The Lloyd Roberts Lecture

ON

THE RENAISSANCE OF MIDWIFERY.*

BY

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[DR. HERBERT SPENCER began by saying that the Medical Society was perhaps influenced in its choice of a lecturer this year by the facts that he enjoyed Lloyd Roberts's intimate friendship during the last twenty-five years of his life, that they were fellow workers in the same field of medicine, and that the same subjects, especially old books, interested them both. By way of commemorating the founder of these lectures, Dr. Herbert Spencer then gave some particulars of David Lloyd Roberts's personality, character, and habits from his own experience, and some particulars of the earliest books on midwifery in which he was especially interested and of which he bequeathed to the Royal College of Physicians such an unexampled collection. Those books, published in the vernacular, were widely used for study by midwives and might be said to have started the Renaissance of Midwifery. In collecting old books Dr. Lloyd Roberts employed the most celebrated of the old-book sellers, and, as he had more regard to the condition and rarity of the book than to the price, he was able to accumulate a very valuable library, especially of old medical books, which to the number of 1,800 (including 50 *incunabula*) he bequeathed to the Royal College of Physicians. This was said by the Harveian Librarian, Dr. Arnold Chaplin, to be the greatest gift of medical books to the College since the Marquis of Dorchester's in 1680. He loved Sir Thomas Browne above all writers, edited a charming edition of the *Religio Medici*, learned Italian in his old age that he might read Dante (on whose scientific work he wrote a book), and his collections showed that he was a lover of the good and beautiful in men, ideas, and things. After remarking that it was for his medical library that Lloyd Roberts would be longest remembered, and especially for his unequalled collection of early medical books, including *The Byrth of Mankynde* (1540), Dr. Herbert Spencer continued:]

It is the purpose of this lecture to give some particulars of the first books on midwifery in Germany, France, Italy, and England, which may be said to have started the renaissance of midwifery.

Obstetrics is an ancient art. It was outside the Garden of Eden that midwifery was born "of man's first disobedience," with the dread decree to woman "in sorrow thou shalt bring forth children." And we find the Garden of Eden incident referred to and depicted in some of the first books of midwifery.

The early history of midwifery is too extensive to be treated here; but it may be stated that the most distinguished of the ancient writers on obstetrics was Soranus of Ephesus, who lived in Rome at the beginning of the second century of the Christian Era under Trajan and Hadrian. He wrote *περί γυναικείων παθών*, which stands out as one of the most important works in the history of midwifery, which had at that time reached a high state of development.

Subsequently the art of midwifery made no advance at the hands of the Byzantines, and actually declined amongst the Arabians, who devoted more attention to the destructive operations on the child than to conservative treatment of the mother. One factor in preventing advance in the science of obstetrics amongst the Arabians was the prohibition of anatomical research in the Koran. But the chief reason why no advance was made was that the practice of midwifery was in the hands of midwives, as it had been since the earliest times. Up to the time of the Renaissance no midwife had written a work which developed the science or advanced the art or dignity of her calling.

Until the invention of printing the wisdom of the ancients was inscribed in manuscripts comparatively few in number,

usually written in the classical languages, and therefore readable only by the learned. For the preservation of these works we are indebted in great part to the various religious bodies, and especially to the monks. The Church of Rome, which has at times opposed the pursuit of medical knowledge, has also been one of its greatest promoters. Many examples of this are given in Curatulo's *L'Arte di Juno Lucina in Roma*. And there are not a few instances of ecclesiastical dignitaries who have been practitioners of medicine. Pope John XXI, the only member of the profession to occupy the papal chair, was a doctor who taught medicine in Siena in the middle of the thirteenth century. As Petrus Hispanus he published his work *Thesaurus Pauperum*, which was printed for the first time in 1476: in the Lloyd Roberts Collection at the Royal College of Physicians are three copies of the work, including one of the 1494 edition. Nicholas de Fernham, an Englishman, was professor of medicine at Bologna, whence he returned to England in 1241 and became Bishop of Durham.

The renaissance of midwifery occurred somewhat later than that of other branches of learning. The intellectual world was in labour, in the throes of delivery from the domination of the Church, from the blind acceptance of the authority of the ancient writers, Aristotle and Galen, and from the restrictions of the classical languages. The Reformation had brought about the first stage; Paracelsus did something to bring about the second stage when he cast the works of Galen into a bonfire in the streets of Berne and anathematized his opponents with the words "sic vos ardebitis in Gehenna": and Eucharius Rösslin seized the opportunity afforded by the discovery of printing to publish his *Rosengarten* in German so that it could be understood by the people, and particularly by the midwives for whom it was written. Although Ortolff von Bayerland had published, about the year 1495, at Ulm, a German work showing "how women should conduct themselves before, during, and after childbirth," it did not contain much detailed account of obstetrics. To Rösslin is due the honour of the first printed work specially written for midwives.

RÖSSLIN'S "ROSENGARTEN."

Eucharius Rösslin (Röslin or Rhodion) was a physician at Worms and afterwards at Frankfort-on-the-Main. According to documents still existing at Freiburg in Breisgau, Rösslin was an apothecary there in 1493 and 1498. In 1504 a legal action was brought against him for "miss-handlung," as the result of which a verdict was given against him and he was compelled to pay all costs and a fine of 3½ pounds of pfennigs. In 1506 he was elected physician to the city of Frankfort for a period of six years at a yearly stipend of 60 florins; in 1508 he entered the service of the Duchess of Brunswick and Lüneberg, to whom he dedicated his *Rosengarten*. Before the expiry of his term of office he left (in 1511) Frankfort and became city physician to the town of Worms, returning again to his Frankfort post at an increased salary of 70 florins. According to Baas he died in September, 1526.

V. Siebold in his *Geschichte der Geburtshülfe* (1845) makes a curious error in giving the date of his death as 1553 or 1554, confusing this Eucharius Rösslin with his son, who bore the same name and died in 1553 or 1554. The error is the more remarkable because, in the Latin translation of the *Rosengarten* entitled *De partu hominis*, there is a preface, dated 1532, written by Christian Egenolph and addressed to Eucharius Rhodion, which refers to the death of the father "cui bene sit in Domino, cujus in hac urbe tu et nomen refers et functionem." In this work Rösslin acknowledges his indebtedness to the ancient writers Hippocrates, Galen, Rhases, Averroes, Avicenna, and Albertus magnus; but the most important parts are taken from Soranus, probably from a manuscript by Moschion (or Mustio) which itself was copied from Soranus "word for word."

It is suggested by Gustav Klein that Rösslin used the *Codex Palatinus Latinus*, which was at that time in Heidelberg, not far from Freiburg, Worms, and Frankfort, where Rösslin lived. Some of these manuscripts, dating from the ninth to the fifteenth century, were illustrated, amongst the most interesting being the plates of the foetus in *utero*

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which, reproduced in the English translation, *The Byrth of Mankynde* (1540), were among the earliest copperplates published in this country. The figures have been often reproduced. One plate, not met with in the earliest manuscripts, shows twins grasping each other by the heel: this was probably drawn by a monk in reference to the birth of Jacob and Esau. Rösslin also published some admirable original plates—namely, the dedication plate depicting the author presenting his work to the Duchess of Brunswick and Lüneberg, a plate showing the midwife examining a parturient woman (Fig. 1), and a figure of the birth-chair.

It is stated by G. Klein that about a hundred editions of *Rosengarten* are known, three editions being published in 1513. He gives a reproduction of the title-page of the 1513 edition, printed by Gran at Hagenau, which shows a mother with her naked boy and a midwife holding a babe wrapped in swaddling clothes. The title-page of the 1524 edition is also given by G. Klein. It is a fine representation of the lying-in chamber, showing the midwife bathing the baby. The midwife sits with her bare legs in the tub, no doubt to make sure that the water was of a proper temperature—a useful practice adopted also by the Japanese midwives.

Under the title *De partu hominis* Rösslin's son published a Latin translation, of which, according to Klein, eleven or twelve editions appeared, the first in 1532. The title-page of my copy of the 1554 edition gives the representation of the lying-in chamber reversed from that in the *Rosengarten* 1524 edition, and some quaint woodcuts, depicting the feeding and rearing of the child.

The *Rosengarten* was translated into English by Jonas under the title *The Byrth of Mankynde*, and published for the first time in 1540. A second amended English translation was made by T. Raynalde, who used the Latin edition of E. Rhodion the younger. The late Dr. J. W. Ballantyne wrote a very full account of the English work, giving illustrations from many of the editions. He had not had an opportunity of inspecting the first edition, which is very rare; the only three copies he had been able to find in existence being in the libraries of Professor Klein of Munich and the British Museum. The Royal College of Physicians now possesses fifteen copies (eleven editions) of *The Byrth of Mankynde*, of which eleven copies, including two of the rare first edition, came from the Lloyd Roberts collection. The celebrated plates of the position of the foetus appear in this edition, and not "for the first time in the 1560 edition" as once stated by Dr. Ballantyne.

The *Rosengarten* contained little that was original; but it had the merit of being written in the vernacular, in which it could be read by midwives, in whose hands the practice of midwifery almost entirely lay; it was the first work dealing with obstetrics apart from medicine and surgery, and in its illustrations it gave for the first time printed figures of the birth-chair, the lying-in chamber, the position of the foetus *in utero*, and of the feeding and rearing of the child. Some of the plates are of high artistic merit and were copied by subsequent writers, including Rueff and Ambroise Paré.

AMBROISE PARÉ'S OBSTETRIC WORKS.

The first of the obstetric treatises by Ambroise Paré, entitled "La maniere de extraire les enfans tant mors que vivans hors le ventre de la mere, lors que nature de soy ne peult venir a son effect," appeared at the end of the *Briesre collection anatomique*, published in 1551. The second treatise, "De la Generation de l'Homme recueilli des anciens et modernes," was published as an octavo volume in 1573 under the title *Deux livres de chirurgie*, and was reproduced in 1575 in the first edition of the complete works of Paré.

In his "Maniere de extraire les enfans" Paré revived the operation of podalic version, which had been entirely neglected for many centuries. The operation had been practised in the time of Celsus, Soranus, and Philumenos,

but had found no place in the treatises of the Arabian physicians. Paré himself does not claim originality; but acknowledges that he had seen podalic version practised by Thierry de Hery and Nicole Lambert, "master barbers and surgeons in this town of Paris." He also advises that the abdomen should be moderately bound and pressed above the umbilicus, and the mother should be commanded to hold her breath at intervals by closing her nose and mouth, and that she should bear down as much as possible. Sternutatories may be given to aid in the expulsion of the child. He warns against pulling on the arms in presentation of the shoulder, for which he recommended, in certain neglected cases, amputation of the limb followed by podalic version.

Paré's reintroduction of podalic version after many centuries of neglect marks him as the master-writer of the obstetric renaissance. His work was plagiarized by Franco in 1561, and attempts have been made in modern times to deprive Paré of credit by quoting from certain editions of his work. His works passed through many editions, and it was his practice to make alterations when additions to his knowledge called for them.

The work on *The Generation of Man* contains the anatomical and other figures, including the birth-chair, copied from Rösslin and Rueff. Paré published a figure of lead caps for ulcerated nipples, which are still employed at the present day. I have in my library a work by T. Dunus (1565) with an autograph inscription by the author to Conrad Gesner, which recommends the application of wax cups or thimbles containing a few drops of pine resin to the nipples, to be worn during the last three months of pregnancy as a certain means of preventing cracks. To the criticism that some women or their husbands might object to the smell of the resin, Dunus replies that anyone who had suffered from the *magnum malum*, cracked nipples, would tolerate the smearing not only of the nipples but of the whole breasts with medicines however odoriferous. These are examples, of which there are many, showing that pre-maternity care is not a modern invention, but was practised by the Renaissance writers and also by Ortolff von Bayerland, who gives details of measures to be taken "vor der Geburt."

The movements of the child felt on palpation were first described by Paré. He published a number of figures of

Rosengarten Das viert Capittel sagt wie sich ein; ede frau/in/vor/und nach der gebur. kältet soll und wie man ir in harter gebur. zu hilff kommen soll.

FIG. 1.—From a copy of the 1513 edition in the Library of the Royal Society of Medicine.

instruments for the delivery of the dead child, and gave an illustration of the speculum matricis, an ancient instrument known to the Romans, also of instruments for the fumigation of the uterus. Of Caesarean section on the living he had seen disastrous results at the hands of Guillemeau, which caused him to write, "Je ne conseillerai jamais de faire tel œuvre ou il y a si grand peril sans nul espoir." It was in reply to this statement that his friend Rousset wrote the first work on Caesarean section *Hysterotomotokie* (1581).

The literature of the life and works of Paré is very extensive. As was the case with the founder of this lecture, there seems to be a doubt about the actual date of Paré's birth, the years 1509, 1510, 1514, 1516, 1517, 1528, having been given by various authors. Malgaigne states on the authority of Bégin that "A. Paré was actually born in 1517." He would thus be 73, and not 80, as usually stated, at the date of his death. On St. Bartholomew's Day, 1572, "it was not reasonable that he should be massacred." King Charles IX exclaimed after taking a shot with his arquebus at his less distinguished subjects: "il pouvait servir à tout un petit monde." This service Paré, the Reformer of Surgery, the Reformer of Midwifery, continued to render up to the time of his death in 1590—and "his soul is marching on."

SCIPIONE MERCURIO'S "LA COMARE."

The first of the Italian writers for midwives was Scipione Mercurio, who published his work entitled *La Comare o Ricoglitrice* in 1586. Scipione Mercurio was born in Rome about the year 1540. He studied medicine at Bologna and Padua, but soon devoted himself to theological studies and entered the Dominican monastery at Milan, where he took the name of Hieronymus. He still continued to occupy himself with the study of medicine, and finding his monastic life did not afford him sufficient opportunities for the practice of medicine he quitted the monastery and travelled in France and Spain in the years 1571 and 1572 as physician to a German officer, Hieronymus de Ladrone. On completing this journey he returned to Italy and practised with great success in Padua and Milan. He had studied in Bologna under the celebrated Arantius, of whom he speaks in the highest terms as "the most learned anatomist of his time and my very kind preceptor." He mentions a case in which he saw Arantius, in the year 1578, deliver a living child by Caesarean section from a woman who had been killed in the ninth month of pregnancy. He states that Arantius had familiarized himself with the anatomical conditions of pregnancy by performing many dissections of gravid women. He had also seen Arantius demonstrate the

hymen, the existence of which, except as a rarity, had been denied by Paré.

Scipione Mercurio states that in Toulouse he had seen two women who had been safely delivered by Caesarean section, which at that time (1571) was "as well known in France as bleeding for headache in Italy." He may be said to have introduced the operation of Caesarean section on the living woman into Italy, and published the first printed illustration of the operation.

Scipione Mercurio led a stormy and adventurous life; at onetime travelling with a German officer, Ladrone, in France and Spain, at another pursuing his theological studies, then abandoning these for the practice of medicine, and again resuming them; finally settling in Venice, where he lived for fifteen years. He died about the year 1615 or 1616, according to Ghilini in Venice, according to Renazzi in Rome in the ancient Dominican convent of Santa Maria. His other writings show his great interest in medicine, and he seems to have specialized in the practice of obstetrics. He had little faith in medical writers who lacked practical experience. If they did not like his work, let them do him the great favour of not reading it. Perhaps the less it pleased his critics the more it would please others. He acknowledged that he had profited by the works of others—he gives a list of 80 authors whom he had consulted—and says he could never pardon Aristotle for adopting the statements of Hippocrates without once mentioning his name. Any errors in the work he prays the Lord will enable him to see and amend, and begs his critics not to censure that which is written for a good purpose. Mercurio's writings show that he was a man of wide erudition, which he was wont to bring to bear upon his critics in pointed shafts of wit and learning.

La Comare is the first work in which contraction of the pelvis is mentioned as an indication for Caesarean section. It contains a description and illustration of the "hanging-legs" position for delivery in cases of contracted pelvis, which Walcher published in 1889 as something new, and of the position in which very fat women should be placed for delivery—a position which Osiander says even practised acrobats could hardly maintain for more than a quarter of an hour. There is also a description of the operation of bimanual version which is usually associated with the name of Braxton Hicks. Mercurio advised that the diet of pregnant women should be reduced one-third during the last three months.

The work is divided into three books. The first book deals with natural labour and the care of the pregnant woman and of the newborn child by the midwife. The

FIG. 2.—Title-page of the second and third editions. That of the first edition was published in the JOURNAL of October 21st, 1921.

second book deals with preternatural labour (that is, with the child's hands, feet, or side presenting), and shows how the midwife should deal with these "difficult and dangerous cases." The third book deals with the maladies which may occur to the lying-in woman and newborn child, and teaches the midwife how to treat these maladies in case the patients do not wish or are ashamed to call in a doctor.

Von Siebold, in his *Geschichte der Geburtshilfe* (1845), says *La Comare* was first published at the beginning of the seventeenth century—Haller gives the date of the first edition (which he had not seen) as 1604. Quetif and Eckard, the biographers of Mercurio, speak of an edition which appeared before 1600, but leave the matter doubtful.

The first edition actually was published in 1596, the second and third books being dated 1595. That *La Comare* is a *cinque cento* book was first made known by Davidson of Breslau in 1864. A few years ago I was fortunate enough to obtain a copy of this edition, which is very rare, only three other copies being known to exist. Fasbender says there were seventeen editions of the work, and Curatulo gives a short account of these seventeen editions. I possess two editions (1680 and 1686) not mentioned by Curatulo, and these, with the 1713 edition in the Lloyd Roberts collection of the Royal College of Physicians, bring the number of the editions of *La Comare* up to twenty.

The first edition, *La Comare o Riccoglitrice*, Venice, G. B. Ciotti, 1596 (second and third book dated 1595), quarto, is very rare. There is a copy in the Marcian Library at Venice, another in the library of the Arcispedale in Florence, a third in the Alexandrine Library at Rome, and a fourth copy is in my possession. There are some good anatomical figures from copperplates by Franciscus Vallegius. The other figures are rough woodcuts. I have given a reproduction of the title-page and some other figures from this edition in the Harveian Oration (1921).¹

The second edition, *La Commare o Riccoglitrice*, Venice, 1601, G. B. Ciotti, is also rare. The second book has no separate title-page. The third book is dated 1600. There is a remarkable title-page (Fig. 2) to this edition, which is dedicated to Octavian Malipiero, the stemma of whose family is given below, and above is a portrait of Catherino Maripiero, who fell while engaged in sinking the Turkish fleet at the battle of Lepanto (1571), in which Cervantes was wounded and lost the use of his left hand. At the sides of the title-page are figures of Scipio Africanus ("belli gloria") and Cato of Utica ("reipublicae splendor"). The artist is not named; but a comparison with his other work shows that the plate was engraved by Vallegius.

The third edition appeared in 1606 (title-page as in second edition, dated G. B. Ciotti, 1601). In his dedication (of the first book) to Octavian Malipiero the author signs himself Girolamo Mercurio Romano, "from the convent of S. Eustorgius at Milan, 30th October, 1604," and states that this is the third edition, "ristampata la terza volta" (reprinted for the third time), which really means *printed* for the third time, for he adds that he dedicates it to Malipiero with the same affection as he did the second impression ("la seconda impressione"). The second book has Ciotti's "Minerva" printer's plate and is dated 1606. The third book has similar title-page and date (1606) to the second. This edition is sometimes called the 1604 edition (for example, by Curatulo) and was thought by Haller to be the first edition. The title-page is that of the second edition, and, although the dedication is dated 1604, the dates on the title-pages of the second and third books show that it did not appear till 1606.

WILLIAM HARVEY'S "DE GENERATIONE ANIMALIUM."

The renaissance of midwifery occurred later in England than in Germany, France, and Italy. It had made some progress as a result of the appearance of translations of the works of Rhodion and Paré; but no original book on the subject had been published until 1651, when Harvey published his *De Generatione Animalium* with the chapter "De Partu" which justifies Aveling's designation of Harvey as the Father of British Midwifery. I have elsewhere² given a detailed account of Harvey's contributions to embryology

and midwifery, and have pointed out the teachers at Padua who had specially written on those subjects. Spach's third edition of the *Gynaecia*—a collection of ancient and recent writers on gynaecology—had appeared in 1597, and the first edition of *La Comare* had been published in 1596, four years before Harvey went to Padua to study. Scipione Mercurio had himself practised obstetrics at Padua, and it was probably the great attention devoted there to obstetrics and the appearance of *La Comare* (the second edition was being prepared when Harvey joined the university) which stimulated Harvey to emulate the Paduan obstetrician by writing his "De Partu," the first original English work on midwifery.

The *De Generatione Animalium* consists of seventy-two "exercitationes," followed by chapters on "labour," "the membranes and humours of the uterus," and "the conception." The first (Latin) edition, printed in London, 1651, contains a striking title-page representing Jove sitting on a throne and opening an egg from which various animals are escaping: on the egg is printed "ex ovo omnia," a pregnant generalization which Harvey made as a result of his researches on generation. The legend is omitted from the egg in the first Amsterdam edition (Leers, 1651).

The first English edition appeared in 1653 with a portrait by Faithorne, which is often missing. It is one of the best of the engraved portraits of Harvey.³

Prefixed to the first English edition is a laudatory ode to "the incomparable Harvey" signed M. LL. M.D., which stands for Martin Llewellyn, M.D. The English edition is written in quaint and spirited language and was probably produced under the supervision and with the approval of Harvey, who lived for four years after its appearance.

The great and original merit of Harvey's work on generation lies in the careful and methodical observation and record of the embryo and foetus at all stages. Harvey did for development what the illustrious Paduan professor Morgagni subsequently did for disease in his *De sedibus et causis morborum* (1761). The chapter on labour ("De Partu") deals with the subject from a scientific and practical point of view. The scientific part consists in criticism of previous opinions on the anatomy and physiology of the foetus and on parturition based on his own observations. The practical part gives evidence of extensive personal experience in midwifery, and is in the main devoted to the recommendation of patient watchfulness and gentleness, imitating Nature, in ordinary cases and podalic version in different ones.

England was not only the last of the great countries to produce a writer on midwifery, but was equally tardy in the recognition and regulation of its practitioners. In 1616, the year in which Harvey was propounding his immortal discovery of the circulation of the blood, Peter Chamberlen II made a petition to King James that some order might be settled by the State for the instruction and civil government of midwives, but nearly three hundred years were to elapse before the desirable result was obtained in the Midwives Act (1902), through the persistent efforts of the Obstetrical Society of London. Harvey inveighs against the meddlesome officiousness of the midwives. Another distinguished obstetrician, his friend Percivall Willughby, writes more fully of their shortcomings and misdeeds, and testifies to the value of Harvey's teaching.

The first books of the obstetric renaissance in Germany, France, Italy, and England achieved their object of being widely read by midwives, as we learn from the history of Louise Bourgeois and Justine Siegemundin. The books introduced them to the wisdom of the ancient writers, and, in the cases of Paré and Mercurio, to methods of treatment which had been long neglected and forgotten. England was fortunate in having, as the Father of English Midwifery, Harvey, who introduced into that branch of medicine the wide view, the scientific spirit, and the conservative practice which have been its characteristics. It was Harvey's inculcation of patience and gentleness in imitation of Nature, adopted by Smellie and Hunter, which made such a strong impression on Boër, the founder of the great

¹ BRITISH MEDICAL JOURNAL, October 21st, 1921, p. 623.

² Loc. cit.

³ The latest portrait is a "white-line" wood engraving of the Canterbury portrait by Horace Gerrard: the first pull from this plate is in the library of the Medical Society of London.

Viennese school of midwifery, who, after studying in France and England, adopted the British practice, "having learnt in France what Art, in England what Nature, could do."

The purely British operation of induction of premature labour for cases of contracted pelvis can be attributed to the same conservative spirit. And if we add the discovery of the foetal circulation by Harvey, of the forceps by Chamberlen, of chloroform by Simpson, and of the antiseptic system by Lister, we may claim for British medicine that, though it was last in producing a writer on obstetrics, it has not been least in conferring benefits on parturient women.

ENCEPHALITIS LETHARGICA.*

BY

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WHEN I had the honour of addressing this society on the subject of lethargic or epidemic encephalitis in December, 1918, our interest was aroused by the recent outbreak in our midst of a disease which we regarded as a stray visitor, whose sojourn might not unreasonably be expected to be of short duration, and whose back we should not be sorry to see. Events have not justified this expectation, as our guest is still outstaying his welcome and shows as little inclination to take his departure as we can show of ability to expedite it.

At the end of six years his role has changed from that of a casual, unwelcome visitor to that of a resident pest providing a serious menace to the health of the community. It is not to be wondered at that a disease which has so insidiously and so successfully established itself should present many points of interest for discussion. It is somewhat humiliating to our professional pride that we have not only so far failed to check its progress, but that we are still without the knowledge necessary to achieve that object. Before 1918 the term "encephalitis" was reserved almost entirely for an acute specific inflammation of the brain to which children or young adolescents were liable and of which the cause was the virus of poliomyelitis. To-day the young and old of both sexes are exposed to the danger of contracting another inflammatory disease of the brain, sometimes acute, at other times subacute or chronic, prolific in its clinical manifestations, disabling if not fatal in its results, difficult to diagnose, and almost defiant to treatment and prognosis. It is true that its microbic origin seems to be fairly determined, that its morbid anatomy has been studied in great detail, and that its clinical features have formed the theme of innumerable papers and monographs, but of its path of approach, of its methods of dissemination, and of any weapon with which to stay its hand our ignorance is still profound.

Remembering, as we must, that the secrets of medicine are rarely divulged without the laborious study from all available standpoints of every feature of a disease which presents itself, there is no need to be discouraged. The more profound and the more detailed our knowledge of a disease in all its aspects, the more likely are we to solve the mystery of its origin and the problem of its prevention.

In opening this discussion to-night I shall make no attempt to deal with all the problems presented by epidemic encephalitis which are of interest and which deserve consideration both from clinical and pathological points of view. I shall content myself with directing attention to one or two questions which are difficult to answer and which have important practical bearings, confident that those who follow me will more than make up for my omissions.

So much has already been written in regard to the clinical manifestations of encephalitis in the acute stage that it is hardly necessary to point out that the disease has no real characteristics in the way of symptoms or

physical signs by which it can be recognized. Since any function of the brain may be disturbed, it is obvious that a whole multitude of different symptoms and physical signs may be presented. The diagnosis depends on a careful consideration of the history of onset, the course of events, and on the exclusion of other morbid processes which are capable of producing similar disturbances of function. We are not in possession of any serum or other chemical test by which the disease can be detected, and although examination of the cerebro-spinal fluid is often helpful in a negative way by eliminating other diseases, it cannot be said to afford us a cytological or chemical picture which is entirely pathognomonic.

Although there are so many difficulties in the diagnosis of the acute disease, they do not present nearly so serious a problem as that involved in the detection of what may be called the ambulatory form of encephalitis. And yet the importance of this ambulatory form in regard to its subsequent developments is becoming more and more impressed on our minds as time passes by. We are constantly being confronted now with serious disorders of the central nervous system in patients whose history alone offers a clue to the origin of their troubles, and in this way we are gaining some insight into the clinical features which characterize the ambulatory form of the disease.

I could cite a number of examples in which serious and disabling disturbances of the nervous system have followed what appeared to be a very minor illness, which has been regarded as influenza or even as an ordinary catarrh.

In July of this year I was consulted by a man, 37 years of age, who in the latter part of 1919 suffered from a short illness characterized by slight fever, headache, and general pains insufficient to prevent him from carrying on his duties in the army. In 1920 he pursued his ordinary life, but complained that he was drowsy all day and restless at night, and about that time began to suffer from attacks of dyspnoea, which were of frequent occurrence during the next two years. In August, 1922, he first noticed some tremor of the right arm and a slight generalized rigidity which he described as preventing him from ever sitting at rest in comfort. These symptoms slowly increased, writing and shaving became difficult, and he occasionally suffered from headaches of mild severity. When I saw him in 1924 he was still working, but suffered from a frequent desire to lie down and sleep and found the performance of his duties involved a great effort. On examination he presented all the characteristic features of the post-encephalitic Parkinsonian syndrome.

A somewhat similar case is that of a man of 53 who, in December, 1922, suffered from what was regarded as a bad cold which kept him away from work for a fortnight. During that time he noticed that he was slow and shaky in his movements and inclined to bend forward in walking. He returned to work at the end of fourteen days feeling queer but able to carry on for about three months, when he developed attacks of great loss of confidence out of doors with a tendency to fall backwards. He rapidly became slower and more clumsy in his movements, was hardly able to dress himself, and failed to do himself justice in his work. When I saw him in October, 1923, he presented the appearance of a patient suffering from paralysis agitans as well as other disorders of cerebral function, including a slight degree of sensory aphasia and impairment of his capacity to recognize objects placed in his right hand with his eyes closed. There was considerable exaggeration of all his tendon-jerks and his plantar responses were extensor in type.

In considering the history of these two patients it is difficult to see on what grounds a diagnosis of a serious disease of the central nervous system could have been made at the time when they were first taken ill. They may perhaps be regarded as somewhat exceptional, because in the majority of cases of ambulatory encephalitis it is possible to obtain a history of some symptom pointing very definitely to organic disease of the nervous system, by far the most common being a transient diplopia which not infrequently is present only during a few hours or a few days.

There are other symptoms which might well arouse a suspicion of encephalitis in patients suffering apparently from some minor ailment. I may refer to the occurrence of an acute pain affecting a limb, or perhaps the face or neck, generally labelled as a neuralgia or a neuritis, often of great severity, but generally lasting a matter of twenty-four hours or at the most two or three days. I have frequently observed such attacks of acute pain in cases of severe encephalitis in which the diagnosis has not been in doubt, but they also occur sufficiently often in the ambulatory form of the disease to be worthy of note in relation to diagnosis.

* A paper read in opening a discussion at the Medical Society of London on November 10th.