to Dr. Collins's observations, he had no statistics to present as to the relative amount of incontinence among the patients when urotropin was given; but he had not received reports of more frequent wettings than before that treatment was carried out. He thought the diphtheroid organism which Dr. Dawson asked about was probably the same as the one which Dr. Ford Robertson described. But there was much conflicting evidence on that point, because it had been said to have been found in normal people, in the naso-pharynx and urethra, and in most of the mucous tracts. Possibly it was the same, but he could not say definitely. In reference to Dr. Howard's question, he found that in all cases but one the urine was sterile in the general paralytics and in the controls. Excretion of formaldehyde lasted only six to ten hours, and he allowed a period of from twenty-four hours to three or four weeks before he tested it again; and in only one case was it not sterile after that time. He did not test how long the others remained sterile. Possibly they remained sterile over a month, but he would not like to say beyond what period that was so. He believed the general view was that the infection was of intestinal origin, and that the organism was circulated in the blood. That seemed to be the most likely way in which the *Bacillus coli* could get into the bladder at all events. Surgically that bacillus had got into the bladder in people who had been operated upon for hæmorrhoids.

Dysentery, Past and Present.

By H. S. GETTINGS, L.R.C.P., D.P.H., Pathologist, West Riding Asylum, Wakefield.

EXCEPT in asylums, dysentery in this country is a rare disease to-day. Yet it was once far otherwise, and to our ancestors the "bloody flux" was a household word. It was endemic here from the earliest times, and as we follow it down we find that it always presents the same characteristics of bursting out in an epidemic form at fairly regular intervals, then dying down to isolated cases for a longer period until the cycle was complete for the next outbreak. It was only in the latter half of the nineteenth century that it vanished from our midst, and so complete has been its departure that it has also disappeared from our memories, and to-day we have forgotten what a virulent pestilence it once was.

We have forgotten, too, how dysentery is interwoven with many of the events of our national history. In two years' time, when we shall celebrate the five hundredth anniversary of the battle of Agincourt, few will remember that it would never have been fought had it not been for this disease. Yet it is so. Henry V met with little resistance on first invading France, but his army suffered so greatly from dysentery at the siege of Harfleur in the autumn of 1415 that he was retreating to England when the French forces, anticipating an easy victory

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over his weakened soldiers, blocked his way and forced him to fight at Agincourt.

It hampered, too, all the Elizabethan discoveries and adventures, for they were made in ships riddled with dysentery and scurvy. Drake himself died of dysentery on his last voyage, and though all the evidence cannot be reviewed here, it is quite probable that it was English dysentery carried out by the crew from home.

The disease can be traced through the middle ages, but it is in Tudor and Stuart times that with more complete records we first clearly observe its ravages and its regular sequence of epidemic and non-epidemic periods. What a pestilence it was at times can be seen from some of the old parish registers. Creighton (1), for instance, quotes those at Finchley, where, in 1596, out of twenty-eight deaths nineteen were from dysentery, while in 1597, a year of scarcity, out of forty-eight deaths twenty-three were from this disease.

The London Tables of Mortality were first issued in 1629, and from that year onward we are able to observe its constant presence there, in high numbers in the epidemic years, and low ones between times keeping the infection alive.

1649–52 is apparently one of the epidemic periods, after which the numbers decline for twenty years, the next outburst being, as Sydenham states (2), from the autumn of 1669 until 1672. His description of the disease is still probably the best in the language, and fills us with admiration for his clinical grasp and observation.

Twenty years go by, and then from 1693 until 1697 dysentery ravaged Great Britain.

With the eighteenth century, however, it is on the down grade. Civilisation increased, and the social conditions of all classes were improved; rough, foul and coarse as they appear to our present-day notions, they were yet an improvement on what had gone before; houses were better built, and the filth, squalor and overcrowding of the poorer classes was diminished. Epidemics of dysentery still arose, but they were not so extensive, and in the latent periods the disease died down almost to vanishing point. From being a disease of all classes as it was in Sydenham's time, it became confined to the poorer ones.

In the early part of the eighteenth century there were epidemics in both the "twenties" and the "forties," and in the

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second half we find the story repeated. From 1758 to 1762 both London and the rest of the country suffered. This outbreak led to Mark Akenside, the poet, who was a physician on the staff of St. Thomas's, writing his only medical work, a small pamphlet (3) on the epidemic. Twenty quiet years went by, and though it caused deaths each autumn in London it was not until 1779 that it broke out there again. As usual the rest of the country suffered as well, and the epidemic did not die down until 1785. It rested then until 1800–02, which were again dysentery years. The outbreak at Millbank Prison in 1823 need not be dwelt upon, as it has been fully dealt with by Latham (4) and by Mott and Durham (5), while Major Arthur Griffiths, the well-known author, and an ex-governor of the prison, has also given an interesting account of it (6). Moreover, the country generally did not suffer until 1825, when the usual epidemic began and persisted for four or five years. All parts suffered as usual, and the poor of the populous towns and villages of the West Riding had their share. It was present in the district around the Wakefield Asylum both in the town and neighbourhood. At Manchester, at the Infirmary and Dispensary there, there were 323 cases of acute and chronic dysentery between 1826–29 (7).

Local epidemics occurred in the "thirties," but it was not until the due twenty years—1848–49—that the next general outbreak came, which, wide-spread as usual, heralded the cholera of the latter year. At Leeds, in 1849, the inspectors of the Board of Health reported that while they found nearly 1,100 cases of cholera, they also found nearly 1,500 of dysentery.

At this point we may leave the historical retrospect of the disease, for we have carried it well beyond the time when the first batch of asylums were built, and we have seen that it still prevailed as a general disease at that period.

But there is one point that remains to be touched upon, and that is the changing views of the medical world upon the disease. It is only a few years since it was held that colitis or dysentery was non-contagious, and our modern belief in its infectivity in this country only dates from the investigations of Mott and Durham in 1900. Yet it was a well-recognised fact to our ancestors and we only revived old beliefs. Though Sydenham himself does not refer to the point, yet the editor of

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the third edition of his works, a Dr. John Swan, who brought them out in 1753, was very definite. He says: "The origin and cause of this infection and contagion may likewise be owing to the malignant effluvia exhaling from dysenteric bodies by insensible perspiration or from their excrements, milk, and sweat." We shall also see later on that in Wakefield Asylum's first outbreak, nearly ninety years ago, infection and contagion were fully recognised.

It is interesting to see how these views were upset and theory triumphed over common-sense, so that they were forgotten for more than two generations.

It was in the early years of the last century that the doctrine of non-contagion grew up and divided the medical world into contagionists and non-contagionists. The latter held that diseases—barring smallpox and measles—were not contagious. That they could arise spontaneously from some epidemic condition of the air, and that people contracted the disease, not from one another, but from this common source. These views were opposed to all the dictates of common-sense and the older physicians refused to accept them, as did the lay press, and the *Quarterly Review* for 1825 (8) has an excellent article on the question. But in the end the newer theories and the younger men triumphed and the doctrine of non-contagion held the field.

So far did they go that they denied that contagion had any part in plague and cholera, and we find the *Medico-Chirurgical Review* (9) for 1847 pouring scorn on the bare idea. This journal, in discussing the question of contagion, says: "If the broad and general question, 'Is erysipelas or dysentery infectious?' were put to a physician, he might with perfect truth and propriety answer it in the affirmative, and yet all that he meant by such a response might be the simple declaration of his opinion that these diseases are occasionally or conditionally communicable from one person to another, although such an occurrence does not happen once in a thousand times and only under very peculiar circumstances."

English medicine held these views for many years, long enough for all the previous ones to be forgotten, and we have since had to learn them all afresh, and being ignorant of our medical history are surprised when we find that what we have been propounding as the latest discovery—with great pride at our own acumen—was a matter of everyday knowledge to our

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ancestors. Familiarity with history tends to humility of thought.

We now come to the question of asylum dysentery, and in the case of Wakefield are luckily enabled not only to trace its introduction there, but also to follow its course from that date to the present day.

We find that it was introduced within a week of the opening of the asylum, and a glance at the table will show that it has been possible to trace cases of dysentery in all but nine of the ninety-six years since then. And not only are the blank years insufficient to break the chain, but in many of them there are suspicious circumstances which render it probable that it occurred in them after all.

According to the ordinary returns there were many more years without the disease, but a careful search of case-books and registers has brought to light not only cases which were clearly overlooked in compiling the annual returns, but also cases euphemistically bearing other names which were dysenteric after all. The result of the search enables us to see that a definite chain connects the dysentery of to-day with that introduced at the opening.

Wakefield Asylum was designed for 150 patients, and was opened on November 23rd, 1818. Before this there had been no definite place for the pauper lunatics of the West Riding; they either had to be kept at home, frequently to be neglected and cruelly treated, or else in the workhouses, where they were herded together with ordinary paupers under shocking conditions of filth and overcrowding. Crabbe, in his poem of "The Village," draws no far-fetched picture of a workhouse of those times, and we are not surprised to find that they were hot-beds of disease.

There was no overcrowding at first at Wakefield, and it was not until 1822 that the numbers exceeded the designed accommodation; but after that they kept crowding them in until in 1824 they had 240 in the space meant for 150. At first all went well, and there was no excessive sickness; still, to overcrowd like that was to ask for trouble; they were trading on luck, and luck always turns.

Just a week after the asylum was opened, on Monday, November 30th, 1818, Thomas Umpleby, of Leathly, is admitted and the next day it is noted that he has a large and offensive stool.

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A few days go by without a note, but on December 18th we find he is taking tinct. opii and kino, and on December 25th a note says, "Looseness continues frequent." The purging keeps on, and on January 5th, 1819, it is again remarked how foul the stools are. On January 9th it is noted that blood is present in them; this continues, as a note made on January 25th shows, and he loses strength and dies on February 9th.

The *post-mortem* report says: "The stomach and small intestines were found inflamed in their villous coat, the colon also in some degree; but the ileum had a large quantity of mucus on the inner coat."

If the records are correct this was how dysentery was introduced into Wakefield Asylum. It was the first case and the first death, and from that day to this the asylum does not seem to have ever been freed from the disease. It is not claimed that Umpleby was responsible for all the dysentery that has occurred since, for we know that this was not the only introduction, but we do find that there has never been a real gap from his day.

In January, 1819—before Umpleby was dead—a John Pickles was admitted, and ten days later is noted as passing loose and offensive motions, which a few days later become bloody. The purging is unaffected by treatment, and he dies at the beginning of March. At the *post-mortem* the bowels are reported as natural, but the case was probably dysenteric all the same, as there was no sign of phthisis and tubercular enteritis, and it is not necessary to have ulceration in dysentery for blood to be passed; a "weeping" area is sufficient.

Another case of introduction is found in February, 1819, in a William Ellis, of Dewsbury, and as he had been insane twelve years, we may suspect that he came from the workhouse.

He is admitted on February 8th, and on the 11th "has had a stool but complains of pain in the rectum." A few days later he is definitely noted as being purged, and on the 25th it says: "Stools bloody and with tenesmus." Two days later we find "bowels still very loose, stools bloody and mucous." This continues till his death on March 4th, and the *post-mortem* says: "A dark patch here and there on the ileum."

Another interesting case is David Wright, of Thornton, insane eleven years, and admitted in January, 1819; breaks out with offensive diarrhœa at the end of February. There is no mention of blood or slime, but it is suspicious that he was treated like the

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dysentery patients with ipecacuanha root. He improves, but keeps on alternately relapsing and mending until 1822, when the stools become bloody and he dies. At the *post-mortem* there was a "descending colon thickened throughout its whole length; internal coat inflamed for part; large quantities of pus present in its course but no distinct ulceration."

If this was dysentery from the start, as it appears to be, it is easy to see how a patient like this would act as a focus of the disease and carry it on from year to year.

There are further cases in 1819 and in 1820, all either passing blood and slime or showing ulcerated bowels *post-mortem*.

In 1821 no such definite cases have been traced, but there is much chronic diarrhœa with slimy, foul motions, and causing death in several instances, which is exceedingly suspicious.

1822 shows dysentery, but 1823 is like 1821. However, in 1824 the cases are definite enough, and it is twenty years before there is another blank year.

It is in 1825 that it becomes epidemic and the trouble begins. That year it began to prevail over the country generally, and whatever the cause be which determines the epidemicity of dysentery, it began to act in the asylum as well as outside. Previous to July of that year the entries of the disease are scattered and the cases few, but from that month they occur in an increasing stream, leading to Wakefield's first and worst epidemic. This epidemic is usually stated as beginning in 1826, but as I find no appreciable gap between that year and the outbreak in the previous July, I date it as I have said.

The conditions inside the asylum were only too ready for an outbreak: 240 patients were crowded into the space meant for 150, and the wards and sleeping cells were low, dark, and badly ventilated; the sanitary arrangements were crude, as we shall see.

As a result of these conditions it is evident that the patients' resistance was seriously lowered, for when the epidemic got into its swing they died like flies.

With 1826 it begins in earnest, and 1827 is worse, but 1828 caps them all. It was the worst year of the epidemic, and even the superintendent, Dr. Ellis, who has hitherto studiously refrained from mentioning it, has to refer to it in his annual Report:

"For several years past some patients have occasionally been

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afflicted with dysentery, and some have died under it, but at no former time has it been so epidemical or so fatal as during the last autumn. The cases, indeed, became so numerous as to make it necessary to disperse the patients belonging to one of the wards into different parts of the house, in order to turn that ward into an infirmary, where the dysenteric patients were kept distinct from the rest, and to avoid infection as much as possible a temporary place was built in the airing court for the washing of the linen belonging to them. It was thought, too, that the offensive and unwholesome effluvia arising from the privies, which have always been upon a bad construction, might contribute to the spreading of the disease. To remedy this an order was given by the visiting magistrates to alter them to water-closets. . . .

"Notwithstanding all that was done the disease continued and fresh cases daily occurred until a change took place in the weather. . . . It then abated and not a single case now exists in the house."

Out of about 250 lunatics resident there were 55 cases and 14 deaths, showing what a virulent epidemic it was.

Dr. Gilby, one of the visiting physicians, published an account of the outbreak in the *North of England Medical and Surgical Journal* for 1830 (10), which article was, I think, the first one ever published on asylum dysentery.

He blamed the overcrowding—which Ellis at first refused to admit—the stench from the wash-houses in the centre of the buildings, and finally the asylum drains, which emptied into foul cesspools underneath the windows of the wards. There were, he says, 103 cases between July, 1826, and the autumn of 1829, and several of the nurses and keepers contracted the disease, the washerwoman having a severe attack before she had been twenty-four hours at work.

In the Report for 1829, Ellis again had to refer to the epidemic, but as usual minimised it as much as possible. "A *few* (1) fatal cases of dysentery occurred in the early part of the year, but for some time past the House has been quite free from that complaint." Yet I have been able to find that from the March to the July of that year, out of nineteen *post-mortems* fifteen had died from dysentery!

The epidemic continued through 1830, and the official

(1) The italics are mine.—H. S. G.

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apologist has again to admit to its presence and virulence. The Annual Report begins by stating that the numbers admitted had been less than the preceding year. "This has arisen from the crowded state of the House having been thought in some measure to have contributed to the dysentery, *which has occasionally prevailed to some extent*[1] during the past four or five years. In order, therefore, to stop the progress of this epidemic a few empty beds have constantly been reserved to afford an opportunity of removing patients into other apartments, of regularly fumigating the rooms, and of making use of other salutary measures."

Ellis retires this year on being appointed Superintendent to Hanwell, which was just opening. He had a great reputation in his day and became Sir William Ellis before he died. He was a great favourite with his committees, being able to manufacture sonorous, well-written reports interlarded with moral and religious comments on the afflictions of the patients. I do not think, however, that his actual working standard was quite so high. Connolly had a good deal to say about the state of Hanwell when he took it over, while Ellis's Wakefield reports require discounting before acceptance.

He was succeeded at Wakefield by Dr. Corsellis, and with 1831, the disease had a last spurt before dying down. Among the fatal cases was Corsellis' only child, a boy of three years. The Report notes that the disease was both prevalent and fatal in the neighbouring towns and villages that year.

Next year the mortality dies down and the big epidemic is over, though cases still occur every year.

In 1833, the Report mentions that square apertures have been cut in the doors of the men's sleeping rooms to improve the ventilation, and the decrease in dysentery is attributed to this. In 1834 Corsellis remarks that he has only had one case that year and that following that the disease had quite disappeared, leaving the asylum free.

This is a statement which has been made on many later occasions at Wakefield and always with the same amount of foundation for it. Because there have been no cases for a few months the place has been regarded as free, when, as Macalister (11) has shown in the Cheddleton outbreak, a quarter of the cases became either chronic or relapsing; when Simon (12) has shown in the Strassburg epidemic in 1908, that

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one in twenty of the cases were carriers in 1909; and when Hawkins (13) has been able to isolate the dysentery bacillus from a relapsing case five years after the first attack.

The value of the director's remark was seen in 1835 when we find several cases recorded.

Before we leave the period of the first epidemic there is one important and interesting authority who deserves to be quoted. This is Dr. Caleb Crowther, of Wakefield, who was one of the visiting physicians to the asylum from its opening until 1828. He was a man of much originality of mind and sound views on medicine; he yet had a great propensity for quarrelling. He quarrelled with the magistrates who then controlled the asylum; he quarrelled with Ellis, and after Ellis left he transferred his animosity to Corsellis. Resigning in 1828 he kept his interest in asylums, and ten years later published a booklet entitled *Observations on the Management of Madhouses, illustrated by Occurrences in the West Riding and Middlesex Asylums*. Though he uses a caustic pen and obviously aims at both Ellis and Corsellis, still, after investigation, I consider him worthy of credence. Chapter IV is headed "Is the Spread of Dysentery in our Lunatic Asylums a Necessary Evil, or is it the Effect of Negligence on the part of the Medical Superintendent?"

This chapter has so much that is of interest that I must quote from it. It also shows the soundness of the old views before the doctrine of non-contagion took the field:

"In the large establishments of this country, where a great number of idiots, epileptics and demented patients are confined together, great vigilance on the part of the Director is required to prevent the recurrence and spread of dysentery, but although it may be impossible on all occasions to prevent the breaking out of the disease, I am convinced it will always be possible to prevent its spread, unless where it is generally epidemic in the district in which the asylum is situated. The freedom of many of our large establishments from the complaint for a long series of years sufficiently proves that there is no necessary connection between insanity and dysentery. . . . The chief sources of infection from dysentery are the effluvia arising from the morbid alvine excretions. A century ago an eminent Army physician, Dr. Donald Munro, arrested the progress of the disease by ordering the trenches used by the soldiers as privies to be covered with fresh earth every morning.

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"From these observations and facts, I am firmly convinced that, when dysentery spreads by infection in an asylum, it is the result of inattention and negligence. In the printed rules of the Middlesex Asylum it is stated 'That the keepers are expected also to examine the stools and urine of the patients, so as to be able to report their state and every particular regarding them.' . . . Had this rule been acted upon, the first appearance of the disease would have been reported to the Director, who would have ordered the patient to be separated from the rest. He would have ordered the alvine discharges to be mixed with chloride of lime, not to be thrown into the common water-closets, but to be removed into a more suitable situation and covered with earth. . . .

"So little attention is paid to prevent the spread of this disease at Wakefield that even a patient in a double-bedded room, when seized with it, is not sent to the infirmary, nor is his companion in the adjacent bed sent away."

It is evident from this that we have nothing to teach Dr. Caleb Crowther.

But to resume our yearly progress. Though the epidemic was over and the cases are fewer, yet they can be traced each year till 1845, when only deaths from "chronic diarrhœa" can be found, which may or may not be dysenteric. This year is the dip between the waves, and after this the cases increase year by year till 1849, when there was a smart epidemic. After this they decreased year by year till 1855, when there are merely deaths from "chronic diarrhœa" again. So, too, in 1857 and 1858 ; but the fact that no cases can be traced in the case-books is unfortunately no proof that non-fatal cases have not occurred. In the asylum's early years the patients were reported upon like hospital patients, and the smallest illness is noted. But later on, when a clinical clerk was appointed, and, still later, the first A.M.Os., I regret to say that the entries shrink amazingly, and become scantier and scantier, so as to be of little use to us to-day.

Dysentery is, however, clearly at a low ebb from the middle of the "fifties" to the middle of the "sixties." But in 1866 we begin another dysentery period, lasting until the middle of the "seventies." Typhoid broke out that year, but with it was a large epidemic of "feverish diarrhœa," affecting staff as well as patients. There were twenty-five deaths from acute and

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chronic diarrhœa and four from "dysenteric diarrhœa." The report says: "A careful enquiry led Mr. Cleaton to the conclusion that two prejudicial influences were chiefly accountable for it. Firstly, the emanations from an open drain several hundred feet in extent to the south of the asylum . . . and secondly, the overcrowding of the wards which then existed."

In 1870, as the cases still keep up, the Report says the drain is to be trapped where it enters the town sewer. Two cesspools have been filled up, and charcoal trays have been introduced into some manholes. Instead of diminishing, the cases increased next year, so a number of new ventilating tubes were fixed to the drain, while it was decided to connect the main drain itself with the great chimney shaft, and the question of overcrowding was again investigated.

From the middle of the "seventies" the cases, however, get scantier, and in 1877 and 1878 I have failed to trace any. The next year there were several, which puzzled them. For if sanitary defects are the cause of dysentery why does it come in the absence of them? The Report plaintively says: "The occurrence of diarrhœa, sometimes of a dysenteric character, which attacked several patients at two periods of the year, has not been satisfactorily accounted for, water, milk, and drainage having been carefully examined and tested, with negative results."

They were now entering upon another spell which was to last till the middle of the "eighties." 1881 was an epidemic year, and again the Report is puzzled. "The causes, as in the case of a similar visitation two years ago, could not definitely be traced. Careful testing of all the drainage arrangements led to the discovery of a few defects within the building, but these defects did not seem adequate to account satisfactorily for the prevalent sickness." Still, they had got to do something, so they disconnected all pipes to the drains, and hoped for the best.

It was no use, however, and in 1882 they determine that sewer gas shall be definitely excluded once and for all. With the only result that next year they decide in despair that it must be overcrowding after all that was at the bottom of the trouble.

In 1884, however, they managed to find some sanitary

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defects which had been overlooked, and which, to them, explained the several cases.

In 1886 the period of decline sets in, and it is fourteen years before the next big outbreak comes.

Nevertheless I have been able to trace dysentery in every year except one. The cases were clearly scanty, but on close investigation there were always one or two in each year which under the pseudonym of "catarrhal enteritis," "catarrhal ulceration of the large intestine," yet revealed from either case-book or *post-mortem* book that in life they had passed blood and slime or at death had been found to have definite ulceration of the colon.

These quiet years as usual caused hope to spring in the official breast, and in 1888 we find the Report saying—"We no longer have to complain as in former days of grave outbreaks of diarrhœa and dysentery which were clearly due to sewage gas, defective ventilation, and impure drinking water."

1891 is the only blank year; yet in it I have found two *post-mortems* with inflamed colons, but as ulceration was wanting have not claimed them as dysenteric.

From 1892 to 1899 we have deaths each year from either "influenzal" or "ulcerative" colitis, and with the latter date the quiet years ended, 1900 commencing another big epidemic period. There were some thirty cases reported that year and nearly sixty the next. In 1902 and in 1903 the numbers were nearly as many but after that the decline came. It was at this time that the old theories of drainage, etc., were thrown over and a new one adopted to the effect that the determining factor of the onset of the disease was constipation, which reduced the vitality of the bowel and rendered it susceptible to the bacillus of dysentery. In consequence of this, "white mixture" was given once a week to all the patients and the results hailed as a great triumph for the new theory.

It is a pity that the Wakefield records had not been studied before the claim was made. For they would have shown that the decline which was claimed to be due to anti-constipative measures, had always occurred after an outbreak, from the time of the big epidemic seventy years before, being attributed then to the ventilating holes which Dr. Corsellis cut in the doors of the sleeping rooms. They would have shown that the same fall had taken place after each of the other

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epidemic periods—and as recently as 1888 it had been confidently claimed as a triumph for sanitation.

But the records would have shown more than that. They would have shown that in the early years of the asylum's history, when the visiting physicians were in charge, the patients were looked after as closely as hospital patients, and constipation was not allowed to take place; purging was in fashion, and they had to undergo it, not weekly, but almost daily. Yet it did not prevent the first great epidemic taking place.

The interval between the epidemics lasted from 1904 to 1911, though no years were perfectly free from the disease. There are no cases recorded for 1908, but that was due to an oversight, as from inquiries I have made I find that in January of that year there were five men in the Isolation Hospital passing blood and slime.

In 1910 Dr. Bolton was appointed superintendent, and from his previous experience of dysentery instituted additional measures in dealing with the question. Amongst other things he had the intestines opened and examined from end to end at every *post-mortem*. The routine performance of this led to the detection of cases which would otherwise have been missed. It also revealed many cases to be still active that clinically had given no signs for weeks or even months. Before his time it had been the exception to open the bowels, and it is rare to find any note in the *post-mortem* books other than "Stomach and bowels normal to external appearance."

With 1911 we enter upon another epidemic cycle, there being 35 cases and 18 deaths. Last year there were 78 cases and 35 deaths, and 1913 so far has about 20 deaths to be recorded.

And now the history of dysentery at Wakefield has been followed, and it has been seen that it is directly connected with the old epidemic dysentery, the "bloody flux" of the past, which, though it has almost died out amongst the general population, still lingers in our asylums, a living relic of the eighteenth century. Just as to-day typhus lingers in the west of Ireland, the last of our old gaol fever and a remnant of many a Black Assize.

We have seen that dysentery has been present in the asylum from that distant November day when Thomas Umpleby brought it in with him till now—ninety-five years afterwards. We have seen, too, how it has shown a ten-year cycle in its

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epidemic and latent periods, differing on this point from the old epidemic dysentery of the country with its twenty-year cycle.

This article is not brought forward merely as a historical recital, but because I believe the lessons it teaches are of value —as the lessons of history always are.

For it shows that no amount of sanitation will stamp the disease out. It is no question of unsanitariness or of overcrowding, of the water supply, or of the other factors that have been proposed. They are only side issues, important in their way, but side issues all the same. It is the actual infection that matters; it is the chronic cases, the "carriers," who keep the asylum infection going, who originate fresh cases and epidemics. They form the keystone of the problem, and must be detected and isolated before any permanent good can be done.

It is with the infective person that we must deal, and not merely the aiding conditions. It is a difficult matter to detect them, I know, but it has to be done if the disease is to be eradicated. Much can be done by a strict segregation of all patients who have dysentery, or by a routine examination of the stools.

But the real hope lies in the laboratory, and I believe that if the problem were investigated, it would not be long before the pathologist would be able to detect these carriers as to-day he detects the typhoid or the syphilitic.

And if this could but be done, dysentery would soon be as much a thing of the past in our asylums as it is among the general population.

Table showing the Years in which Dysentery occurred at Wakefield.

1818	.	Dysentery.	1828	.	Dysentery.
1819	.	,,	1829	.	,,
1820	.	,,	1830	.	,,
1821	.	—	1831	.	,,
1822	.	Dysentery.	1832	.	,,
1823	.	—	1833	.	,,
1824	.	Dysentery.	1834	.	,,
1825	.	,,	1835	.	,,
1826	.	,,	1836	.	,,
1827	.	,,	1837	.	,,

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1838	.	Dysentery.	1876	.	Dysentery.
1839	.	,,	1877	.	—
1840	.	,,	1878	.	—
1841	.	,,	1879	.	Dysentery.
1842	.	,,	1880	.	,,
1843	.	,,	1881	.	,,
1844	.	,,	1882	.	,,
1845	.	—	1883	.	,,
1846	.	Dysentery.	1884	.	,,
1847	.	,,	1885	.	,,
1848	.	,,	1886	.	,,
1849	.	,,	1887	.	,,
1850	.	,,	1888	.	,,
1851	.	,,	1889	.	,,
1852	.	,,	1890	.	,,
1853	.	,,	1891	.	—
1854	.	,,	1892	.	Dysentery.
1855	.	—	1893	.	,,
1856	.	Dysentery.	1894	.	,,
1857	.	—	1895	.	,,
1858	.	—	1896	.	,,
1859	.	Dysentery.	1897	.	,,
1860	.	,,	1898	.	,,
1861	.	,,	1899	.	,,
1862	.	,,	1900	.	,,
1863	.	,,	1901	.	,,
1864	.	,,	1902	.	,,
1865	.	,,	1903	.	,,
1866	.	,,	1904	.	,,
1867	.	,,	1905	.	,,
1868	.	,,	1906	.	,,
1869	.	,,	1907	.	,,
1870	.	,,	1908	.	,,
1871	.	,,	1909	.	,,
1872	.	,,	1910	.	,,
1873	.	,,	1911	.	,,
1874	.	,,	1912	.	,,
1875	.	,,	1913	.	,,

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On the Bacteriology of Asylum Dysentery in England.

Essay for which was awarded the Bronze Medal of the Medico-Psychological Association, 1913. By D. MCKINLEY REID, M.B., Ch.B., Assistant Medical Officer, Horton Asylum, Epsom.

SINCE 1901, when Kruse (1) first isolated his so-called "pseudo-dysenteric" bacilli from an institution outbreak of dysentery in Westphalia, much research on the subject has been carried out in Germany and in the United States, and the bacteriology has been well established. In this country, however, comparatively few outbreaks have been investigated, and of these only a few can be considered satisfactory. As a matter of fact, most of the early work is valueless, as non-selective media alone were used for isolating the supposed organism. Thus in 1898 Dr. Goodliffe (2) investigated an epidemic in the Lancaster County Asylum, and came to the conclusion that it was due to a bacillus resembling *B. coli*, which he styled "the bacillus of ulcerative colitis." A similar view was held by Dr. Gemmell (3) in his monograph on the disease. Campbell (4), working at Rainhill in 1899, cultivated from the fæces of eight dysentery patients an organism which was almost certainly of the coli group, and regarded by him as a very likely cause of the disease.

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