sacred scriptures and commentaries, classical literature or even of medieval literature which had originally been written in Latin. Among the many books printed, there were very few which had originally been written in the vernacular, but some must have found a big audience, especially in Italy. Dante was read and re-read (15 editions are known of his *Divine Comedy*); and Boccaccio was equally popular. His *Decameron* went into 11 Italian editions and was often translated, twice into German, once into French and once into Spanish. Petrarch's *Canzoniere* and the works of Leonardo

Antoine de La Salle to the *Doctrinal des filles mariées* and various works entitled *Doctrinal des nouveaux mariés*, which often had more serious advice in them than their titles might suggest. Such works were bought by the same people to whom the *Fainistes du Monde*, attributed to Guillaume Alexis, farces like the *Pathelin*, the many versions of the *Ars Moriendi* and all the other ephemera which filled the hawkers' pack appealed. These, along with the Shepherds' Calendars, the almanacs, the calendars and the illustrated popular poems which were designed to be hung on the wall, must once have been produced in great quantities, especially in Germany,<sup>347</sup> from the 15th century onwards, but have only rarely survived to the present day.

Although of course empirical science was scarcely even in its infancy at this time,<sup>348</sup> in areas that could be called 'scientific' there was quite a high output, about 3,000 titles, or one-tenth of the total. Especially often printed were the great medieval compilations in which, as in an encyclopaedia, the sum total of available knowledge on all subjects was thought to lie; witness the great success of the *Speculum Mundi* over the fifty years following the development of printing. This vast work was in four parts, named respectively the Mirror of Doctrine, the Mirror of History, the Mirror of Nature and the Mirror of Morality. The first three parts were the work of the Dominican Vincent de Beauvais, tutor to St. Louis's children, who had died two hundred years earlier, in 1264. In the field of natural phenomena the works of 13th-century compilers were read and re-read, notably the *De proprietatibus rerum* of Pierre de Crescens, regularly reprinted in many languages. Compilations like these saved readers the trouble of going back to original sources and were consulted for their convenience, just as theologists at that time turned to dictionaries, lexicons and summaries rather than to the original texts. Finally, of the great scientists and mathematicians of antiquity, Aristotle, Euclid, Pliny, and Ptolemy were most often published, along with Avicenna, who was the most admired of the Arab scientists.

The mass of the reading public did not of course frequent those authors. Even theologians preferred studying the *Auctoritates Aristotelis* to reading the works of Aristotle, and a book called the *Secret of Secrets*, a collection of prescriptions often wrongly ascribed to either Aristotle or Albertus Magnus, which had already been widely circulated in manuscript, was printed over and over again. Such books were read in prefer-

ence to the works we would call truly scientific.

Of course quite a lot of contemporary scientific works were also printed, and these account for about 57 per cent of all scientific incunabula: 25 of them being Italian, 124 German, 46 French, 44 Spanish and 26 from the Low Countries, 21 English or Scottish. But where time had not begun to winnow the wheat from the chaff there was an even higher proportion of valueless work published. The number of authors getting into print on scientific subjects rose each year, but the majority of works were of no lasting scientific interest. Practical astrology was the field to which most of them aspired to make their contribution. In view of the interests of the reading public, we should not be surprised that the account of Marco Polo's travels, the medieval geographical work of the highest value, was only reprinted four times before 1500 and excited much less interest than the fabulous stories told in *The Travels of Sir John Mandeville*. There was thus, from our point of view, a total absence of any objective critical sense, but after all isn't this always the case? We should not be surprised that the picture is no different when we look at the works of mathematics that were published. These came out in print frequently and from an early date: at Treviso the first appeared in 1478, at Venice in 1484, at Barcelona in 1482. Yet the most original treatise on arithmetic and algebra of the second half of the 15th century, the *Triparty* by Nicolas Chuquet (1484), remained in manuscript. Furthermore, the leading contemporary scholar to take an interest in the subject, the famous Regiomontanus, a mathematician and astronomer to whom his patron had given a press with which to print his results, only printed a small fraction of his work, most of which came out after his death, and his *De triangulis*, the first western work on plane and spherical trigonometry, did not reach print until 1533.

So printing does not seem to have played much part in developing scientific theory at the start, though it seems to have helped draw public attention to technical matters. Technical works were printed from an early date, e.g. Alberti's *Ten Books on Architecture* (1485), Pierre de Crescens' *Treatise on Agriculture* (1486). Vulturio of Rimini's *Treatise on Machines* (1472) was reprinted in 1482 and 1483 at Verona, again in 1483 at Bologna, and in 1493 at Venice. These are so many clues to a new outlook which was already apparent in the numerous technical advances made in as many fields in the first half of the 15th century. And printing, after all, was simply the most spectacular.<sup>349</sup>

These then were the main types of book produced in the half-century following the discovery of the printing press. On the basis of what has gone before, what conclusions can we draw as to the consequences of the development of the new technique for reproducing texts?

It is fairly evident at the outset that printing brought about no sudden or radical transformation, and contemporary culture hardly seems at first to have changed, at least as regards its general characteristics. But selection soon became imperative as the decision had to be made as to which of the many thousands of medieval manuscripts were worth printing. As we have seen, booksellers were primarily concerned to make a profit and to sell their products, and consequently they sought out first and foremost those works which were of interest to the largest possible number of their contemporaries. Hence the introduction of printing was in this respect a stage on the road to our present society of mass consumption and of standardisation.

The selection which took place was based on 15th-century standards of excellence and it brought about the final disappearance of works regarded as out-dated. Among the first to go were the encyclopaedias which predated the *Speculum Mundi* and many theological works which predated the exhaustive surveys of the 13th century. Some literary genres also died out with the introduction of printing, like goliardic poetry, of which few printed samples have come down to us and then almost by chance, usually because they were put in at the back of a book to fill a blank page.

Printing at the same time sometimes resurrected long-forgotten writings in which the 15th century seems to have found new interest.<sup>350</sup> It not only brought out classical texts which Italian humanists had been systematically looking for in ancient manuscripts for over a century, and whose popularity in the 16th century we will study below, but also certain medieval works which seemed in the 15th century to have renewed relevance to contemporary life or renewed practical value. The texts of some Christian poets who wrote in Latin were thus resurrected according to the needs of the moment—but the *Anti-Claudius* of Alain de Lille and the *Aurora* of Peter of Riga, of which there were so many manuscript copies, were passed over. Above all certain mystical writings of the 12th and 13th century were rescued from oblivion by Lefèvre d'Étaples among others. Time eventually made its own selection among the many products of the press. There were many titles never again reprinted after 1510. On the other hand, between 1450 and 1500 the press failed to print many works, rejecting them as unsuitable, which are now famous, but which, except for those which had the good

fortune to be stumbled upon by a 16th-century humanist or some learned Benedictine monk of the 17th or 18th centuries, were not to be resurrected until the advent of modern philological scholarship in the 19th and 20th centuries. Among outstanding works which were temporarily lost were, for example, the *Letters of Héloïse and Abélard*, known to Petrarch, but not in print until 1616; most of John Scotus Erigena and of Roger Bacon, the letters of Loup de Ferrière and Gerbert, the memoirs of Ekkehard of St. Gall, the chronicles and histories of Gervais of Tilbury, Matthew Paris, William of Malmesbury, not to mention, among many other works, those of Hildebert of Lavardin, or the *Chanson de Roland*. The initial process of book selection was thus done by men of the 15th century with 15th-century tastes and priorities.

Although we cannot label the criteria of selection employed by the press with the facile word 'humanist', that is not to say that the press did not assist the humanist movement. It is plain that good editions of the classics in roman type were abundantly available, especially from the Italian presses. The book trade was already sufficiently well organised for these editions to be available throughout Europe. We are approaching the age of Aldus and of his French competitors who followed soon after. At the same time, the exacting nature of the printing process obliged printers, and in due course their readers, to revise their inherited ideas. A desire for typographic accuracy and the constant search for the best manuscript version of a text to provide the basis for a published edition provided an immense stimulus for philological studies. Moreover, while in the Middle Ages authors had had little interest in attaching their name to a work, printers were led to seek out, or have sought out, the true identity of the author of the works they printed—where, that is, they didn't invent it. In the 15th century many works, copied straight from medieval manuscripts, were still printed with apocryphal attributions. But standards soon changed. Contemporary writers who had their names attached to hundreds and thousands of copies of their works became conscious of their individual reputations. This new kind of stimulus was also the sign of a new age when artists began to sign their works, and authorship takes on an altogether new significance. Rapidly, under the mounting flood of new books written for an ever increasing public, the heritage of the Middle Ages lost its hold.



## 2 Humanism and the Book

The printed book could be said to have 'arrived' between 1500 and 1510. Little by little it displaced the manuscript in library collections, relegating it to second place, and by 1550 the latter was hardly used, except by scholars for special purposes.

A revolution like this is explicable only if we recall the high, and constantly mounting, output of the first presses. As we have seen, the 30,000-35,000 different editions printed before 1500 that have survived represent 15-20 million copies. But there were still more in the 16th century. It is sufficient for our purposes to recall some figures we have previously encountered. In Paris more than 25,000 editions were published in the 16th century; in Lyons, probably 13,000; in Germany about 45,000; in Venice 15,000; in the Low Countries more than 4,200 in the first half of the century; in England, 26,000 in English alone before 1640, of which about 10,000 were of the 16th century.<sup>31</sup> We can deduce from these figures that some 150,000-200,000 different editions could be shown to have been printed between 1500 and 1600. If we assume, for convenience, 1,000 as an average edition, then between 150-200 million copies were published in the 16th century. This is a conservative estimate and probably well below the actual figure. Of course it does not compare with today's output, when in France alone about 15,000 different editions are legally deposited each year, each generally in an edition of between 5,000 and 10,000 copies, not counting pamphlets and periodicals, some of which are printed in editions of 500,000. But the point is that by the 16th century the printed book had been produced in sufficient quantities to make it accessible to anyone who could read. It played a central role in the diffusion of a knowledge of classical literature at the beginning of the century and later in the propagation of Reformation doctrines; it helped to fix the vernacular languages and encouraged the development of national literatures.

First some information about the reading public.<sup>32</sup> It is not surprising if the number of those wanting to start their own private libraries grew in the course of the 16th century, and if the number of books in these private libraries also rose steadily. Catalogues of private libraries included in the inventories of an individual's private possessions which were drawn up before solicitors on the death of their owners give us valuable facts on these libraries in France, particularly those of the more affluent classes.

What kind of people had private libraries? Of 377 such libraries in the late 15th and the 16th centuries of which we have catalogues, 105 belonged to churchmen (53 to ecclesiastical dignitaries, i.e. archbishops, bishops, canons and abbots, 18 to university teachers and students, 35 to parish priests), and a rather larger number (126) were owned by lawyers, of whom 25 were members of the Parlements or of one of the courts of appeal, 6 were local government officials, 45 were barristers, 10 public prosecutors, 15 notaries. As one would expect, the number of lawyers' collections increased steadily in proportion to those of the churchmen:

	Lawyers	Churchmen
1480-1500	1	24
1501-1550	54	60
1551-1600	71	21

While churchmen were declining in relative importance as purchasers of books, lawyers, members of an ascending social group, became steadily more important. Their importance as booksellers' clients was especially high in Paris, the seat of government and of the courts of appeal, where the legal profession numbered 10,000. Of 186 Parisian collections listed between 1500 and 1560 no fewer than 109 have been shown to belong to lawyers and royal officials and only 29 to clergymen. Few soldiers or members of the *noblesse d'épée* owned libraries (30 out of the 377), and most of these lived in the provinces. But a surprising number of merchants, tradesmen and artisans owned books, sometimes in large numbers: 66 out of the 377 libraries were owned by haberdashers, weavers, drapers, tanners, grocers, cheesemongers, hawkers, locksmiths, pastrycooks, skippers, dyers, shoemakers and coachbuilders. Of course such collections varied a lot in size, ranging from Canon Guillaud d'Autun's enormous collection of 4,000 books to libraries containing a mere handful of volumes. Despite these variations however, it is apparent that the size of libraries tended to increase steadily throughout the century. The earliest recorded, collected together at the end of the 15th century, were modest affairs, often of 15 or 20 volumes including some manuscripts, but in 1529 a rich merchant of Paris left 170 volumes at his death. From 1525 on one begins to encounter large collections belonging to lawyers and royal officials. Philippe Pot, president of the Parlement's Commissions of Inquiry, owned 309 volumes in 1526 and François de Médulla, a judge in the Parlement, owned 235 in 1529. There was continuous growth; by 1550, collections of 500 are common

among judges. In 1550 Baudry, president of the Parlement's Commissions of Inquiry, had a collection of 700 works. In 1554 Lizet, the senior judge in the Parlement, owned 53 books. From this date on there was not a member of Parlement, not a local magistrate, not even a barrister, who did not own a fairly large number of books, as also did a large proportion of chemists, barber-surgeons and public prosecutors.

The owners of such libraries were not the only customers of booksellers of course. Certainly in the 16th century members of the legal profession were an important group among booksellers' customers, but they, together with a few merchants or artisans, were not the only people who bought books. There was always the trade in popular literature. Calendars, lives of the saints, almanacs and Books of Hours sold in large numbers to a much wider public. This was the public Jean Janot catered for, stocking his shops in 1522 with 50,000 religious tracts and other popular matter. It was for sale to this market that Royer acquired the stock of 102,285 Books of Hours and other devotional matter that he owned in 1528, and Guillaume Godard the 271,939 similar works that he held in 1545.<sup>353</sup>

Book production in the first decades of the 16th century shows a clear line of development compared with the earlier period. Religious works were still preponderant, and in fact more were probably printed than in the 15th century, but with the overall increase in production the proportion of religious works decreased markedly, while the constantly growing quantity of classical texts produced is striking. More than 50 per cent of all books printed in Strasbourg in the 15th century were religious while fewer than 10 per cent were by classical authors. From 1500 to 1520, 33 per cent were either Latin or Greek texts or works by contemporary humanists and only 27 per cent were connected with religion.<sup>354</sup> The following table shows an analogous evolution in Paris,<sup>355</sup> although one slower to take effect:

Year	Total production	Religious works	Latin, Greek and Humanist authors
1501	88	53	25
1515	198	105	57
1525	116	56	37
1528	269	93	134
1549	332	56	204

Similar enquiries would produce the same results almost everywhere. There is nothing surprising in this, since these are the years of the

triumph of what has come to be called the humanist spirit.

The excellent editions of the classics which came from Italy, from Venice and Milan in particular, had already in the 15th century begun to make better known these writers of antiquity which had not been forgotten by the Middle Ages, as well as introducing, albeit to a still fairly restricted public, those recovered by the efforts of humanist scholars. Here we are at the beginnings of a movement which grew steadily thereafter. In the last years of the 15th and the first years of the 16th centuries, Aldus Manutius was of course the supreme publisher in this field, bringing out numerous learned editions of Greek and Latin authors and making them easier to read by producing them in a small easily managed format. His success was such that competitors soon started up in Basel, Strasbourg and Paris. The story of the struggles and eventual triumph of the humanist printers is a long one which we have already sketched out and will not repeat here. But we must recall some of the achievements of the humanist press. Until about 1500-1510 Italy was the predominant centre of humanist printing. Outside Italy the first development is the publication of little books of verse modelled on the best Latin and composed by emigré Italians such as Andrelini, Beroaldus, Mantuanus or their disciples, by the presses of Mathias Schürer and Jean Schott in Strasbourg and Joost Bade and Gilles de Gourmont in Paris. The *Elegantiae* of Lorenzo Valla became immensely popular. Most important of all, traditional elementary works on Latin prose composition were brought up to date by men like Bade and Erasmus, and sometimes replaced by new grammars, like Desputère's which was an immense success, or Linacre's or Tardif's, or like the *Ars versificatoria* of Ulrich von Hutten, or the *Rudimenta* of Niccolò Perotto. New dictionaries now begin to appear, like Calepin's, or Perotto's *Cornucopiae*, just ahead of Robert Estienne's *Thesaurus Latinus* which was to have a long life.

The audience for the classics was steadily increasing. Those which were already being read in the 15th century became even more widely known. Terence, for example, enjoyed a popularity that continued to grow. The edition prepared by Guy Jouenneaux and Joost Bade and published by Trechsel at Lyons in 1493 was alone reissued 31 times in less than 25 years, up to 1517. The different works of Virgil, printed 161 times in the 15th century, came out 263 times in the 16th, not counting the innumerable translations (of which more later). Slowly all the major Latin literature became generally available. Tacitus, published very infrequently before 1500, went into dozens of editions, and the evidence

for a wide readership for such authors is provided by the collections of private citizens of Paris which in the second quarter of the 16th century generally contain a collection of the standard Latin authors, with elegiac poets like Catullus, Tibullus and Propertius being particularly in favour. Horace and above all Persius – there were 15 reissues of Bade's edition of 1499 before 1516 – were the most popular of the satirists. Of the historians, Sallust, Livy, Suetonius, Caesar and, especially, Valerius Maximus were constantly in demand.

The new market for Latin authors was soon followed by a growing demand for Greek literature. Here too Aldus was the main inspiration. With Greek of course there was the technical problem of producing a suitable type, made more difficult by the fact that Greek required more signs than Latin since breathings and accents had to be cast as a single block with the letter for satisfactory results.

Greek<sup>356</sup> was slowly introduced into printed books in the form of quotations, which were especially numerous in Cicero. Most printers at first transcribed them into Latin or left a blank space for the Greek words to be put in by hand. From 1465 more enterprising printers tried to cut a few Greek characters of primitive appearance, sometimes without breathings or accents. Usually they used Roman letters where their shape was not dissimilar to the Greek ones in order to build up a full alphabet, using for example an A for a capital α, c for σ or ς, etc. The first to work this way were Sweynheym and Pannartz at Subiaco (for their edition of Lactantius, 30th October, 1465) and Peter Schoeffer (for his edition of Cicero's *De Officiis*, 1465). Many Italian printers followed their example. There are Greek letters used in quotations in the books of Hahn and Lignamine, produced in Rome in 1470. Wendelin of Speyer at Venice and Zarotto in Milan used them in 1471. Then they occur in 1474 at Ferrara, and in 1476 at Treviso and Vicenza. From 1474 several Italian printers attempted books entirely in Greek or in Greek in one column with a Latin translation in the other. About 1474 Thomas Ferrandus of Brescia printed the *Batrachomyomachia* in Greek and Latin. Dionysius Palavicinus, Bonus Accursius and later Heinrich Scinzenzeler printed or had printed Greek works in Milan from 1476 on, and thereafter Greek works appear in a number of Italian towns especially in Florence, Venice and Milan. At the end of the century they start to appear outside Italy. German and French printers followed the Italian example at first in cutting a few Greek characters for printing quotations. In 1486 Amerbach published in Basel the letters of Filelfo with numerous quotations in Greek. At Deventer, Richard Paffroet (1488) and Jack of

Breda (1496) followed suit. In the notes of an edition of Virgil published by Koberger in 1492 there are some Greek quotations, and a few Greek words crop up in books printed in Paris from 1494 onwards (Gering and Rembolt being the first to use them) and in books printed at Lyons from 1492 onwards (Trechsel taking the lead here). Complete books in Greek do not however appear to have been printed outside Italy until the second decade of the 16th century. Under Tissard's direction, Gilles de Gourmont cast a Greek alphabet with separate breathings and accents in Paris in 1507. This was used to reprint part of the Aldine edition of Theocritus, and it was followed in 1512 by a complete alphabet with breathings and accents incorporated in the letters which Gilles de Gourmont had made. In 1511 Johann Rhau-Grunenberg had the *Εισαγωγή προς τον γραμματικον ελληνων* printed partly in Greek at Wittenberg and in 1513 he published the text of the *Batrachomyomachia* with Latin translation. From that date progress was swift, and the primitive Greek founts used in these early efforts were replaced by a more elegant design of type. Cardinal Ximenes had a Greek type cut for his Polyglot *New Testament* and *Bible* (1514–1517) and many of the larger publishers, recognising that by then a fairly extensive range of editions of the Latin classics was available, now undertook the publication of Greek texts. New Greek types, mostly in imitation of Aldus's, were coming out in many towns. We find them used in Nuremberg by Conrad Celtes, at Strasbourg by Mathias Schürer, at Augsburg by Johann Miller, at Leipzig by Valentin Schumann, at Cologne by Cervicornus, Soter and Gymnich, and being used by Thomas Anshelm who worked in Pforzheim, Tübingen and Haguenuau. Most important of all was Froben, at Basel, who sold Greek founts to printers in France (Paris and Lyons) and Germany. The development of Greek types undertaken by these printers reached its apogee when Francis I of France, anxious to encourage the study of Greek at Paris, had the famous *Gres des Roi* type cut by Garamond (1541–1550) in imitation of the handwriting of the Cretan calligrapher Vergetus. This fount was later used by the Estiennes and many other Paris printers.

This brief account enables us to see how knowledge of the Greek language could spread and how little by little there could develop a market for the Greek classics in the original language. Aldus, as we have seen, at first concentrated on producing grammars and introductory manuals to facilitate study of the language before he launched into more ambitious publications, while Gilles de Gourmont in Paris and Mathias Schürer at Strasbourg acted similarly, though their types were much

more primitive. Thanks to such methodical procedures knowledge of Greek increased, and from about 1525 the study of Greek became, outside Italy, almost a craze. At Oxford and Louvain (1517), at Alcalá (1528), Paris (1529), and in several German towns, it began to be taught officially in the university. In Paris, Bade, followed by Simon de Colines, Antoine Augereau and Christian Wechel and finally by the Estiennes, produced numerous editions of Greek works. In 1530 Clénard wrote that in Paris there had been sold 500 copies of his *Institutiones Linguae Graecae* in the space of a few days, a claim that might appear dubious if we did not know that 40 Greek authors were published in France in the same year, 32 in the original, compared with 33 editions of Latin authors. In 1549, 33 more Greek works came out in Paris compared with 40 in Latin, not counting translations. So in the first half of the 16th century the printing press made first Latin, then Greek and, to some degree, Hebrew literature available to a major public throughout Europe.\*

To become a *homo trilinguis*, i.e. to know Greek, Latin and Hebrew, was the aim of many of the humanists, and many of them managed it — Nebrija, Reuchlin, Guidacier, Münster and Clénard, for example. It was also the goal set in France by the Collège Royal, where Vatable taught Hebrew and which was devoted to the three languages. From around 1520–1530 a knowledge of Hebrew became relatively common.<sup>357</sup>

To learn Greek the humanists had turned to the Byzantine scholars who had fled to Italy from the Turks after the Fall of Constantinople in 1453. To learn Hebrew they sought out Jewish scholars, withstanding the suspicions of those who alleged that they wanted to become converts to Judaism and the prejudices of men like the opponents of Reuchlin who denied that Jewish culture was of any importance. The humanists' interest in Hebrew meant that from a fairly early date words and phrases in Hebrew script are to be found quoted in numerous exegetical, theological or linguistic works, just as Greek words and phrases were. But, contrary to what is generally thought, most Jewish printing was done by Jews for Jews. Often humanist printers learnt from Jewish printers, but the books they printed were not always intended for Christian readers. For example the Hebrew Bibles printed by Plantin in editions of 2,500–3,000 copies seem to have been intended not so much for Christian scholars as for Jewish communities.

The invention of printing could not be viewed with indifference by Jews. Hebrew was the language in which their culture found expression.

\* The following section on Hebrew books has been based on notes provided by Mr. Moché Catane.

Their reading and writing was in Hebrew. Even the less educated and the women, whose usual language was the vernacular of their Gentile environment, still read and wrote that language in Hebrew script. They were deeply attached to their religion and anxious not to neglect their children's education or the precept which bade them study a part of scripture each day, and so they owned many manuscripts, both sacred and secular. Printing was welcomed by them since it aided the diffusion, at low cost, of the text of works of scholarship, of the prayers, rituals, and ceremonies, and of the religious rules and prescriptions, and moreover it produced books which were carefully corrected without the faults of scribes. Finally for the first time the lay-out of the page made it easy for commentaries to be inserted in the margins of religious texts.

The earliest Hebrew presses belonged to the two most advanced and affluent Jewish communities, those of Spain and Italy, which started printing Hebrew books almost simultaneously. Research carried out in recent decades has shown that Italy was not the only cradle of Jewish printing, although the first dated book, a commentary by Salomon of Troyes (Rachi) on the Pentateuch (Reggio di Calabria, 1475) comes from there. It seems almost certain that other undated works, some of them printed by Conat at Mantua and some believed to be from Rome, although their place of publication is not given, are earlier, while the first Hebrew book from Spain (the same commentary of Salomon of Troyes printed at Montalban) is virtually contemporary with the Italian edition.

The expulsion of the Jews from Spain in 1492 put a savage end to a chapter in the history of Hebrew printing. Portugal, where the Jews had begun printing seven years before the Christians, in 1487, briefly took over as a centre of Hebrew printing, but the Jews of Portugal were forced in 1498 to choose between expulsion or conversion. In these circumstances, Hebrew printing developed above all in Italy. Hebrew presses were set up in a number of places, the best known being at Soncino, near Mantua,<sup>358</sup> whence came the most famous family of Jewish printers, the Soncinos.

There are however a few words printed in Hebrew in occasional humanist works — treatises on exegesis, theology or grammar — printed in Germany, Switzerland, the Low Countries, France and England. The first instance is in Peter Nigri's *Tractatus contra perfidos Judaeos* printed at Essling in 1475, but it was not until 1512 that Thomas Murner published, in Frankfurt, some complete books of Jewish ritual, nor until 1530 that the Jewish printers Hayim Schwartz and David, son of

Jonathan, published a Pentateuch in Silesia. The same Hayim Schwartz printed, with different associates, the inevitable commentary by Salomon of Troyes (at Augsburg in 1533) and then he reappears again at Ichenhausen in Bavaria and at Heddernheim near Frankfurt.<sup>359</sup>

Flourishing centres of Jewish printing were established in Prague (1512) and Cracow, where the Helicz family set up its presses in 1534 and from 1551 onwards produced editions of the texts of congregational prayers for the use of the faithful.<sup>360</sup>

In France, Bernard von Breydenbach's *Peregrinationes* came out at Lyons in 1488, followed by the *Concordance* of Sanctes Pagninus in 1526, while the first book published in Paris that included Hebrew is a grammar by François Tissard published by Gilles de Gourmont, who as we have seen was also the first Paris printer to have cut and use Greek type. In 1520 a little book by David Kimhi was printed by Gourmont, and then parts of the Bible. Gourmont and Wechel in Paris, Céphalon and Gryphe in Lyons all published some Hebrew works and they were followed by Robert Estienne the elder, who printed a Hebrew Bible which is still a famous masterpiece.<sup>361</sup>

Many humanists studied Hebrew in Switzerland and the Low Countries as well as in France. In 1516, Froben published the Psalms in Hebrew at Basel. Some Hebrew letters were in use in Zurich in 1526, but it was not for another 20 years that a book entirely in Hebrew came out there, the epitome of history called *Josippus*. At Louvain and Antwerp only a few manuals with some Hebrew words in them appeared. However, a Christian printer from Antwerp, Daniel Bomberg, who had established himself in Venice in 1517, devoted himself to the publication of Hebrew texts, out of sympathy and personal taste according to his colophons, working with the help of Jewish printers and proof-readers. He was the first to publish the complete Talmud. In placing Salomon of Troyes' commentary and the notes of his disciples (called the *Tosafot*) in columns on the right and left side of the text he established the form in which this work appeared until the present day; all editions of the Talmud still keep to Bomberg's pagination and lay-out.<sup>362</sup> In all he printed 250 Hebrew books between 1517 and 1549, of which his monumental edition of the Talmud was the masterpiece, and there were some 200 Jewish printers working for him under the direction of the famous Cornelius Adelkind.

It is believed that there were probably 200 Hebrew works printed in the 15th century and 4,000 in the 16th. More than 100 of the surviving incunabula come from Italy; all the rest, except one, come from the

Iberian peninsula (about two-thirds from Spain, one-third from Portugal).<sup>363</sup> Nearly all were traditional texts, only three being contemporary works. The Bible was printed four times in its entirety, parts of it thirty times. There were twenty-seven editions of separate treatises from the Talmud, which was not printed *in toto* until the next century, and two texts of the Mishna were also published. Commentaries on the Bible, particularly on the Pentateuch, are represented by 15 independent volumes, without counting several editions of the text with accompanying commentary. Their authors were generally French or Spanish, with Salomon of Troyes (Rachi) having, as noted, pride of place: five of his works were published in Italy, three in Spain, one in Portugal. Religious laws and works of casuistry were of equal importance. There were twenty-seven of them, including 16 editions in whole or part of the *Arba'a Turim* of Jacob, son of Aser, 5 of the 'Second Law', the *Mishna Torah* of Maimonides, and 2 of the 'Little Book of Precepts' by Moses of Coucy. Besides these there are 14 prayer books, a commentary on the religious rites and one book which comprises a calendar along with liturgical matter (there are only 2 plain calendars). These then are the devotional works (since Talmudic studies are considered within Judaism as perhaps an even more important religious duty than participation in the rituals of the synagogue) which constitute more than 80 per cent of the total. The remainder can be divided as follows: 6 grammars and dictionaries; 12 volumes of poetry, belles lettres and philosophy; travels, history and medicine (1 volume of each). In the 16th century, besides learned editions of the Bible like the Polyglot of Alcalá on which Nebrija worked, or Plantin's Bible, or Estienne's, there were many elementary grammars and manuals produced under the influence of the humanists. In all, 28 editions of Hebrew grammars came out between 1497 and 1529, the best known being those of Reuchlin, Nebrija, Capiton, Jean Eck, Clénard, Sanctes Pagninus, Eli Levita and Sebastian Munster. All of which goes to prove that the study of Hebrew was held in esteem along with that of Greek.

However scholarly works increasingly came to interest a larger public, one which often had little knowledge of the learned languages, but which had fallen under the influence of the press and had slowly developed a taste for reading. Publishers realised that a restricted market soon became saturated and so had a vested interest in enlarging their readership. In the area with which we are at present concerned this resulted in a

sharp increase in the number of translations. Particularly from 1520 onwards, many printers, and amongst them some of the most important, turned their offices into workshops for translators: Jean de Tournes is an example of this in Lyons.<sup>365</sup> Thus the national languages, which were already evolving rapidly, were enriched and purified by contact with the classical languages through the medium of translation.

The movement towards an officially accepted national language began in Italy and was most marked in France. The kings encouraged it as part of their policy of national unification and in 1539 the Ordonnance of Villers-Cotterêts made French the official language in the Courts of Justice. Providing support and encouragement for translators was felt by most rulers to be a useful form of patronage. In France, Louis XII and, in particular, Francis I actively encouraged translations into the vernacular. Louis XII had Claude de Seyssel translate classical works, and these translations Francis I removed from the Royal Library at Fontainebleau for printing. In the reign of Henry of Navarre the production of French translations expanded rapidly, and a growing number were produced at the King's request, often becoming important publishing successes. The most productive translators included a number of illustrious figures: Mellin de Saint-Gelais, for example, who was a contemporary of de Seyssel, and also Guillaume Michel de Tours, Marot, Amyot, de Baif and Dolet.

Thus the translations of classical authors grew increasingly numerous in France from the beginning of the 16th century. In a country fast becoming rich, populous and unified, publishers could hope for a large enough market for their translations. In Spain and in England a market of this sort was slower to emerge. In England, which had a smaller population than France, booksellers only seem to have found it easy to sell translations in the second half of the century; there were 43 editions of classics in English translation before 1550 and 119 between 1550 and 1600.<sup>366</sup> Naturally there was rather less progress in Germany at the time of the Reformation, and in the Low Countries the linguistic area was too limited to offer much scope for vernacular printing outside the routine chivalric romances or devotional works.

The most frequently translated authors were those whose popularity dated farthest back and was most firmly established. Virgil was tirelessly translated in the 16th century: the 263 Latin editions of his different works were accompanied by 72 Italian translations (as against 6 in the

15th century), 27 French (1 in the 15th century), 11 English (1 in the 15th century), 5 German (none in the 15th century), 5 Spanish (none in the 15th century), 2 in Flemish (none in the 15th).<sup>367</sup> Ovid appears even more often perhaps than Virgil, with innumerable free versions of his poetry and adaptations from the *Metamorphoses*. Meanwhile along with the other major figures, the historians in particular maintain their earlier popularity: Caesar, Suetonius, Josephus, Tacitus, Valerius Maximus, Plutarch, Eusebius, Polybius, Herodian, Xenophon and Thucydides.

Classical antiquity is now brought to the notice of all who can read as a result of the development of the press. Translations often play a more important part than originals in the diffusion of a knowledge of the texts. Plato was not published in France in an unabridged Greek version until 1578, when he was printed with a parallel Latin translation. Until then he was known not so much through extracts from his works printed in Greek as via the Latin translation of Marsilio Ficino, which was reprinted five times in France during the first half of the 16th century, and also through French translations of some of the Dialogues, often reprinted by Gryphe, de Tournes and Vascosan.

The same humanists, philologists, writers and printers who were putting out translations of the classics were also translating Scripture. Naturally the most popular works of the Neo-Latin literature that the humanists had brought into being were translated as well — works like More's *Utopia*, Poggio's *Faetiae*, the poems of Mantuanus, and above all the works of historians like Paolo Emili, Giovio and Guicciardini.

Translations from one modern language into another were a further feature of the age. Italian humanists and poets who had been writing for a long time in their own language exercised a great influence throughout Europe; and, since it was increasingly common to write in the vernacular, there were numerous translations from Italian and Spanish into French, English and German. Petrarch and Boccaccio continued to be widely translated, along with Brandt's *Ship Of Fools*, the popularity of which dated from the previous century. It is impossible to list here all the translations which came out throughout Europe of Italian and also of Spanish authors. The most fashionable and the most popular authors included Sannazaro, Bembo, and Machiavelli, followed later by Ariosto and Tasso. There was also a great vogue in works based, however remotely, on the Platonic theory of love as expounded by Ficino, with works like Caviceo's *Libro del Peregrino*, Judah Abravanel's *Traité de l'Amour* and especially Castiglione's *Libro del Cortegiano*, an idealised

portrait of the perfect courtier,<sup>368</sup> to which the *Amadis de Gaula* sought to add further refinements, selling in large numbers. Such an effort by so many translators in every country helped to preserve the homogeneity of European culture at a time when the national vernacular literatures were being born. Sometimes there were more translations than editions of the original work. To mention only a few examples from Spanish literature, the *Libro aureo de Marco Aurelio* by Guevara was published in 1529 and had been reprinted 33 times in Spanish by 1579. It was turned into French in 1530 and English in 1532, then re-issued more than 20 times in French and 5 in English. Likewise the *Carrel de Amor* of Diego de San Pedro, first published in 1492, went into 15 Spanish editions, a dozen French or French-Spanish, 10 Italian and 1 English. The comedy *Calisto y Melibea* (known generally as *Célestine*), by Fernando de Rojas, went into 60 editions in Spanish, 12 in French, 11 in Italian, 3 in German, 3 in Dutch, 2 in Latin, 2 in English and 1 in Catalan. Latin as the international language did not decline fully until the 17th century. By then the establishment of national literatures everywhere had begun to split up the book market, a process which was encouraged by the development of effective political and religious censorship. Permanent divisions were established between the cultures of the different countries of Europe.

Thus some works by contemporary writers began to reach a very wide public from the 16th century onwards. They included, of course, books of particular importance to our present subject, namely the writings of the leading humanists, whose influence was at that time so extensive.

First we must consider a few bits of evidence relating to the diffusion of the works of some of these authors. Erasmus<sup>369</sup> naturally takes pride of place. His books were in most libraries and private collections during the 16th century. Between 1500 and 1525, 72 editions, reprints and re-editions of the *Adages* in the various stages of their composition were published; from 1525 to 1550, a further 50 or so editions, and from 1550 to 1560 about 40 more. There are 60 known editions of the *Colloquies* published between 1518 and 1526, about 70 from 1526 to 1550, and a further 20 between 1550 and 1600, not counting extracts and translations. In the 50 years between first publication and their eventual inclusion in the *Index Librorum Prohibitorum*, several hundred thousand copies of these two works alone must have been printed.

Rabelais is another example who can be usefully contrasted with

Erasmus, since while the books of the one, written in Latin, circulated throughout Europe, the books of the other formed part of a national literature.<sup>370</sup> His *Pantagruel* appeared in 1533 under the pseudonym Alcofribas Nasier. In addition to the first edition, of which only one copy is known, five other printings were put on sale in the first year (and probably others now lost) and 27 further editions of the two books of *Pantagruel* and of the *Prognostication* came out between 1533 and 1543.

Twelve years after *Pantagruel* Rabelais published his *Tiers Livre*, this time in roman, not black letter as in the case of his earlier works, and no longer using a pseudonym. The book was put out in Paris by Wechel, the humanist printer, and was clearly intended for a more cultivated public. It was re-issued at least 9 times in almost seven years, from 1546 to 1552. His *Quart Livre* appeared in 1548 and was re-issued at least 8 times in the five years after publication, and his *Cinquième Livre* was reprinted 5 times between 1562 and 1565. From 1553 to 1599 the works of Rabelais were re-issued at least 24 times, so that his work must have circulated in the 16th century in several tens of thousands of copies, perhaps as many as 100,000 if we take account of lost editions.

Erasmus and Rabelais had a wide readership, but so did even a man like Budé whose scholarly treatise *De Asse* (*On Money*) went into 20 editions in French and Latin. More's *Utopia* was intended as a more popular work. First published at Antwerp in 1516, it went into 11 re-editions in the course of the 16th century, not counting 12 French, 4 German, 3 English and 3 Italian translations. This kind of evidence, which could be repeated for many other authors, for Vives for instance, proves the existence of a large reading public capable of tackling works of the highest calibre, a public which could only be satisfied by the technology of the printing press. Moreover, the rediscovery of classical literature led to the development of a number of what we can only describe as fashionable fads, which provided the basis for extraordinary publishing triumphs. The fashion for emblems is just one example. Alciat, a legal expert, brought out at Augsburg in 1531 a small collection of moral sayings drawn from antiquity, each illustrated with an engraving. Because of their engravings, Alciat's *Emblems* were an immense success — 39 re-issues have been counted between 1531 and 1550, and 54 between 1551 and 1600. Soon there were imitations by Jean Sambuc, Claude Paradin and Guillaume Guérout, and the vogue for this kind of book went on well into the next century.<sup>371</sup>

In the realm of scientific knowledge the humanists were principally concerned to rescue and restore the texts of the classical theorists, to edit and re-issue them free from the glosses and commentaries of medieval editors. From the 15th century on, the humanists had the main authorities of classical antiquity printed over and over again.<sup>372</sup> In 1499 Aldus published a collection of the basic works of the ancient astronomers, the *Astronomici veteres*, both Greek and Latin. His five folio volume edition of Aristotle in Greek had already appeared (1495-1498), including the *De historia animalium* in volume 3, and the *Historia plantarum* of Theophrastus in volume 4 with the *Problemata* and the *Mechanica*. Ptolemy's *Cosmographia* had already come out in 1475 but without the maps. In 1478 it was published at Rome with copper engraved maps. Herwagen published the first edition of Euclid's *Elements* at Basel in 1533, and in 1544 the first edition of Archimedes' works. Galen was first published by Aldus in 1525 in five small folio volumes, and he published the Greek text of Hippocrates in 1526, an edition having also come out in Rome the previous year. Avicenna came out earlier (1473, 1476 and 1491), but Pliny was published before all the others, being issued by John of Speyer at Venice in 1469, then in 1470, 1473, 1476, 1479 etc. Hence the mechanics, astronomy, geography, physics, natural history and medicine of the ancients were available to everyone capable of appreciating them in new editions and translations replacing the outdated versions of the 12th and 13th centuries. Now it was possible to reinterpret, comment upon, and even add to the teachings of the classical scientists -- or at least this might have been done had they not been so deeply revered. The humanists were in general content simply to reproduce the original text of Ptolemy or Theophrastus or Archimedes, as if all problems were solved by accurate editions of the authorities. Often their interest was as much in the literary qualities of the work as in its scientific value. At the same time they displayed a complete contempt for the medieval authors, and often there seems to have been a conspiracy of silence about the latter, while humanist editors cited classical sources in abundance in order to show off their erudition. Yet some humanist printers had medieval scientific writings systematically copied, and often published them with false attributions.

Alongside the scholastic tradition there thus grew up another separate intellectual tradition based upon the classics. At the same time the printing press encouraged the development of an extensive 'scientific' literature written in the vernacular and intended for a mass market. The bulk of this was made up of summaries, medical remedies, prognostica-

tions, and astrological tables. However, printers sometimes hesitated to put out Latin scientific works for a public that must have been very limited. Many texts remained available only in manuscript for a longer period in science than in other fields. New treatises of importance often went unpublished or were not printed until after the author's death, like Giorgio Valla's *De expetendis et fugiendis rebus* (1501). Johann Stoeffler, who died in 1531 at nearly 80, printed many astrological tables, but his own *Cosmographicae aliquot descriptiones* only appeared for the first time in 1537 at Marburg. Many similar examples could be quoted.

Works dealing with practical astrology were particularly popular in the 16th century as in the 15th. It was out of interest in astrology that many Paris lawyers and merchants possessed an astrolabe. The conjunction of all the planets under the sign Pisces in February 1524 betokened fearful catastrophes and prompted tracts by no fewer than 56 different authors, among them Stoeffler, Agostino Nifo and Peter Martyr. There is nothing surprising in the importance given to this event: astrology was at that time regarded as a perfectly rational subject. But when Copernicus after much hesitation had the results of his researches published by Joannes Petrejus of Nuremberg in 1543 as *De revolutionibus orbium coelestium libri VI* the public proved to be scarcely interested in a learned work of this kind, and it had to wait 23 years before being re-issued in 1566.

Perhaps early printing rendered its most valuable services to what we might call the descriptive sciences -- the natural sciences and anatomy -- and that mainly by virtue of its ancillary technique of illustration.<sup>374</sup>

In 1543, the year of Copernicus' *De revolutionibus orbium coelestium*, Vesalius brought out his *De humani corporis fabrica libri septem* published by Oporin at Basel, with fine wood engravings by Jan Stephan von Calcar, a pupil of Titian. These engravings had already been used in 1538 at Venice for the edition of Johannes Gunterus' *Institutiones anatomicae* which Vesalius himself had produced. Vesalius' work was constantly re-issued, copied and imitated, and through the medium of the engravings the human anatomical structure became widely known. At about the same time botanists who had tired of trying to identify their local plant species in the writings of the ancients, to whom they were often unknown, turned to direct observation, and soon the zoologists followed their example. A great deal of work was undertaken in these years. In 1530 there appeared in Strassbourg the first volume of a



book which was in effect the prototype of all subsequent works illustrating flora, the remarkable *Herbarum icones ad naturae imitationem effigatae* by Otto Brunfels. This was followed in 1542 at Basel by Leonard Fuchs' *Historia stirpium*, and in 1551 at Zurich by Conrad Gessner's four large folio volumes in which he had collected the descriptions of all the animals of which he had found mention in any book whatsoever, placing side by side both real and fabulous creatures. Soon after, Rondelet's book on fishes came out, first in Latin (1551), as was proper to any science, and then French (1558), with excellent wood engravings. At about the same time Pierre Belon of Le Mans published his *Poissons* and *Oiseaux*, and George Agricola, an early mineralogist, brought out his *De orthu et causis subterraneorum* at Basel in 1546, and in 1555 his splendid folio volume *De re metallica*, also published at Basel. All these books had plates to allow easy identification, and wood engravers were at that time turning out thousands of blocks under the direction of naturalists; some 3,000 are still preserved in the Plantin-Moretus Museum. Such sumptuous productions with their magnificent wood blocks found a ready public of enlightened amateurs who were probably often attracted to particular volumes by other than purely scientific reasons.

Although printing certainly helped scholars in some fields, on the whole it could not be said to have hastened the acceptance of new ideas or knowledge. In fact, by popularising long cherished beliefs, strengthening traditional prejudices and giving authority to seductive fallacies, it could even be said to have represented an obstacle to the acceptance of many new views. Even after new discoveries were made they tended to be ignored and reliance continued to be placed in conventional authorities. This is perhaps most strikingly revealed by a study of general attitudes in the 16th century towards the geographical discoveries and the imperial conquests outside Europe which were to have a profound influence on daily life, an influence whose significance and cause the public was slow to appreciate.<sup>375</sup>

For a long time the outcome of the Portuguese voyages of exploration was kept secret; outside an exclusive circle no-one had any knowledge of the new discoveries. In fact, public interest in exploration seems only to have been roused by Christopher Columbus' famous letter in which he describes his first voyage. Without doubt, the news of this voyage provoked quite extensive public interest since this letter was printed

simultaneously in Barcelona, Rome, Basel and Paris in 1493, and reprinted at Basel in 1494 and again at Strasbourg in 1497, this time in German. But the curtain only really began to rise in the early 16th century. Peter Martyr's *Libretto*, an account of the first three voyages of Columbus, came out in Venice in 1504, then from 1505 to 1514 a series of documents were published, mainly in Rome, but also in Nuremberg, Cologne and elsewhere, which provided the first printed accounts of the activities of the Portuguese in the East Indies. Many of them were composed in the form of letters addressed to the Pope in the name of the King of Portugal and they were generally printed in Latin, but sometimes also in German. At about the same time another little book came into circulation dealing this time with the New World. This, the *Mundus Novus*, was based on a letter written by Amerigo Vespucci to Lorenzo dei Medici. The book, soon followed by others, proved a great success and was published in several languages after 1504, coming out in Rome, Paris, Vienna and Augsburg. In France it went into 6 French and 1 Latin edition in the first quarter of the 16th century. Then, between 1522 and 1533, three letters of Cortez went into 14 editions in Spain, Italy, France and Germany. By this time, the interest aroused by the conquests, and the encouragement of the kings who supported the publication of books about the new lands, had led to the development in Spain and Portugal of a whole new literature devoted to the New World and its conquest. In Spain, Peter Martyr, whom we have already mentioned, published in 1511 his first *Decades*, which were soon followed by others, and Martín Fernandez de Enciso brought out his *Summa de Geografía* in 1519. In 1526 Fernandez de Oviedo y Valdes began publishing a series of books on the geography and history of the Indies.

All this indicates that the geographic discoveries and the imperial conquests of Spain and Portugal did not pass unnoticed. But let there be no mistake: beyond a comparatively small circle of scholars, merchants and courtiers they were of no great interest outside the Iberian peninsula until about 1550. Moreover, the new experience was not being fully assimilated, and many manuscripts of the greatest importance could not find a printer. Meanwhile it is interesting to note that in France the fabulous tale of Sir John Mandeville's *Travels* was reprinted another 3 times in French in 1530 while the only work of Peter Martyr's to see print before 1550 was an *Extrait . . . des Isles Trouvées* (1533). Moreover Boemius' geography, which does not mention America and which offers only a few new facts about Africa or Asia, was nevertheless reprinted 7 times in French between 1539 and 1558.