necessary to prove a microbe to be the actual cause of disease, and at the same time an exemplification that identity of cause may occasion a variety of effects. We have in this series impetigo contagiosa and ecthyma, furuncles and carbuncles, and various forms of pustular folliculitis, and besides these in which the evidence is complete, others in which it is extremely strong—namely, whitlow, styes, non-trichophytic sycosis, dermatitis papillaris capillitii, and a disease which a distinguished member of this Society has been investigating for some time, the "football eruption" of public schools.¹¹ As regards impetigo, boils, and carbuncles, and certain forms of suppurative folliculitis, it has been conclusively demonstrated (1) that the *staphylococcus aureus* or *albus* is invariably present in the cutaneous lesions at all stages; (2) that cultures from the skin affections extending over many generations and by dissociation rendered quite pure can be obtained having characteristic modes of growths; (3) that these cultures when inoculated produce one of the class of skin affections from which it was obtained; (4) that in these experimentally induced lesions organisms identical with those from which the original virus was obtained are to be found. Though we have now several other diseases in which such evidence is equally complete, there is no better instance in which all these conditions can be verified, and, what is of marked interest, the morbid process watched throughout its course. Dr. Wickham and Dr. Darier, of Paris, have proposed for the series of skin diseases produced by the pus cocci the name "*staphylococcia purulenta cutanea*."¹²

I have endeavoured to point out some lessons which may be learnt from the study of diseases of the skin. Numerous other illustrations might have been given had time permitted, and I had not been afraid of overtaxing your patience. I have covered a rather wide ground in attempting a general survey, and have been obliged on this account to avoid introducing much detail. I trust, however, I have said sufficient to point out the advantages to be gained by the study of dermatology.

CASES OF DIPHTHERIA TREATED WITH ANTITOXIN IN UNIVERSITY COLLEGE HOSPITAL,

DECEMBER, 1894, TO DECEMBER, 1895.

BY

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and

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DURING the period mentioned 75 cases were admitted to the diphtheria wards, and this number includes all the cases which have been treated with the antitoxic serum supplied by the British Institute of Preventive Medicine up to the end of 1895. At the end of 1894, before the British Institute serum was used, 6 cases were treated with Aronsohn's antitoxin, receiving 15 minims each; 4 died, and 2 recovered. As these cases did not appear to have a bearing on the question of the treatment by antitoxin, they are included in the 1894 cases, quoted below, which were not treated by antitoxin.

ADMINISTRATION OF THE ANTITOXIN.

In 74 of the cases the antitoxic serum was injected subcutaneously in the flanks, with antiseptic precautions, in doses of 10 c.cm. (5 cases), of 15 c.cm. (4 cases), of 20 c.cm. (32 cases), of 25 c.cm. (5 cases), of 30 to 35 c.cm. (12 cases), of 40 c.cm. (8 cases), of 60 c.cm. (4 cases), and of 80 c.cm. (4 cases). In one case the injection (10 c.cm.) was made intravenously, and in one of the cases mentioned above an intravenous injection was made after 20 c.cm. had been given subcutaneously. The intravenous injection is readily made after tracheotomy has been performed, and while the child is still under the influence of the anæsthetic. A ligature is tied round the upper arm as in venesection, and a small incision (1 inch in length) is made over the median basilic vein at the elbow. When the vein is exposed the fine needle of the syringe is thrust into its lumen, and the injection slowly performed, the ligature round the arm being previously removed. On withdrawing the needle no bleeding occurs,

and if the wound is stitched up it heals by first intention. The intravenous injection of the antitoxin produced no effect on the pulse or respiration, which were taken every four hours for forty-eight hours or longer after the injection. A slight rise of temperature occurred in 1 case from 100.8° to 101.2°, but the temperature fell immediately again. The patients who received the intravenous injection of antitoxin (both laryngeal cases) made uninterrupted recoveries. In all cases local treatment was also adopted, namely, a spray of bicarbonate of sodium solution (20 gr. to the oz.), alternately with one of corrosive sublimate (1 in 1,000) every four hours.

RASH PRODUCED.

In 32 cases a rash followed the injection of the antitoxic serum. In 1 case a slight rash appeared on the third day after infection; in 22 cases it appeared on the seventh to the tenth day, and in 9 cases on the tenth to the seventeenth day. In 5 of these cases there was a second rash, appearing a few days after the first had faded. Eleven out of the 75 cases were in the hospital under five days, being fatal within that time; so that in 64 cases only was there a probability of a rash occurring. This, therefore, occurred in about half the cases. The rash was most commonly in the form of an erythema or of raised papules; less commonly it was of an urticarial nature. In 4 cases only was it associated with a definite rise of temperature lasting from three to four days; in 1 case the temperature rose from normal to 100.4°, in 2 to 102°, in the fourth to 103°. This last was associated with joint pains and with some effusion into the left knee-joint, which soon disappeared. One other case suffered from joint pains. There were no other symptoms to be ascribed to the injection of the antitoxic serum. At the site of injection no inflammation was excited.

BACTERIOLOGICAL EXAMINATION.

In 70 out of the 75 cases a bacteriological examination was made by means of a surface culture on solidified blood serum. In 65 cases the bacillus diphtheriæ was found. In 62 of these the culture was in the great majority of cases, whether taken from the larynx or the fauces, a mixed one containing a few colonies of diplococci, staphylococci, or streptococci. In 2 cases the bacillus diphtheriæ was associated with a large excess of streptococcus. One of these was laryngeal the other pharyngeal diphtheria, and they both recovered. In 5 cases no bacilli were found; diplococci and staphylococci being obtained in 4 cases, and streptococci alone in 1 case. One of the former cases was probably not diphtheria, as the infant (under 2 years of age) was in the hospital only seven days; but the other 3 cases were diphtheria, as they showed slight paralysis subsequently. In 1 of these cases four cultivations were made from the throat, and in none of them was the bacillus present, yet the knee-jerks disappeared during the illness and were absent five months afterwards. Other cases showed that in the first cultivation made from the throat there were no bacilli, which were subsequently obtained. The absence of the bacillus diphtheriæ in cultivations from the throat cannot, therefore, be taken as excluding the presence of diphtheria. And when it is considered what a small proportion of the membrane is taken on to the platinum needle with which to inoculate the tube, it is not surprising that in a certain small number of cases of diphtheria the cultivation showed the absence of the bacillus.

PERSISTENCE OF THE BACILLUS IN THE THROAT.

Although in the cases under consideration the length of time in which the bacillus persisted in the throat was not tested as systematically as it is now being done in the hospital, in the latter part of last year all cases were tested as regards freedom from the bacillus before being discharged. In some of the cases the bacillus was absent on the tenth to the twentieth day; in others it persisted, being found on the twenty-eighth day or later. In 1 case the bacillus persisted thirteen days after the membrane had disappeared, and in another case forty-two days after the membrane, and in this case a pure culture of the bacillus was obtained from the throat while the child was walking about the ward, apparently quite well and on full diet. Reference will be made later to these and similar cases of the persistence of the bacilli after the disease was apparently terminated. They are of

¹¹ On Football Impetigo, by H. G. Armstrong, Med. Off. of Schools. Assoc., Trans., 1895.

¹² British Journal of Dermatology, vol. iv, 1892, p. 203.

practical importance, and indicate that no child ought to be allowed to mix with the healthy unless the throat is free of the bacillus diphtheriæ, as ascertained by a bacteriological examination.

MORTALITY OF THE CASES COMPARED WITH THAT OF THE FOUR PREVIOUS YEARS (PRE-ANTITOXIN).

The following table shows the mortality of the cases treated with antitoxic serum as compared with that occurring in the four previous years (1891-1894). It will be seen that the mortality of all cases was lower in 1895 than in any of the four previous years; from 5.3 to 13.9 per cent. lower. In the pharyngeal cases the mortality (24.4 per cent.) was lower than in 1894, but much higher than in 1891, 1892, and 1893; while in the laryngeal cases the mortality in 1895 was 14 per cent. lower than 1894, and 45 per cent. lower than 1893. From this table the lessened death-rate from laryngeal diphtheria is very evident.

	1891.		1892.		1893.		1894.		1895.	
	No. of Cases.	Deaths.	No. of Cases.	Deaths.	No. of Cases.	Deaths.	No. of Cases.	Deaths.	No. of Cases.	Deaths.
Pharyngeal Cases.										
Under 1 year ...	—	—	1	—	—	—	—	—	1	—
" 2 years...	2	1	2	—	4	2	1	1	9	4
" 3 " ...	6	3	4	1	11	3	2	2	7	3
" 4 " ...	4	—	—	—	6	1	2	2	4	1
" 5 " ...	2	—	5	—	5	—	3	—	4	2
" 6 " ...	1	—	4	1	4	—	1	—	5	1
" 10 " ...	3	1	8	2	10	1	8	3	8	—
" 15 " ...	2	1	3	—	5	—	6	—	3	—
Over 15 " ...	6	—	8	1	19	—	7	1	4	—
	32	6	35	5	64	7	30	9	45	11
	18.7 p.c.		14.3 p.c.		10.9 p.c.		30 p.c.		24.4 p.c.	
Laryngeal Cases.										
Under 1 year ...	3	2	2	2	3	3	2	1	—	—
" 2 years...	4	3	7	4	5	4	5	3	8	3
" 3 " ...	5	5	2	1	11	6	4	4	6	6
" 4 " ...	4	3	5	3	6	5	6	2	3	1
" 5 " ...	9	5	5	4	7	6	9	3	6	6
" 6 " ...	4	3	2	1	2	2	6	3	3	2
" 10 " ...	1	—	2	—	5	4	2	—	1	1
" 15 " ...	—	—	—	—	—	—	—	—	—	—
Over 15 " ...	—	—	—	—	2	2	—	—	—	—
	30	21	25	15	41	32	34	16	30	10
	70 p.c.		60 p.c.		78 p.c.		47 p.c.		33.3 p.c.	
Total mortality of all cases.....	41.9 p.c.		33.3 p.c.		37 p.c.		39 p.c.		28 p.c.	

A better comparison of the mortality in cases treated by the antitoxin with that of cases not so treated is made by considering the cases occurring in children of 5 years of age and under; for in these diphtheria is a very fatal disease, especially when it effects the larynx.

In the following table the mortality in all cases occurring in children under 5 in the five years is presented. It will be noticed that the death-rate is 10 per cent. lower in those treated by antitoxin than in those occurring in the most favourable year (1892), while, as compared with the other years, it is from 16 to 26 per cent. lower.

Mortality in Children under 5 Years of Age—All Cases.

Year.	Cases.	Deaths.	Per Cent.
1891	41	22	53.6
1892	33	15	45.4
1893	58	30	51.7
1894	34	21	61.7
1895	48	17	35.4

In laryngeal cases alone, occurring in children under 5 years, the difference is more marked. It will be seen from the following table that the mortality in those treated by antitoxin is 20 per cent. lower than in the best of the previous years (1894), and 45 per cent. lower than in the worst (1893).

Mortality of Laryngeal Cases alone under 5 Years of Age.

Year.	Cases.	Deaths.	Per Cent.
1891	25	18	72.0
1892	21	14	66.6
1893	32	24	75.0
1894	26	13	50.0
1895	23	7	30.4

The cases treated may be looked at in another way, namely, as regards the day of disease on which the treatment was commenced. This is by far the most important aspect of the results. In the following table the cases have been divided according as to whether treatment was begun on the first to the fourth day or on the fifth to the seventh day and later. All cases are included in the table in which the history of the case as regards its date of commencement was clear. It will be seen that in patients of all ages admitted on the first to the fourth day of disease, the mortality was 17.3 per cent. in those treated with antitoxin as compared with 28 per cent. in the best previous year (1893) and 48.7 per cent. in the worst (1891), whereas in those admitted on the fifth to the seventh day of the disease, the death-rate in 1895 was worse than in three of the previous years, showing that in those cases admitted late the injection of the antitoxin did not lower the death-rate as compared with those not treated by the antitoxin. The second part of the table, showing the mortality in children under 5 years, bears out the same conclusion.

Mortality according to Day of Disease on which Treatment was Commenced.

	1891.			1892.			1893.			1894.			1895.*		
	No. of Cases.	Deaths.	Per Cent.	No. of Cases.	Deaths.	Per Cent.	No. of Cases.	Deaths.	Per Cent.	No. of Cases.	Deaths.	Per Cent.	No. of Cases.	Deaths.	Per Cent.
Of all ages:															
Admitted 1st to 4th day of disease ...	39	19	48.7	31	11	35.5	50	14	28.0	36	14	38.8	46	8	17.3
Admitted 5th to 7th day of disease and later ...	21	8	38.1	24	9	37.5	34	17	50.0	23	10	43.0	28	13	46.4
Of children 5 years and under:															
Admitted 1st to 4th day of disease ...	26	18	69.2	19	7	36.8	25	11	44.0	20	13	65.0	25	6	24.0
Admitted 5th to 7th day of disease and later ...	12	4	33.3	12	8	66.6	19	11	57.9	11	5	45.5	23	11	47.8

* Antitoxin year.

CAUSES OF DEATH.

The determination of the value of the antitoxin is not solely one of statistics. The investigation of the causes of death is important: as to whether the patients died of diphtheria—that is, of a disease which is to be counteracted by the use of the antitoxic serum; whether they died of some secondary or coincident infection; whether the cause of death was some pre-existing chronic disease; or whether the patient was admitted for treatment in such a condition that no treatment of any kind was likely to be of avail.

Of the 11 fatal pharyngeal cases: 1 died of tuberculous meningitis after being in the hospital six days, 1 was a streptococcus case, 9 died of diphtheria; 7 of the last were in the hospital from one to seven days, and they were all admitted on the fourth to the seventh day of disease; 5 of them died with suppression of urine and vomiting (2 being:

hæmorrhagic diphtheria); whilst 2 showed no prominent symptoms. All these 7 cases were cases of diphtheria admitted late in the course of the disease for treatment. Of the remaining 2 cases, 1 was in the hospital ten days; it was admitted on the fifth day of disease with the knee-jerks already absent, and death occurred with suppression of urine and vomiting; the other case was admitted on the third day of disease, and died in forty-seven days from syncope, having shown symptoms of palsy and dyspnoic attacks. This was the only case in which the patient was in a favourable condition for treatment. It was the third case treated with the antitoxin, and perhaps the dose of the serum was insufficient.

Of the 10 fatal laryngeal cases: 1 admitted the eleventh day of disease died of empyema and pericarditis; there were laryngeal symptoms, but tracheotomy was not performed; the patient lived fifteen days after the antitoxin, and showed no membrane at death; there was no palsy during life; death occurred from a secondary pus infection. One admitted the sixth day of disease died under forty-eight hours; this patient had granular contracted kidneys and a hypertrophied left ventricle. Eight cases died of diphtheria; 2 of these were admitted collapsed on the sixth day of disease, and died in two days; 1 admitted on the second day of disease died of hyperpyrexia (temperature 108.2°) in two days; 1 admitted on the fourth day of disease died in fourteen days, this patient having just been discharged from the fever hospital as convalescent from scarlet fever; 3 cases admitted on the fifth to the eighth day of disease died in one, three, and four days; 1 case admitted on the seventh day of disease died in fifty days. In all these cases, therefore, with the exception of the one admitted on the second day of disease, and where death occurred in hyperpyrexia, the patient was admitted in an unfavourable condition for treatment. The case that lived fifty days was remarkable from the fact that improvement occurred after tracheotomy, and the tube was removed permanently, while the child subsequently developed symptoms of obstruction, and at death membrane was present in the trachea. In 1 of the cases that recovered the tracheotomy wound also healed, but a subsequent tracheotomy was done to relieve obstruction due to membrane which had again formed. These cases will be referred to again.

The consideration of the causes of deaths in these cases alters, therefore, the aspect of the case; and if the 4 cases which did not die of diphtheria are subtracted from the figures given in the last table, it is seen that of 44 cases of all ages admitted from the first to the fourth day of disease, only 6 died (13.6 per cent.), and of 26 cases admitted the fifth to seventh day of disease, 11 died (42.3 per cent.).

PARALYSIS.

In 57 of the cases, the signs of paralysis were carefully noted; most of the cases excluded being the fatal ones, which were in the hospital only a few days. The cases observed were in hospital over twenty-eight days (33 cases), twenty to twenty-six days (11 cases), under twenty days (13 cases).

In 32 pharyngeal cases, the knee-jerks were absent in 8, without any special palsy; and there was special palsy (palate or eye) in 7 cases.

In 18 laryngeal cases the knee-jerk was absent in 4 cases; special palsy occurred in 3.

In 7 fatal cases the knee-jerk was absent in 3, and there was special palsy in 2.

In most of the cases of special palsy the knee-jerk was also absent. Out of the 57 cases, therefore, there was the specific sign of the nervous system being affected in 27 cases, in 15 of which the loss of knee-jerk was the only sign. All the patients except one (already referred to) recovered from the palsy, and in only one case was the general paresis so well marked as to excite apprehension.

REMOVAL OF THE TUBE IN TRACHEOTOMY CASES.

In the 20 successful cases the tube was removed on the sixth to the tenth day in 16 cases, in one of which it was replaced for a period of four days. In one case the tube was worn nineteen days, in another twenty-two, in a third twenty-three days, and in a fourth for a long time, there

being some laryngeal stenosis which was overcome by intubation. In the fatal case of tracheotomy that lived fifty days the tube was removed, but intubation had to be performed off and on till death.

DURATION OF THE MEMBRANE.

In 31 of the pharyngeal cases which recovered (total 34) and in which the record is clear, the membrane disappeared from the throat in 17 cases two to six days after the injection of the antitoxin; in 8 cases in seven to ten days; in 4 cases in eleven to fifteen days; and in 2 cases twenty-three to twenty-seven days. Four of these cases also had laryngeal stridor, 2 of which had also recession and croupy cough. These symptoms rapidly disappeared when the membrane in the throat was observed to be absent.

REMARKS BY DR. SIDNEY MARTIN.—The cases here recorded teach a lesson which ought not to be forgotten by everyone who has to treat cases of diphtheria, namely, that if the antitoxic serum is injected in the early stage of the disease, the results are much better than when the cases are treated without the serum, but that if the use of the serum be delayed, the chances against the patient's recovery are greatly increased. Antitoxic serum ought to be injected in every case of diphtheria, and as early as possible. It is of no use waiting for serious symptoms to arise, and then inject it; the mischief is already done, and the patient is on the downward course. It is impossible to predict, more especially in children, whether a case of diphtheria, however apparently mild, will subsequently be severe or not. And if there is a remedy which gives the patient a better chance of recovery, and which does no material harm, it is the duty of the practitioner to use it. Against the use of the antitoxin is the fact that it produces a rash in many of the cases, and in a few it is followed by joint pains or even swelling of the joints. But this rash does no harm; it disappears in a short time, and need not at any time alarm either the doctor or the patient. The joint pains are much less frequent in occurrence than the rash, and are readily overcome by local applications and the administration of a sedative. Beyond these, the antitoxin produces no unfavourable results, and the rash that appears is not more marked after large doses such as 80 c.cm. than after small doses (10 c.cm.). These mild drawbacks to the use of antitoxin are vastly counterbalanced by the fact that if injected in the early stage of the disease, it reduces the mortality greatly; the tables in the paper show this clearly. The antitoxic serum has two properties: it is a vaccine, that is, in minimal doses it renders an animal immune to the subsequent injection either of the bacillus itself or of its toxin. It also counteracts the toxin when mixed with it before injection into an animal. What is hoped from its use in diphtheria is that it will tend to render the body immune so that the disease will cease; and that it will counteract the poisons present. When a case of diphtheria comes under treatment, no matter how early in the disease, the poison is already in the blood and tissues; this has to be counteracted. The later the case comes under treatment, the more poison is present.

There is some evidence from these cases that the injection of the antitoxin tends to render the body immune to the disease, as in the cases in which active bacilli are present in the throat long after the membrane has disappeared and when the child is apparently quite well and walking about. A case occurred, moreover, in which a child, aged 5 years, was in the hospital forty days for laryngeal diphtheria: tracheotomy was performed, the tube being removed on the nineteenth day. The child got apparently quite well, exhibited no palsy, and was sent home. Within a week she returned with membrane in the throat, and the larynx was subsequently affected, necessitating a second tracheotomy through the old wound. Recovery ensued. There was no palsy, and the bacillus was found on both occasions. Such a case as this appears to show that the child was rendered partially but not wholly immune to the disease, and that the recrudescence occurred as the immunity caused by the antitoxin diminished.

A word may be added about the amount of the antitoxic serum to be used. This depends on its strength. Its strength is gauged by determining how many "normal units" a certain

amount contains. A normal unit is ten times the amount of serum required to counteract ten lethal doses of the diphtheria toxin when injected into a guinea-pig weighing 250-350 g. Thus if the toxin is lethal in doses of $\frac{1}{10}$ c.cm. and $\frac{1}{100}$ c.cm. of the serum is required to antagonise 1 c.cm. (that is, 10 times $\frac{1}{10}$ c.cm.) of the toxin; $\frac{1}{10}$ c.cm. of serum contains 1 normal unit, or 10 c.cm. contains 100 normal units. A serum of this strength is useless for treating cases of diphtheria, and only the strongest serum ought to be used. Behring's No. 3 serum is stated to contain 1,500 normal units in the $\frac{7}{8}$ c.cm., and even if not quite so strong as this, it is a good serum. Dr. Ruffer, the Director of the British Institute of Preventive Medicine, informs me that "since February, 1895, no serum has been sent out"—I quote his own words—"which did not contain 1,000 normal units in 10 c.cm." He adds that since December, 1895, the serum sent out by the Institute has contained 1,500 normal units in the 10 c.cm. This is very satisfactory. We are now giving at the hospital 40 c.cm. of serum in the first twenty-four hours to each patient, that is, at least 4,000 normal units.

ON AN UNPUBLISHED ENGLISH ANATOMICAL TREATISE OF THE FOURTEENTH CENTURY;

AND ITS RELATION TO THE "ANATOMY" OF THOMAS VICARY.¹

By J. F. PAYNE, M.D.,

Physician to St. Thomas's Hospital,

In the following remarks I venture to draw the attention of the Section to a curious document in medical history, which may be to a certain extent supplementary to the valuable and interesting historical address with which my friend Mr. Anderson has favoured us.

The MS. which I show you contains a treatise on surgery, not complete and perhaps never completed, but having prefixed to it a short treatise on the anatomy of the human body. The work is by an English surgeon whose personality is clearly displayed, though his name is not given, and it is in the English language. The date of composition is given in the text itself as the year of our Lord 1392; and I may say briefly that, even were the date wanting, the substance and the language of the work would assign it unmistakably to the latter end of the fourteenth century. Of language I am no judge, but I find that the phraseology and to a large extent the spelling precisely agree with a MS. translation of Lanfrank's *Surgery*, which has been printed by the Early English Text Society, and is assigned to the date 1390.

The handwriting of the MS. is, however, considerably more modern, perhaps a century later; but this point I leave to the judgment of experts.

Now, to begin with, this date alone gives our MS. considerable interest. A treatise on anatomy by an English author, written in the English language of the fourteenth century, is, so far as I know, unique. But I do not pretend to say that there is no similar treatise till the MS. treasures of the British Museum and other great libraries have been more thoroughly explored than they have been at present. The only documents comparable to it with which I am acquainted are the works of John Arderne, which were originally written in Latin, the English version being assigned by experts to a later period; the translations of Lanfrank's *Surgery*, published by the English Text Society; and some translations of the French surgeon Henry de Mondeville, which have not yet been published.

Let me pause for a moment to point out how important an epoch the fourteenth century was in the history of English science, as of English literature and theology. In literature and theology the verse of Chaucer and the prose of Wycliffe are sufficient examples, not to speak of other writers whose names are known to every scholar. In science we have the notable work of John Arderne, the first English surgeon, and in his own field not an unworthy contemporary of those great classics. It was an age of energy, of innovation of brilliant achievement, and promise yet more brilliant. How and why this brilliancy faded away in the fifteenth century,

that flat and uneventful field of historians, would be a long tale to tell. Suffice it to say that first the ravages of the Black Death and succeeding pestilences, which fell with extraordinary severity on the clerical and learned class,² and then the Wars of the Roses brought the progress of science and medicine in England almost to a standstill. So that in the sixteenth century, when the revival of learning and the introduction of printing led men to take stock of their intellectual possessions, little more was done in practical medicine than to gather up the threads of the fourteenth century tradition, and combine them with some new elements supplied by the revival of ancient science and by contemporary research on the Continent. The works of Arderne, though they were still buried in manuscript, and only a small portion was printed in the reign of Elizabeth, long remained the standard authority in surgery, and this very treatise which I have here, had also, as I shall show you, an extraordinary resurrection in the middle of the sixteenth century.

Now, to return to our document itself. The MS. is a folio on paper, in double columns, of 190 leaves, including some blanks, written in a very fine and (happily for those who are no palæographers) a very legible black letter. The treatise on Anatomy and Surgery occupies 124 leaves, and there are some other documents in the volume, of which I need not speak now.

I will read the preface to the work:

The Holy Trinity that is head and well of cunning, giver and graunter of grace to all tho that by her power trevallen truly about science and cunning, that is help and edification to his people, graunte you grace that this compilation shall have so for the usen and dispoisen the fruyt of medicyns and of worchyng in it conteyned that it turne specially to the worschipe of God and profit of the peple. The which compilation of sirurgie I have compiled and drawn aftir the discreet autoritie of my moost worschypful maistris and predecessours of the same science. And specially aftir the noble counsell of my worthi maistr Lanfranke, puttynge therto worchyng that I have assaied and proved in my tyme and other expert medicyns y gaderid of dyvers worcheris that they also have assaied and proved, y compild and endid in the year of our Lord MCCCXXXII.

Wherefor I prie and counsele you that usen the worchyng in this doctrine, contynue that ye ben gracious and helpinge to the pore for Goddis sake, and to the riche for a competent salarie, and also that ye seien for his soule that compile this tretis, and for all tho that helpe therto and for alle cristen a paternoster and an ave marie. And though it be so that I y sum tyme addynge and sum tyme with drawynge have transposid the ordynance of thes myn aforesaid maistris, and so by cause of ignorance have fallen othir while in to errour, I biseche you tendirly that it schal reden or heren or undirstonden that ye have me excusid, and that ye adden and fulfille benygely the defaultis in it conteyned after the decre of the worschypful Galen in the ij De morbo et accidente, and in the v and in the last chapitre leggyng this text. Olde mennys sawis schulen be declarid frendly of here felowis, and if ther fallen othir thing, it schal ben bi hem benygely fulfilled.

The first part includes the anatomy. It is divided into three sections called "Distinctions." The classification is as follows:

The First Distinction hath seven chapters; treats of the definition of anatomy, and of embrion, and of all his consimular members: 1, Definition of Anatomy; 2, Anatomy of Embrion; 3, Anatomy of Marrows, Bones, and Gristles; 4, Anatomy of Ligaments, Sinews, and Cords; 5, Anatomy of Arteries, Veins, and Gristles; 6, Anatomy of Brawnes, Lacertes, and Villis; 7, Anatomy of Fatness, Skin, Hair, and Nails.

The Second Distinction hath fifteen chapters; treats of a man and all divers members: 1, Anatomy of the Head; 2, Anatomy of the Forehead; 3, Anatomy of the Eye; 4, Anatomy of the Nose; 5, Anatomy of the Mouth; 6, Anatomy of the Neck; 7, Anatomy of the Shoulder; 8, Anatomy of the Arm; 9, Anatomy of the Breast; 10, Anatomy of the Wombe; 11, Anatomy of the Matrice; 12, Anatomy of the Haunches; 13, Anatomy of Manne's Privy Members; 14, Anatomy of the Thighs, Legs, and Feet; 15, Recapitulation of all the Bones in a Man's Body.

The Third Distinction treats of the four complexions, with the signs of the Zodiac, and has ten chapters.

The first "distinction" defines anatomy according to Henry de Amanda Villa (Henry de Mondeville) thus: "Anatomy is rightful division and knowing of a man's body, and of his singular parts and members, the which body is the subject or the matter in all science of medicine and of sirurgie."

The etymology is curious: Anothamie "is said of this word of Grew" *ana*, that is to say, as "rightful" and "this word of Grew" *thomos*, that is to say, "division" and properly of a man's body.

The account of the embryo is most curious. It explains the supposed origin of different tissues and parts from the male and the female seed and from the menstrual blood. This is necessary for understanding the terms used afterwards. It is based on, or taken from, Mondeville.

¹ Read in the Section of Anatomy and Histology at the Annual Meeting of the British Medical Association, held in London, July-August, 1895.

² Gasquet's *History of the Great Pestilence*.