

caught in a tight ureter or if it forms a loop within an enlarged ureter. A great number of these accidents can be avoided if catheters will be discarded when they are defective or have disintegrated with age.

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W. W. CROSS, M.D. (1624 Franklin Street, Oakland).—Ureteral catheters, when passed, may turn back when the pelvis is reached and the point go down the ureter. In this manner a loop is made and upon withdrawing the catheter it will come down doubled upon itself. If the catheter is not strong it may break. In dilating ureteral strictures Doctor Hunner used beeswax and oil. The oil is not required and may destroy some of the adhering quality of the wax, so that it may come away and be left in the ureter. The wax should be melted in a wax spoon and flowed on the catheters and cooled in the air. Moisture on the catheter may prevent proper adhesion, so that the catheter must in every instance be dry.

I have observed foreign bodies in the bladder on several occasions but never had the experience to see them go up the ureter. Recently a Chinaman came to the clinic at the prison with chewing gum in the bladder.

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ROBERT V. DAY, M.D. (1930 Wilshire Boulevard, Los Angeles).—Doctor Stevens is to be congratulated on his report of these cases. Searching the literature takes an immense deal of work. Most of us I think have seen few, if any, foreign bodies except stone in the ureter. One should always discard an imperfect ureteral catheter—especially one which bends at the eye when the point is being introduced into the ureter. I agree also that the Blasucci is the ideal instrument for dilating the ureter.

THE LURE OF MEDICAL HISTORY

A NOTE ON THE MEDICAL BOOKS OF FAMOUS PRINTERS*

PART II

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THE MOST BEAUTIFUL BOOK

CONNOISSEURS have frequently discussed the most beautiful book ever printed without considering the merits of Vesalius' masterpiece, the *Fabrica de corporis humani libri septem*, published by Operinus from Basle in 1543, and republished by him in still more beautiful format in 1555. Perhaps because it is supposed to be a purely technical medical book it is not to be considered beautiful. But it is, in fact, a landmark in fine printing as well as in science. As it was the first modern medical book, the foundation, indeed, of modern medicine, so it established new criteria of excellence in the superb typography and in the judicious composition of its pages. The initial letters are a delight; the illustrations are the superlative woodcuts of the drawings made by Titian's pupil, Jan Van Calcar, and the illustrations and type are so arranged on the wide-

* This preliminary study was inspired by the notable collection of medical classics exhibited by Dr. LeRoy Crummer at the University of California Medical School in February, 1929. Helpful stimulus has also been received from conversations with Dr. Sanford Larkey. It is hoped that their influence may maintain a lively interest in some of the more artistic aspects of medical publication among California physicians. Part I was printed in the January issue.

margined folio pages as to give the most pleasing sense of balance and proportion.

Andreas Vesalius (1514-1564), the swash-buckling young Belgian, wrote this book when he was only twenty-seven or twenty-eight years old, although he had already been professor of anatomy and surgery at Padua for two years. It was here that he reintroduced actual dissection in anatomy, and so brilliant were his lectures that students from all over flocked to his squalid little amphitheater. The title page of his *Fabrica* shows him lecturing in a splendid big hall, but this was pure propaganda, as he was trying to show by such a title page that he really deserved a dignified lecture hall. As frequently happens in such university efforts, he didn't get it, and soon after deserted his work to become court physician to Charles V and Philip II of Spain.

Fortunately, in deciding to publish a real anatomical text glorifying the human body as not even Flo Ziegfeld has done, Vesalius selected a real artist to make his plates and one of the best printers in Europe to publish the book. Both men were his friends and apparently put their best into the effort. The result is, without question, the finest medical book ever published and certainly one of the most beautiful books of all time.

OTHER FAMOUS SWISS PRINTERS

In Basle also were many other great printers who tempered the practical aspects of their German training with the more delicate and graceful artistry of the Italian and French masters. Of these, Froben, with his staff and serpents, issued many medical items of importance. His great six-volume *Opera Omnia* of Galen, with the annotations of Vesalius connected with some of the chapters, was published in 1542. But his splendid Greek text folio of Hippocrates, with the authoritative readings of Cornarius, and the superb typography, was his real triumph in medical literature. It was printed in 1538, and long remained standard.

Froben derived his skill from the worthy Cratander, his immediate predecessor, who also issued several of the better known works of Galen, among them being the *De usu partium*, the standard physiological treatise of the time, in 1533.

SOME GREAT GERMAN PRINTERS

During the fifteenth and sixteenth centuries, German printing was among the best and most interesting in Europe. It was especially influential in introducing books in the people's tongue. This resulted in widespread use and study of the books, so that most of them have truly been worn out of existence. These early German books, printed in the vernacular, are among the rarest of all books, and are eagerly sought by collectors.

Some of the early ones of this sort were "herbals"—that is, illustrated botanical books, most of them showing plants of medicinal use. The pictures were often very beautiful, and frequently quite accurate. Many of them had been

taken from early manuscripts, however, and were slavish imitations of imaginary plants, and of little value. With the printing of Latin translations of Dioscorides, however, better care was taken to see that the illustrations conformed to the high value of the text.

One of the best early editions of Dioscorides' *De medicinali materia libri sex*, is the 1543 folio published by Egenolff of Frankfurt. This was the translation of Ruellius, and contained Walther Ryff's notes. Since the cuts used were copied from Fuchs' *Historia stirpium*, and since Ryff made some rather slighting remarks about Fuchs, this book initiated one of the first famous book controversies, involving plagiarism, the rights to illustrations, and the like. Egenolff also published in 1545, in folio, Walter Ryff's intriguing *Frauen Rosengarten*, with the amazing woodcuts. This was the first obstetrical text, and was issued for popular use, as indicated by the use of the vernacular. Another excellent medical text from Egenolff's press was the octavo *Klein Wundartznei* of the French surgeon Lanfranchi, issued in 1569.

Another great Frankfurt printer was S. Feyerabend, who published several of the startling tracts of Paracelsus in German, such as his *Wundartznei*, with the fine woodcuts of J. Amman, in 1565. Feyerabend also employed Amman to illustrate another important obstetrical work, the *Hebammen Buch* of J. Rueff, which appeared in quarto in 1580, and later for professional use in Latin as *De conceptu et generatione homini* in 1587. This work has many remarkable illustrations of obstetrical practice.

With the advent of the terrible Thirty Years War, all intellectual activity in Germany ceased, and fine printing has only developed again in that country within the last century.

THE GIUNTA PRESS

During the sixteenth and early part of the seventeenth centuries, several printers, notably Christian Wechel and the Giuntas, seemed almost to specialize in medical books. The Giunta Press flourished for a time in Florence, and then was transferred to Venice. It has sponsored more of the great classics of antiquity in medicine than almost any other press.

Specially renowned are its nine great folio editions of Galen's *Opera*, extending for more than a century. This series used the best translations of the different books, and the number of times it was reprinted is proof of its success. The typography is in the finest Italian tradition, with finely proportioned composition, so that the wide-margined folio pages are a delight to examine. The title page has become quite famous because of the historiated woodcut border showing imaginary scenes in the life of Galen. The peculiar costumes worn by the physicians in the pictures and the quaint attitudes assumed by them are very charming. In the bottom scene Galen is demonstrating the function of the recurrent laryngeal nerve on a pig, and in another scene

ANDREAE VESALIUS

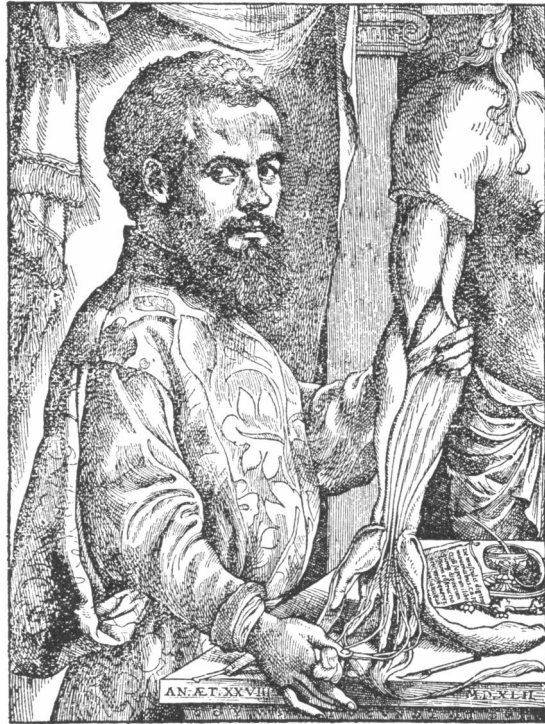


Fig. 7.—Woodcut portrait of Vesalius by Calcar, in the 1543 edition of the *Fabrica*, one of the finest books of all time.

is bewildering his chief professional rival in consultation.

Another fine production of the Giunta press is the folio Avicenna, *Liber canonis medicinae*, published in 1527, which contains all the huge compilations of the ancient medical writers made by the great Arab. A very fine quarto from the Giunta press is the *Opera Omnia* of H. Fracastoro of Verona, issued in 1555. This contains the celebrated poem describing the symptoms and treatment of, and giving the name to, syphilis. It also contains the interesting notions of the author on contagion, of which the Singers have written so charmingly in the first issue of *The Annals of Medical History*.

CELEBRATED DUTCH PRINTERS

Taking as a device a hand from the sky holding a pair of dividers, Christopher Plantin of Antwerp upheld in Holland during the sixteenth century the high standard of printing established in Italy and France. He issued many finely illustrated botanical works, and a few books of medical interest. Among them were J. Grevin's *De venenis libri duo*, a beautiful quarto of 1571, and the *De natura hominis* of Nemesius Episcopus in 1565. This latter little octavo is supposed to contain a passage describing the circulation of the blood.

The most famous Dutch printers belonged to the Elzevir clan. This prolific house made Leyden one of the book centers of the world, even rivaling the great annual Frankfurt book market, to which before the Thirty Years' War all publishers sent their wares. Many collectors make

Elzevirs their special hobby, and the finely bound little volumes are always found carefully preserved. The device of the Elzevirs was a man standing under a tree with the motto, "*Non solus.*"

Among the many great medical classics published by the Elzevirs, the most interesting is William Harvey's *Exercitationes de generatione animalium*, published in 1651 in 12mo, and in a rare variant carrying a reduced engraved title page of the first O. Pulleyn London imprint of the same year. This great book was secured by George Ent, Harvey's friend, for publication, and it yet remains to be adequately studied and appreciated. It is the best commentary there is on Aristotelian ideas on embryology. Harvey's own contribution was brought to a standstill, as in the case of his demonstration of the circulation of the blood, only because of inadequate technical help in the form of a microscope.

Another fine Elzevir is J. B. Van Helmont's *Ortus medicinae*, published in quarto in 1652. This contains much of the great mystic's speculation on the function of fermentation, and his stimulating theories on gases. The Elzevirs also issued a very fine little Celsus in 16mo in 1657. The first popular physiological treatise, which successfully introduced Harvey's ideas to the public, and which began experimentation in nerve-muscle physiology, was René Descartes' *Tractatus de homine et de formatione foetus*. This was published by the Elzevirs in a handsomely illustrated quarto in 1677.

Perhaps the best known medical painting is the Rembrandt showing Dr. N. Tulp demonstrating the muscles of the arm of a cadaver to some of his ruff-collared Burgemeister friends. The Elzevirs published his *Observationes medicae*, with fine copperplate engravings in 1672, in octavo.

With the introduction of copperplates, the old charm of the woodcut disappeared from printed books, and the elegant typography of the seventeenth century was developed with special reference to its harmony with the coppers. Some of the finest books of all time were printed by the Dutch printers for the anatomical atlases of Albinus and his contemporaries. These books, mostly by Verbeek, and with the coppers by VandeWar, are still worth most careful study by those wishing to know anatomy as it may best be pictured.

EARLY ENGLISH PRESSES

The publications of the early English presses were mostly in the vernacular, and were so used as to have practically disappeared. The first English printed medical book was *A Passing Gode Lityll Boke Necessarye and Behovefull Agenst the Pestilence* issued in 1485, it is said by William Caxton, but according to Garrison, by William de Machlinia. Caxton published *The Governayle of Helthe* in 1491. Wynkyn de Worde published the first medical picture in England. This was a dissection scene from Bartholomaeus Anglicus' *Encyclopedia* issued in 1495. In 1510 Wynkyn de Worde printed *The Judycyal of Urins*. The first English anatomical text was Thomas



Fig. 8.—Title page of Walter Ryff's *Frauen Rosengarten*, published by Christian Egenolff in Frankfurt, in 1545.

Vicary's *The Englishman's Treasure*, London, 1548. These books were not well printed, but because of their rarity are extremely valuable.

One of the great early London printers was Thomas Berthelet, whose bindings in black calf are most precious. In 1541 he issued in quarto Sir Thomas Elyot's *The Castel of Helth*, a book which had a deserved popularity. Written by an interested layman, it was bitterly resented by the profession, but undoubtedly had much influence in improving the sanitary conditions and dietary habits of the masses.

One of the interesting English printed books of the early seventeenth century is *The Workes of that Famous Chirurgion Ambrose Parey*. This is a folio issued in 1634, and, it is said, by the printers of the first folio Shakespeare, Thomas Cotes and R. Young of London. It is also said that the first folio Shakespeare, published in 1623, carried a notice of the forthcoming appearance of this English translation of the works of Paré. Paré's first publications were little octavos issued in French for the guidance of the struggling lay-surgeons of the time. So useful and handy were these little volumes that they have practically been worn out of existence. The English of this 1634 edition is in the virile Tudor style, and it is stimulating and entertaining reading although not well printed. Paré's *Little Journeys* is a classic in narrative.

THE REVIVAL OF INTEREST IN GOOD PRINTING

During the latter part of the seventeenth century and the early part of the eighteenth, interest in good printing waned. The times were too

turbulent, perhaps, for good work to be done in this rather artistic and intellectual field. There were many printers, of course, but none of them were outstanding, and very few of their works have any artistic value. William Caslon, an English type founder, stabilized the many different forms of Roman type, and evolved what has since become known as Caslon Old Style type, the standard type for publications of today. It is a plain, sturdy, type font, and very flexible in regard to the ease with which different letters may be combined and yet maintain good proportions. This is one of the most difficult aspects of typography and composition. Individually each letter may be perfectly proportioned in the style in which it is made, and yet when placed next to other letters the effect is not very artistic. Caslon worked out a rather simple set of type fonts which quite satisfactorily meet most demands of good modern printing.

A revival of interest in good artistic printing began about the same time in England and in Italy. In England the famous press of John Baskerville at Birmingham began to apply Caslon's work, and to use artistic discrimination in the setup of pages in order to secure a harmonious and pleasing ensemble. The only medical work issued by this press was William Hunter's royal folio, *Anatomia uteri humani gravidi tabulis illustrata*, published in 1774. The magnificent thirty-four plates accompanying the text have never been surpassed for accuracy and beauty of delineation.

In Italy, Giambattista Bodoni established at Parma his famous press, which began to experiment with entirely new decorative types having no traditional background. These developed grad-

ually into the fluted and blocked letters used now for display purposes. When artistically composed on fine grade paper, with proper borders, they form a most charming effect.

The best medical work from this modern press is Zaccarelli's Italian translation with Latin text of Fracastoro's poem on syphilis. This was published in folio in 1829, and has been hailed as one of the best productions of the Bodoni press.

Another very influential modern press was that of the "English Aldus," William Pickering of London. Two of his medical productions are famous. In 1833 he issued Sir Charles Bell's *The Hand*, one of the most beautifully printed and illustrated monographs which has ever been published. Some time later Pickering brought out one of the most lovely little editions of the *Religio Medici* of Sir Thomas Browne—Osler's favorite book.

THE PRESENT OUTLOOK

There is now a great deal of attention paid to the physical characters of the printed book. Modern printers and publishers are trying hard to see that the best and most artistic efforts are put into their publications. This is reflected in medical books.

In the United States there have been many interesting printing efforts. Benjamin Franklin's are celebrated. He issued one or two little medical items, a famous one being Cadwallader's *Essay on the West India Dry Gripes*. During the long sterile period of the eighteenth century, no distinctive printing work was done in this country. Since William Morris' Kelmscott press, however, and the amazing simplicity of Cobden-Sanderson and the Doves press in England, there has developed a fine appreciation in America for good printing. One of the great typographers of the world has done his best work here, and Bruce Rogers' name in connection with a book is assurance that typographically it will be as nearly perfect as possible. Paul Hoeber of New York, who devotes himself exclusively to medical publishing of the finer sort, has employed T. W. Goudy to design the type for his *Annals of Medical History*, the finest printed of all medical periodicals, and for many of his better books.

A deliberate effort to print worthwhile medical books in pleasing and attractive style has been inaugurated by Charles C. Thomas of Springfield, Illinois. Inasmuch as Mr. Thomas is also trying to publish his books at as reasonable a price as possible, his effort deserves more than passing support. Many of the great university presses have published medical books with due regard for the canons of good taste which they have established. The current German medical publishers are doing superb work, but they are making it difficult for the average individual to secure their publications because of the exorbitant prices they are demanding.

In connection with the tercentenary of William Harvey's demonstration of the circulation of the blood in 1928, the Nonesuch Press issued a reprint of the first English translation (1653) of the *De Motu Cordis*. This was edited by Geoffrey



Fig. 9.—Title page of one of the many famous medical books published by the renowned Elsevirs of Holland. Nicolaus Tulp was the subject of Rembrandt's well-known "Anatomy."

Keynes and published in a handsome binding with a special Dutch typography. As far as I know, this has been the only medical publication of any of the modern private presses. Some of the most famous private presses in the world are in San Francisco, but none of them seem to have issued a book of medical interest. The Stanford University press has just issued, in beautiful format, Doctor Casey Wood's translation, with annotations and reproductions, of the *De Oculis* of Benevenutus Grassus of Jerusalem. This early ophthalmological treatise was first published in 1478 at Ferrara and, while very significant, is extremely rare. Here is a splendid beginning for the elegant printing of medical books on the Pacific Coast.

Interest in the format of a book is one of the pleasant little bypaths of bookish lore. Behind every book there is a story—a story of the author, of the printer, and of the period, and often these little stories are more entertaining and significant than the book itself. At any rate, it is worth while to pay some attention to the artistic qualities of books.

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Note: Pictures of the title pages of many of the books mentioned above may be seen in Sir William Osler's *Evolution of Modern Medicine*, New Haven, 1920. In the huge catalogue of his library, compiled by W. W. Francis, Archibald Malloch, and L. L. Mackall (*Bibliotheca Osleriana*), one may find interesting notes on many of the significant finely printed medical books. One may also turn to the many beautiful catalogues issued by Maggs Bros. of London, R. Lier of Florence, and Hertzberger of Amsterdam, for items about the medical books of the famous presses of the world.

CLINICAL NOTES AND CASE REPORTS

TOXIC AMBLYOPIA

REPORT OF CASES

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AMBLYOPIA is derived from two Greek words: "amblys," meaning blunt; "opsis," meaning sight. Toxic amblyopia is a condition that is becoming more common on account of the excessive use of tobacco during youth and by women, and also because of the use of methyl alcohol, or of a poor grade of ethyl alcohol or redistilled denatured alcohol. These latter are perhaps less harmful than cigars, strong pipe tobacco or snuff. The excessive smoking of cigarettes probably saturates the system with harmful poisons of tobacco. The use of poisonous alcohol is far greater than is generally realized, as is attested by gastric, hepatic, nephritic, and ocular lesions due to its ingestion.

Of the substances enumerated, tobacco is the one most often responsible for amblyopia. As the users of tobacco are also frequently consumers of alcohol, it is difficult to separate the etiologic influence of these two drugs. Hence the name intoxication or toxic amblyopia is used to describe a central amblyopia.

This condition is almost always bilateral, although there are a few doubtful cases on record of it being unilateral. The characteristic of the

scotomata of toxic amblyopia is a centrocecal imperfection with drooping margins, pericentral in location, and containing one or two spots of greater vividness. The imperfection for the color red is far more than that for white. These findings differentiate it from the other toxic scotomata in the central area of the field.

The pathologic lesion, according to Uhthoff, is an interstitial inflammation of the papillomacular fibers of the optic nerve. These fibers, traced by means of their degeneration, consist of a bundle shaped like a triangle, with their base in the lower and outer part of the nerve, and their apex at the central vessels. Gradually the bundle passes to the center of the nerve, which it reaches in the optic canal, and finally it can be followed into the chiasm and tracts. Nuel and others believe that the so-called central toxic scotoma is not caused primarily by neuritis of the macular bundle, but signifies a disease of the macula lutea, causing degeneration of its cells; and that the optic nerve changes are secondary to destruction of the nerve cells in the macula. Birch-Hirschfeld believes that there is a primary involvement of the nervous elements of the nerve and retina, with an accompanying proliferation of the glia and increase in the connective tissue. The course is a chance one, but the prognosis of the tobacco and alcoholic types is good, provided treatment is started before the disease is too far advanced.

Treatment.—Total abstinence from the use of alcohol and tobacco. Later, strychnin, pushed to its physiological limit. For absorption of inflammatory products, potassium iodid, free sweating, purgation, and the drinking of copious quantities of water are indicated.

REPORT OF CASES

CASE 1.—Alcoholic amblyopia in a young man nineteen years of age. On Christmas eve of last year he went to a party where some form of an alcoholic beverage was served; he had several drinks, and two days later noticed that the vision in his right eye was less acute than in the left, but he made no mention of the fact until his family physician was treating him for grippe two weeks later, when the doctor questioned him about his eyes as the pupils were unusually dilated.

When first seen by me, about five weeks after he had taken the alcohol, both pupils were widely dilated. They reacted to light and not to accommodation. The cornea, lens and refractive media of both eyes were apparently normal. The ophthalmoscopic examination of the right eye showed a distinct pallor of the temporal segment of the nerve head with a blurring of the edges of the disk. The nasal side of the disk was hyperemic. There was no retinal hemorrhage. The perimetric examination revealed a central scotoma, which was oval in shape, and included the blind spot or optic papilla and the fixation point. On this area there was an absolute loss of color vision for green, red, and blue. Form perception was also lost. His vision was reduced to 8/200.

The left eye was less extensively involved; pupil was widely dilated; it reacted to light, but not to accommodation. The ophthalmoscopic examination gave less pronounced findings. The perimetric examination showed a scotoma, with the loss of color vision to green. Vision O. S., 20/200.

Six months after the onset of the disease the examination of the right eye showed a chalky white color on the temporal segment of the optic nerve head, an indication of optic atrophy. Vision was nil. In the