Dysentery and its treatment : with an account of six years' experience in the Transvaal and Matabeleland in the use of some varieties of monsonia as the curative agent / by John Maberly.

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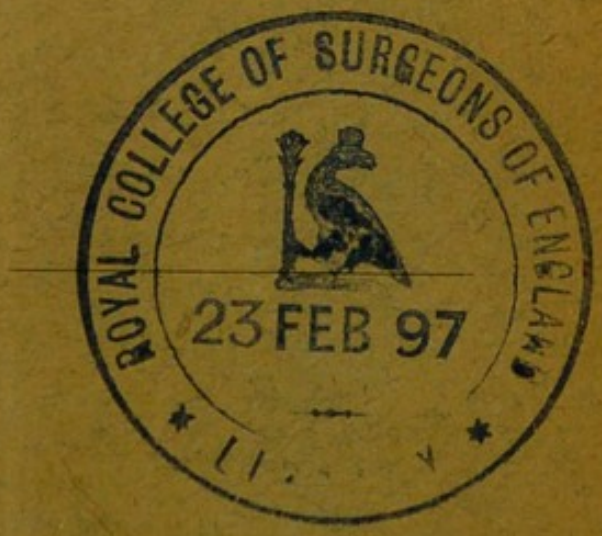
BY

JOHN MABERLY, M.R.C.S. Eng., L.R.C.P. Lond.



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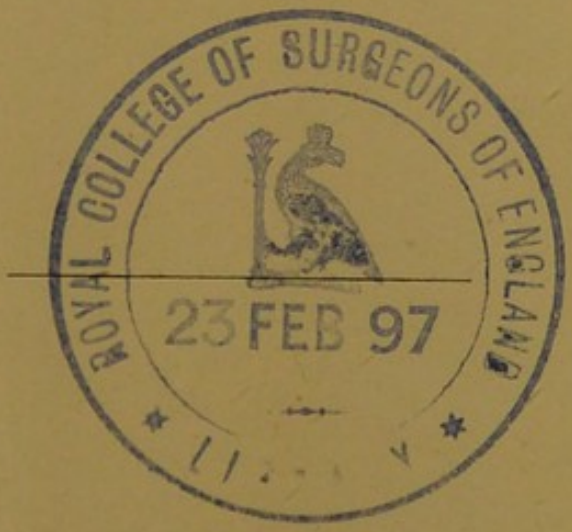

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DYSENTERY AND ITS TREATMENT.

WITH AN ACCOUNT OF SIX YEARS' EXPERIENCE IN THE TRANSVAAL AND MATABELELAND IN THE USE OF SOME VARIETIES OF MONSONIA AS THE CURATIVE AGENT.

WITH the progress of sanitation dysentery has almost disappeared from the British Isles and is now looked upon as a disease peculiar to tropical and semi-tropical climates. It, however, is not necessarily restricted to such geographical limits, various outbreaks having occurred in England and on the continent up to a recent period which appear to have been closely associated with insanitary conditions and more or less malarial atmosphere. It is to the writers of the last thirty or forty years that we are indebted for a more accurate knowledge of the pathology and therapeutics of dysentery, and as far as our own nation is concerned almost entirely to those who have been engaged in medical work in India. Dysentery is described by Joseph Ewart as a specific febrile disease accompanied by considerable nervous prostration and characterised by inflammation of the solitary and tubular glands of the large intestine. It is no doubt due to specific poison, but at present there is great uncertainty as to its exact nature. Bertrand and Baucher in 1893 studied an epidemic among the troops stationed at Cherbourg and arrived at the conclusion that no one of the many micro-organisms found by them could be considered as specific for the disease. Arnaud in 1894 investigated sixty cases of tropical dysentery and arrived at the conclusion that the disease is due to a pathogenic variety of the colon bacillus.

Dysentery is generally most prevalent during the rainy season in tropical and semi-tropical climates, and is confined principally to malarial districts, being often associated with attacks of intermittent or remittent fever. Air contaminated by decayed organic matter may be a factor in causing an outbreak of dysentery, but experience goes to show that bad drinking-water is a more fertile cause of the disease. Two notable instances of the latter came under my notice in South Africa. The first was in 1891 whilst in medical charge of a thirty-mile section of railway in course of construction along the Klip River in the Transvaal. The line was being laid by a number of sub-contractors, whose camps, about fifteen in number, were situated at various points along it. The Kaffirs working at these posts suffered severely from fever and dysentery with the advent of the first heavy rains in September and October, the only exceptions being at one camp situated in low ground, at which about sixty Kaffirs were stationed, where not a single case occurred. The only assignable reason for this exemption appeared to be that the contractor insisted on his Kaffirs drinking water from a well close by instead of the river water, which was contaminated with all sorts of organic refuse washed into it from the surrounding country, which was being used by all the other Kaffirs. Another instance occurred during the Matabele rising in May, 1896. Whilst acting as medical officer to the Bulawayo Field Force I was struck with the number of cases of acute dysentery which occurred among the men in the Bechuanaland Border police camp. On making inquiries I found that they were drinking water from a well which on examination was found to contain a number of dead mice and other refuse. The well was cleaned and disinfected, with the result that the number of cases of dysentery at once diminished.

The symptoms of dysentery are so distinct that it is almost impossible to overlook them or mistake them for those of any other affection when once they are developed. The following description by John Ryan, in a commentary on dysentery, dated London, 1767, is perhaps as concise as any that can be given of the disease. He says: "A person afflicted with the more acute gripings in the belly, with a frequent inclination to stool, and who emits the evacuations with bloody or mucous matter is agreed to be troubled with a dysentery." We now use the word "tormina" to express the griping pain, which is sometimes excruciating, and "tenesmus" as "a comprehensive term for the morbid sensations referred to the anus

and its vicinity, which consists in a feeling of fulness and weight with frequent constant inclination to go to stool and straining during the act of defecation, little or nothing being passed, and often of the nature of slimy mucus or blood, whilst no sense of relief is experienced afterwards."[1]

The disease as it comes under the notice of medical men for treatment is most naturally divided into two main classes of cases—namely, acute and chronic. "Acute" is used to express the first attack and before ulceration has been well established. "Chronic" is applied to any case the subject of which has at some previous period had one or more attacks and in which the ulcerative process is established. An attack may be associated with more or less fever. In many cases the fever is slight at the outset and disappears with the progress of the disease; in others it is high and persistent, belonging either to the intermittent or the remittent type. The term "malarial dysentery" has been applied to the latter form of case, but this, in my opinion, is a confusion, the symptoms being no doubt due to two distinct poisons, which must be treated independently of each other, so that the term "fever and dysentery" would be more correct. Vomiting is a symptom which in some epidemics is very prominent and is occasionally very intractable, more especially in women. In these cases it is probably due to reflex irritation to neighbouring nerve structures caused by the inflammatory process going on around the dysenteric ulcers. Another symptom which is very rarely seen is retention of urine due to spasmodic contraction of the urethra caused by reflex irritation of a dysenteric ulcer in the rectum. This is sometimes associated with paralysis of the sphincter ani, apparently due to the same cause.

Treatment.—There seems to be a universal consensus of opinion that the drug for the treatment of acute dysentery is ipecacuanha in large doses. Since its re-introduction into India by Dr. Docker about 1856 the death-rate from acute attacks has been reduced from 11 per cent. to less than 5 per cent., according to Sir Joseph Fayrer's statistics published in his work on "Tropical Dysentery and Chronic Diarrhœa," 1881. The following is his method of treating an acute case. "The patient should remain in bed. If there be abdominal pain or tenderness hot fomentations must be applied. A

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[1] Quain's Dictionary of Medicine.

dose of from twenty to thirty grains of ipecacuanha powder, according to age, strength, &c., should be given to an adult in water, and the patient should endeavour to resist vomiting as long as possible. The dose of ipecacuanha is generally repeated in four or six hours, a second or third time according to effects, and especially if the first dose has been speedily rejected, as it often is." It is now usual to precede the dose of ipecacuanha with ten or fifteen minims of liquor opii, or some other form of opium, to prevent the tendency to vomit. For the same reason the ipecacuanha powder is often enclosed in a cachet or put in pill form. This treatment has one important drawback to general practice in that it entails personal supervision by a trained attendant in order to see that instructions are carried out, patients having a natural repugnance to taking a drug likely to cause vomiting. When we come to consider chronic dysentery there appears to be a similar general agreement among the most experienced men that no form of treatment is up to the present very successful. W. J. Moore in his "Manual of the Diseases of India," says in chronic cases that rest and quiet with a milk diet are the chief factors in treatment. Many chronic cases are little benefited by medicine and resist all treatment. Ipecacuanha affords very temporary relief. Dr. Chevers in "Diseases of India" gives no statistics of cases, but appears to consider the sub-acute, usually termed "chronic," form as very generally fatal in adults in the long run, opium and ipecacuanha being the drugs on which he places most reliance. Sir Joseph Fayrer says the prognosis in the advanced stages is uncertain; in the chronic more doubtful still—the ipecacuanha is no longer useful. He records five cases of chronic dysentery with three deaths, and recommends ten-minim doses of turpentine three times a day. Dr. (now Sir) Joseph Ewart in his article on Dysentery in "Quain's Dictionary of Medicine," after giving various directions for the treatment of chronic cases, says: "But it will often happen that in spite of the most careful dietetic, hygienic, and therapeutic management no substantial progress towards the repair of the ulcers is made, and the patient eventually dies worn out from suffering and the asthenia consequent literally on inanition."

The following statistics, kindly supplied by Dr. A. Crombie, Surgeon-General in Charge of the Calcutta Hospital, also bear out the same facts, and are further interesting as giving

a fairly correct estimate of the ordinary percentage of deaths from dysentery in the general run of practice, where both acute and chronic cases come under observation :—

TABLE I.—*Showing Number of Cases of Dysentery Treated in the Presidency General Hospital, Calcutta, for the past ten years, from 1885–94 inclusive.*

Years.	Treated.	Recovered.	Died.	Percentage of deaths.
1885...	162	147	15	9·2
1886...	111	103	88	7·2
1887...	116	110	6	5·1
1888...	84	72	12	14·3
1889...	104	97	7	6·7
1890...	73	67	6	8·2
1891...	94	92	2	2·1
1892...	45	41	4	8·8
1893...	54	51	3	5·5
1894...	94	87	7	7·4
Totals...	937	867	70	7·48

Remarks.—The treatment has been nowise invariably ipecacuanha. In a very large proportion of the cases no ipecacuanha except what is contained in Dover's powder was given. The average duration of the cases was within one week. The fatal cases were, with one or two exceptions, chronic cases. Acute dysentery in this part of India is not a fatal disease. They are mostly of the type known as catarrhal dysentery. There is in such cases probably little or no ulceration of the bowels.

Although dysentery is very prevalent in South Africa it has been very difficult to obtain any statistics which are of much value owing to the way in which they are published. I collected the records of twenty-three cases treated in the Bulawayo Hospital from July, 1894, to July, 1895. Of these five died, three being chronic cases and the other two acute. Large doses of ipecacuanha had been used in several of the cases. The average number of days the patients were under treatment was fifteen. The percentage of deaths was 21·8.

We may fairly gather from the foregoing statements that up to the present, although acute dysentery appears to be fairly tractable under favourable conditions, chronic

dysentery, on the other hand, appears to resist all the resources of medicine. In what follows I am about to show, however, that there is a drug which is, I think, specific in its action on both the acute and chronic forms of the disease.

In March, 1889, having not long finished my career as a medical student at the Middlesex Hospital, London, I commenced practice near Johannesburg, and was struck by the unsatisfactory results obtained both by myself and others who had been longer in the country in the treatment of certain diseases, especially the various forms of dysentery. It became a question in my mind whether the contents of the Pharmacopœia represented anything like the whole of the remedies which lie hidden among the products of nature, especially those of the organic kingdom. As far as medicinal plants are concerned South Africa is comparatively an unexplored country, and it seems but reasonable to suppose that it should contain not a few plants with unknown properties possibly of high value. Some of those who have practised medicine in South Africa must have come across cases, either personally or by hearsay, in which persons, not members of our profession, have successfully treated diseases which were apparently not amenable to Pharmacopœial remedies. Such an instance occurred to me in 1890. In that year I heard from a trustworthy witness of three cases of children suffering apparently from a form of very acute diarrhœa and vomiting—a form which generally means an acute attack of dysentery, which at that time was proving very fatal among the juvenile population of the Rand—who had been successfully treated with drugs obtained from the flora of the district. We must, of course, deduct a large percentage from the records of cures stated to have been effected by those outside the profession, but we cannot shut our eyes to the fact that there are drugs in South Africa known to the colonists the knowledge of which was probably originally derived from the Hottentots and Bushmen of the Cape Colony, which, in the hands of qualified men, would be of the greatest value. One of my chief objects in writing this paper is to show, by the results of over 100 consecutive cases, that such a drug does exist—a drug which I think I shall succeed in proving is a more powerful remedy than any which we at present possess in the treatment of the various forms of dysentery.

This drug first came under my notice in June, 1890, when a friend of mine, who had been suffering for two months from

a severe attack of dysentery, and whose recovery was despaired of by his two medical attendants, was cured by the administration of a tincture prepared by a colonist from plants which he obtained from the Cape. The history of the case is briefly this. The patient, aged forty-eight years, had been treated by two members of the profession in Johannesburg for the greater part of two months, and though at times he improved the course of the disease was from bad to worse, till at length both medical men gave him up and felt it their duty to indicate the same to the patient's family. His wife, seeing the state of her husband, decided as a last resource that she would try the effect of the drug in question, which had been given to her in the form of a spirituous extract made with French brandy by a friend who had great faith in the remedy. The result was that after the second dose of about two ounces, given at an interval of four hours, the patient went quietly to sleep, and on awaking about eight hours afterwards found the dysenteric symptoms had disappeared and felt entirely a new man. He finished his medicine in two more doses, and from that time made a rapid and uninterrupted recovery, since which time he has never had any return of the old complaint, and up to 1895 to my knowledge he enjoyed perfect health.

After this case came under my notice I obtained a preparation of the drug made with brandy from a man who, however, would not divulge the secret as to what the plant was from which the tincture was made. I used his preparation in all suitable cases with invariably good results. From June to December, 1891, I had medical charge of the men employed in constructing the Vaal River section of the Netherlands Railway in the Transvaal, and during that period I had about seventy cases of dysentery in which I conclusively proved to my own mind the value of the drug in question. After finishing my medical contract with the railway authorities in the beginning of 1892 I made up my mind to get hold of the plant from which the drug was prepared. In this I had the greatest difficulty, as the owner of the secret resolutely refused to give me a fresh specimen of the plant except at a prohibitive price. However, I succeeded in obtaining from him a portion of a stalk and a few leaves which had been macerated in preparing his tincture. This specimen, such as it was, I showed to two friends well versed in the African flora, but they failed to identify the plant, not having sufficient data to go upon from the absence of flower or seed-pod. Having ascertained

that the plant did grow in the surrounding country I determined to search for myself till I found a plant with similar stalk and leaves. After six weeks' patient endeavour I was fortunate enough to discover what I felt sure was a young specimen of the same plant in the Potchefstroom district. This plant had no flowers or seed-pod, but on showing it to my friend, Mr. C. D. Appelgren, he recognised it as a specimen of Monsonia ovata, and at once pointed out flowering specimens of the plant growing within a hundred yards of his residence on the Vaal River. He kindly collected a good quantity of the plants for me, and from these I made a tincture by maceration in spirit in the ordinary way for British Pharmacopœial tinctures — viz., 2½ oz. to the pint of rectified spirit, which proved identical in its action to the one I had been using as supplied to me previously for the cases I had been treating. Since then, as will be seen from the records of cases, I have been using this drug in the treatment of dysentery, and afterwards in the Zoutpansberg district of the Transvaal collected other specimens, and again in Matabeleland, where I found the plant was growing on the Bembize River, about twenty-five miles from Bulawayo. A friend, Mr. Fynne, who was farming there kindly had a large quantity collected for me, with which I had hoped to continue my work on the drug; but, unfortunately, the Matabele rising took place, and the stock that he had collected had to be left behind in his flight for Bulawayo in March, 1896.

The plant is an annual and must be gathered in January or February, and as I had to leave for England in July with my wife and family any further work has had to be put off to a more convenient season. I have, however, a quantity of seed which I hope to succeed in raising in England this summer, and shall then be able to continue work, as I am convinced the plant contains properties which will prove valuable for other forms of ulceration of the digestive tract besides dysenteric, but have not sufficient evidence at present at my disposal to justify me in making any statement.

I will now proceed to give the history of the cases treated, numbering 100, in which monsonia has been the remedy employed. Its action was sometimes supplemented with that of other drugs, as I found by experience that some specimens were distinctly more active than others, and situated as I was, with the necessity always of attending to my medical practice as a means of livelihood, it was sometimes very difficult to collect specimens which were really in

TABLE II.—RECORD OF 100 CONSECUTIVE CASES.

No.	Sex and age.	Nature of disease.	Date of commencement of treatment.	Date of convalescence.	No. of days under treatment.*	Remarks.†
			1890	1890		
1	M., 30	Third attack of dysentery	Aug. 23rd	Aug. 25th	3	No relapse for 6 months.
			1891	1891		
2	M., 30	Acute dysentery	March 8th	March 12th	5	—
3	M., 27	Chronic dysentery	March 30th	April 12th	14	No relapse for 12 months.
4	M., 26	Acute dysentery	July 31st	Aug. 3rd	4	—
5	M., 26	Acute dysentery	Aug. 4th	Aug. 6th	3	—
6	F., 60	Dysentery and fever	Nov. 26th	Nov. 28th	3	—
7	M., 32	Slight dysentery and fever	Nov. 15th	Nov. 16th	2	—
8	M., 42	Acute dysentery and drink	Dec. 16th	Dec. 17th	2	—
9 to 74	—	Acute cases in Kaffirs working on railway along Klip River, Transvaal	An average of 2 days off work in 64 cases		128	—
			An average of 7 days off work in 2 cases		14	—
			1892	1892		
75	F., 18	Acute dysentery	May 28th	May 29th	2	—
76	M., 34	Fever and dysentery	Sept. 11th	Sept. 12th	2	—
77	M., 36	Dysentery complicating a relapse of bilious fever	Nov. 22nd	Nov. 24th	3	—
78	M., 36	Acute dysentery and drink	Nov. 27th	Nov. 28th	2	—
			1893	1893		
79	M., 27	Fever and dysentery	May 12th	May 15th	3	—
				1894		
80	M., 41	Chronic dysentery	Dec. 21st	Jan. 2nd	12	No relapse for 2½ years.
			1894			
81	M., 25	Acute relapse with fever and afterwards hepatitis and local peritonitis	Jan. 17th	Feb. 4th	16	No relapse for 2 years.
82	M., 30	Dysentery and intermittent; a relapse from India	July 17th	July 20th	4	No relapse for nearly 2 years.
83	M., 40	Acute dysentery	July 19th	July 20th	2	—
84	F., 42	Acute dysentery	Sept. 20th	Sept. 21st	2	—
85	F., 4½	Chronic dysentery, whooping-cough, cancrum oris	Aug. 2nd	Aug. 10th	9	Death from cancrum oris.
86	F., 3	Acute dysentery and fever followed by cerebro-spinal symptoms	Sept. 25th	Oct. 1st	7	—
87	M., 33	Acute relapse in chronic case	Oct. 17th	Oct. 20th	6	No relapse for 18 months.
			1895	1895		
88	M., 23	Acute dysentery	Feb. 24th	Feb. 28th	5	—
89	M., 22	Acute dysentery following 2 days' fever	Feb. 27th	Feb. 28th	2	—
90	M., 33	Acute dysentery; drinking rather heavily	March 12th	March 13th	2	—
91	M , 20	Chronic dysentery	July 13th	July 16th	4	No relapse for nearly 1 year.
92	M., 27	Acute dysentery	Aug. 10th	Aug. 11th	2	—
93	M., 24	Acute relapse	Sept. 14th	Sept. 18th	5	Relapse 3 months after.
94	M., 37	Acute dysentery	Oct. 28th	Oct. 30th	3	—
95	F., 12	Acute dysentery	Nov. 5th	Nov. 7th	3	—
96	M., 30	Acute dysentery	Nov. 5th	Nov. 7th	3	—
97	F., 47	Chronic dysentery	Nov. 12th	Nov. 19th	8	No relapse for 7 months.
98	F., 16	Acute dysentery	Nov. 12th	Nov. 14th	3	—
99	M., 5	Acute dysentery	Nov. 12th	Nov. 14th	3	—
100	M., 37	Acute dysentery	Nov. 17th	Nov. 20th	4	—

* The average number of days under treatment was 2·95 taking acute and chronic together—an average of 8·1 days for chronic cases and for acute cases an average of 2·3.

† The periods stated during which no relapse occurred indicate in each case the time during which the patient was under observation. In a shifting population such as is found in new goldfields many patients are soon lost sight of.

proper order, and I was consequently obliged to use plants which were apparently too old and had certainly lost to some extent their medicinal properties.

CASE 1. *Chronic dysentery.*—The patient was a man aged thirty years. He was dark and well-nourished. He had had two attacks previously similar to the present one—the first in Aug., 1889, which lasted five days and for which he took a mixture, the composition of which he did not know, and was cured; and the second attack in May, 1890, which lasted ten days, and was cured by taking chlorodyne in doses of twenty minims every four hours. This, the third, attack began on Aug. 20th, 1890. He had been suffering from cold in the head for seven days previously. On the night of the 20th he felt very feverish, with occasional sensations of chill down the spine. There were pains all over the body, especially at the lower part of the spine. The bowels acted once during the day. On the 21st, at 7 A.M., he took two aperient pills, and at 10 A.M. the bowels were freely opened. He felt great pain in the left iliac region and lower part of the back. At 1 P.M. he commenced passing slime mixed with blood, and from then till midnight he had six dysenteric motions. On the 22nd he had four dysenteric motions up to 2 P.M., when he took fifteen minims of chlorodyne, and repeated the dose at 5 P.M., with the result that he had no return of the symptoms. On the 23rd I saw the patient about midday for the first time. The temperature was 100° F. and the pulse 75. The tongue was coated with white fur in the centre, but was clean at the edges and moist. The pain in the lower part of the abdomen had recommenced, and the patient frequently passed viscid mucus streaked with blood. Two doses of four drachms each of tincture of monsonia were given at intervals of four hours. The symptoms disappeared and the patient enjoyed good health for six months, after which period I lost sight of him.

CASE 2. *Acute dysentery.*—On March 4th, 1891, this patient, a man aged thirty years, swam the Klip River when in a very heated condition from previous exertion. On the 6th he felt feverish, with aching pains all over the body. The bowels became very loose and were open fifteen times during the day. The motions were feculent and mixed with mucus. On the 7th he commenced to pass mucus mixed with blood, with great griping pains and tenesmus. The bowels were opened twenty-five times. He took some powders

prescribed by one of the medical men without effect. On the 8th I was summoned to attend the patient at Johannesburg and ordered him one drachm of tincture of monsonia every three hours. After the third dose the pain and tenesmus disappeared and the motions became feculent. He continued taking the drug during the daytime till the 12th, when the bowels became normal and only open once a day.

CASE 3. *Chronic dysentery.*—In May, 1890, a man, aged twenty-seven years, was suddenly attacked, while marching with a detachment of police in Bechuanaland, with pain in the lower part of the abdomen, especially in the right iliac region. Ten minutes later he passed a motion mixed with a large quantity of blood. Two days afterwards he was taken to Macloutsie Hospital, where he had from twelve to twenty dysenteric motions a day. He was seventy days in hospital undergoing various forms of treatment and was eventually apparently cured by doses (20 grains) of pulvis ipecacuanhæ. He returned to Kimberley by waggon and had another attack of dysentery on the road. On Aug. 2nd he went into the Kimberley Hospital for treatment and remained there till Sept. 8th, when he left for Natal. In March, 1891, he returned to Johannesburg apparently well. On the 13th, however, dull pain recommenced in the lower part of the abdomen and the bowels became loose. On the 23rd he went into Johannesburg Hospital suffering from a sharp relapse of dysentery. He was treated with large doses of ipecacuanha and left convalescent on the 26th. He continued on a milk diet, but the bowels again became loose, blood and mucus again appearing. On March 30th, 1891, I first saw the patient and ordered him one-drachm doses of tincture of monsonia every six hours. He passed a little blood occasionally till April 2nd. From that date till the 12th the dysenteric symptoms disappeared and the bowels gradually resumed their normal condition For twelve months subsequently the patient enjoyed good health, after which I lost sight of him.

CASE 4. *Acute dysentery.*—A man, aged twenty-six years, was on July 20th, 1891, seized with a sudden attack of diarrhœa, accompanied by a burning sensation down the spine, with griping pains in the lower part of the abdomen. The temperature was 99° F. and the pulse 92. A lead and opium pill (5 grains) was administered, followed by a solution of quinine (5 grains) in dilute hydrochloric acid (5 minims)

given every six hours in about a wineglassful of water. The pains disappeared and the patient felt better. On the 22nd he went to Johannesburg and stayed there till the 27th. During this time he was troubled with diarrhœa. On the 28th he returned to his work on the Vaal River Railway and in the evening passed some mucus and blood. During the 29th and 30th he took several doses of chlorodyne on his own account, but the dysenteric symptoms grew gradually worse. On the 31st at 8 P.M. I was called in to see the patient who was then very prostrate and had been passing mucus and blood almost every half-hour for the last twelve hours with great pain and tenesmus. The pulse was 125 and the temperature 98·8°. I administered an enema of about a quart of warm water lightly coloured with permanganate of potassium through an irrigation tube and prescribed two-drachm doses of tincture of monsonia every four hours. The patient felt much eased, and went to sleep at 10 P.M. On Aug. 1st the patient awoke at 8 A.M. He felt much stronger The pulse was 80. The bowels were opened twice during the day—feculent, with a little blood. The pain and tenesmus were almost gone. He was put upon a milk diet and the medicine continued. On the 2nd the bowels were opened once—semi-solid with a little streak of blood. On the 3rd a normal motion was passed. The patient was feeling well and walking about. He commenced ordinary diet. He remained in good health for six months, when he was last under observation.

CASE 5 *Acute dysentery.*—The patient was a man aged twenty-six years. On Aug. 4th, 1891, he sent for medicine for an acute attack of dysentery. He took four two-drachm doses of tincture of monsonia at intervals of four hours. When seen a week afterwards he said he was completely cured.

CASE 6. *Fever and acute dysentery.*—The patient was a woman aged sixty years. She was a stout person acting as nurse, and had been suffering for about four days from an attack of malarial fever with diarrhœa. She had pain all over the body, anorexia, feverishness, especially at night, and vomiting occasionally. When I called in to see her, on March 26th. 1891, she was in bed complaining of frequent vomiting, with severe general headache and frequent passage of mucus mixed with blood, with tenesmus and griping pains in the abdomen. The temperature was 103 6° F.

and the pulse 84. A mixture composed of two drachms of liquor bismuthi, one minim of acidum hydrocyanicum dilutum, and ten minims of liquor morphiæ hydrochloratis was administered, together with a little weak brandy and water. This eased the pain somewhat and the vomiting ceased. About a quarter of an hour afterwards a dose composed of five grains of quiniæ sulphas, six minims of acidum hydrochloricum dilutum, in two ounces of water, was administered and was repeated every six hours. Half an hour after the quinine mixture had been administered two drachm doses of tincture of monsonia were administered every four hours if the patient were awake. I saw the patient again on the 28th, two days after my first visit, when the dysenteric symptoms had entirely disappeared, but she had still some slight remains of the malarial fever. The temperature was 100°. The quinine mixture was continued and the patient went to Johannesburg for two days' change and completely recovered.

CASE 7. *Acute dysentery.*—The patient was a man aged thirty-two years. The temperature was 101 4° F. and the pulse 97. The bowels were moved twelve times during the last twenty-four hours. The motions were feculent, mixed with blood and mucus. There was pain in the limbs and lower portion of the abdomen and back. Tenesmus was not strongly marked. A mixture containing five grains of quinine was given three times a day and two drachms of tincture of monsonia every four hours. The next day, Nov. 16th, 1891, the bowels were normal, the temperature was 98 6°, and the pulse 70.

CASE 8. *Acute dysentery and drink.*—The patient was a man aged forty-two years. He had been drinking heavily for some three weeks. When seen on Dec. 16th, 1891, he was in a weak condition, passing blood and mucus every half hour. There was great tenesmus and pain in the abdomen. The patient stated that on the 14th he slept in wet blankets and the next morning was seized with great pain in the stomach accompanied by violent diarrhœa, which quickly took a dysenteric form. I gave him at once four drachms of tincture of monsonia followed by two-drachm doses every four hours. On Dec. 17th I saw the patient, who said that the dysentery had quite stopped and he was celebrating his convalescence in a rather convivial manner.

CASES 9 to 74. *Acute dysentery.* — These were cases of dysentery occurring among the Kaffirs working on the Vaal River Section of the railway from June to December, 1891. Forty-four of the total sixty-six cases occurred in the months of October and November and were mostly of an acute form. The treatment consisted in administering half-ounce doses of tincture of monsonia every four hours. In all except two cases only four doses were required. The Kaffirs were generally fit to resume their work on the second day after the first dose of medicine. The only exceptions were the two cases before mentioned, and in both of these treatment was continued for nearly a week before they were completely cured. After the first four doses, which were given at intervals of four hours, the motions became feculent with now and then traces of blood and mucus, and the treatment was continued with two-drachm doses given three times a day.

CASE 75. *Acute dysentery.*—The patient was a young woman aged eighteen years. On May 28th, 1892, she complained of continual straining of stool, passing blood and slime. Two-drachm doses of tincture of monsonia were administered every four hours. I saw the patient again on May 30th, when she was convalescent and said that she began to improve after the first dose and had a refreshing sleep after the second.

CASE 76. *Acute dysentery.*—The patient was a man aged thirty-four years. When seen on Sept. 11th, 1892, his temperature was 101·2° F. The tongue was white with fur at the back; the pulse was 90. He complained of frequent tenesmus, passing very little slime and blood. An acid solution of quinine, containing four grains of the sulphate, was ordered three times a day and two drachms of tincture of monsonia every four hours. After the third dose the blood and mucus disappeared from the motion, which became feculent. On the 12th a powder consisting of eight grains of pulvus ipecacuanhæ compositus and ten grains of pulvis catechu compositus was administered with a drachm of tincture of monsonia, and all the unfavourable symptoms disappeared, and the patient has to my knowledge remained entirely free from dysentery up to the early part of 1896.

CASE 77. *Dysentery and fever.*—The patient was a man, aged thirty-six years, who was seen on Nov. 22nd, 1892. He

had malarial fever in 1891 in Madagascar and had frequent relapses. On Nov. 22nd he had a sudden rise of temperature to 105° F.; the tongue was thickly furred and he had distinct symptoms of bilious fever. On treatment the temperature fell to normal, but acute dysentery intervened. Three doses of half an ounce of tincture of monsonia with ten drops of tincture of cardamom were administered at intervals of every four hours. On Nov. 23rd the patient had a fairly good night and felt much better. The motions were feculent, but a little tenesmus still remained. The patient was still very bilious looking. A powder containing four grains of calomel and ten grains of pulvis ipecacuanhæ compositus was given with a dose of tincture of monsonia. The symptoms disappeared, but during the night the patient felt an uncomfortable fulness. An emetic was given, and on the morning of the 24th the patient felt well enough to leave for the low country.

CASE 78. *Dysentery and drink.*—The patient was a man aged thirty-six years. When seen on Nov. 27th, 1892, he was suffering from general debility due to alcohol. At 1 P.M. symptoms of acute dysentery showed themselves, and during the afternoon he had several dysenteric motions. At 6 P.M. his temperature was 98·2° and the pulse 70. A powder containing fifteen grains of pulvis catechu compositus and six grains of pulvis ipecacuanhæ compositus, with half an ounce of tincture of monsonia, was administered, and on the 28th, when I next saw him, the dysenteric symptoms had disappeared. This patient died about a month afterwards from the effects of drink and possibly a return of the dysentery, but as he did not come under medical treatment I cannot say for certain.

CASE 79. *Acute dysentery.*—The patient was a man aged twenty-seven years. When seen on May 12th, 1893, he was suffering from bilious fever and acute dysentery. The dysentery was treated with two drachms of tincture of monsonia, ten minims of tincture of opium, and thirty minims of tincture of catechu every six hours. On May 15th the patient was convalescent.

CASE 80. *Chronic dysentery.*—This case, which lasted from Dec. 21st, 1893, to Jan. 2nd, 1894, was treated similarly to Case 79. An enema of warm water was given every other day. The patient made a complete recovery. There was no relapse to June, 1896.

CASE 81. *Chronic dysentery followed by hepatitis.*—The patient, a man aged twenty-five years, commenced treatment on Jan. 17th, 1894. He had been healthy up to September, 1893, when he had an attack of dysentery, which lasted four weeks in spite of medical treatment, and was eventually stopped by an infusion of cemirubra. The dysentery recurred at intervals, and from the end of December, 1893, until Jan. 14th, 1894, the patient was continually passing motions mixed with mucus and blood from four to eight times a day. On the 14th the patient came to me for treatment, and was then passing mucus and blood with a great deal of tenesmus about every two hours. An enema containing a very weak solution of Condy's fluid of about one quart was used, and a mixture composed of three drachms of tincture of monsonia, ten minims of tincture of opium, and ten minims of tincture of catechu was administered every four hours. No dysentery or pain occurred till nine hours afterwards, when the symptoms recurred and gradually assumed a severe form, partly, I think, owing to the patient having gone out and got wet. On the 17th the patient again called me in and was then in bed, passing mucus and blood and portions of diseased mucous membrane frequently. He was in great pain and vomited all nourishment taken, both solid and liquid. The pulse was 130, very weak, and the temperature 99 5° F. The tongue was dry and furred. An enema was at once given of about a pint of warm water slightly coloured with Condy's fluid. A powder containing half a grain of morphia and three grains of cocainæ hydrochloras was administered, followed in ten minutes by twelve grains of bismuthi subnitras This quieted the vomiting, and a quarter of an hour after thirty grains of pulvis ipecacuanhæ were administered in syrupus aurantii. The dose was retained for an hour and then a large quantity of dirty-coloured acid fluid was vomited. The patient then complained of pain all over the abdomen, especially the lower portion A hypodermic injection of four minims of morphia was given and the patient kept absolutely quiet. The bowels were opened twice during the next five hours with very little tenesmus. A small quantity of loose fæcal matter mixed with a little blood and mucus was passed. The dysenteric symptoms gradually returned, and six hours after the first dose a second dose of twenty grains of ipecacuanha was administered with the same precautions. This was retained about half an hour. The patient seemed comparatively comfortable but extremely prostrate. The diet consisted of a little brandy and milk given at

intervals. During the night severe vomiting and frequent inclination to empty the bowels returned. On Feb. 18th the patient was exhausted. The pulse was 125 and the temperature 98°. There were great pain and a tendency to vomit frequently. The enema of the 17th was repeated and a hypodermic injection of three minims of morphia was administered. The tongue was still coated with dirty white fur. During the day a gradual improvement was made in the patient's general condition. The vomiting ceased, but very little food was taken, a very small quantity of liquid even producing a tendency to vomit. A dose of twenty grains of ipecacuanha was given in the afternoon with the same precautions as previously. Vomiting occurred in about three-quarters of an hour. On the 19th he had dysenteric motions with frequent tenesmus. A hypodermic injection of three minims of morphia was administered, and half an ounce of tincture of monsonia, twenty minims of tincture of catechu and ten minims of tincture of opium were prescribed and retained without vomiting. The patient improved during the next four hours and was removed carefully to a cooler room. The bowels were opened once. On the 20th the pulse was 90 and the temperature 98·2°. The last mixture was administered every six hours. During the day the bowels were opened once, the motions being feculent and mixed with a little blood and mucus. At night, as there seemed a good deal of hardness and tension about the abdomen, two drachms of castor oil were given. Two hours afterwards the patient's bowels were opened twice, the motions being loose, dark, and mixed with some stringy mucus. About 10 P.M one grain of morphia was given by the mouth. The patient had a quiet night. On the 21st the patient was improving. The bowels were opened once, the motion being similar to that on the preceding day. The mixture of monsonia, catechu, and opium was repeated twice during the day. On the 22nd the patient was doing well. The medicine given was the same as on the 21st. The pulse was 80 and the temperature 98·4°. The tongue was cleaning well. On the 23rd the patient was taking his milk diet well. The bowels were opened twice; the motions were loose but otherwise normal. The patient sat up in his room. The medicine was discontinued. On the 24th and 25th the patient rapidly regained strength. The pulse was 86 and the temperature 98·6°. The bowels were opened once normally. On the evening of the 25th the patient complained of pain across the loin and scarcity of urine. Three ounces of hot, fresh

infusion of buchu were made and administered, which relieved the symptoms. The patient had a good night. On the 26th, about 3 P.M., the patient was seized with two or three severe rigors, followed by a sudden rise of temperature to 103° and the pulse to 114. There was great pain over the region of the right lobe of the liver. There was tenderness on pressure over the gall-bladder, but no enlargement was perceptible to the eye or on palpation. On auscultation a grating sound could be heard with inspiration over the region of the liver dulness. Eight grains of calomel were given by the mouth and a subcutaneous injection of morphia (three minims) administered. On the 27th the patient was easier. The temperature was 99·4° and the pulse 108; there was tenderness on pressure over the right lobe of the liver, especially over the gall-bladder, where firm digital pressure caused inclination to vomit. The patient complained of catching pain there on deep inspiration. There was no cough. The tongue was coated white in the centre, but was cleaning at the edges. Hot fomentations were applied over the liver, and linimentum aconiti et iodi (equal parts) painted over the painful area. The bowels not being open half an ounce of castor oil was administered at midday; a small, hard motion was passed at 4 P.M. The temperature was 103°. An enema of hot soap-and-water was given and a large quantity of fæcal matter passed, after which the temperature fell to 99·5°. On the 28th the temperature rose again during the early hours of the morning. Half an ounce of sulphate of soda dissolved in a glassful of water was given. The patient soon after vomited about half a pint of bile. The temperature then fell to 99·4°, but remained variable during the morning. The pulse was very weak (from 120 to 130). The bowels were moved four times (feculent). There was a tendency to reflex vomiting. The patient became very restless towards night. Thirty grains of sulphonal were given. On the 29th the patient slept irregularly till 2 A.M. The temperature was variable (from 101° to 103°). The tendency to vomit continued. The pulse was very weak and the patient extremely exhausted. The pain in the right side continued and there appeared to be a localised peritonitis between the under surface of the liver and intestine. The patient could retain little nourishment except champagne. Two drachms of tincture of monsonia were administered. Hot stupes were continuously applied over the right side. The patient slightly improved during the night. One drachm of tincture

of monsonia was given at intervals of four hours twice, and at night five grains of calomel were administered, the bowels not having been opened. The tendency to vomit continued, but a little fluid nourishment was retained. At 7 P.M. the patient was immersed in a hot sitz-bath for about ten minutes and felt much relieved. The temperature was 99·6° and the pulse 115. On the 30th the patient slept irregularly. He had improved slightly in his condition. At midday the temperature was 100° and the pulse 105. About 2 P.M. half an ounce of castor oil was administered, and towards the evening the bowels were opened once. The motion was loose and light brown in colour. The pain and tenderness became less over the liver. Hot stupes were continued and at 8 P.M. twenty grains of sulphonal were administered. On the 31st the patient had a quiet night, and during the day took a fair amount of fluid nourishment. A mixture containing ten minims of tinctura nucis vomicæ, ten minims of acidum hydrochloricum dilutum, and half an ounce of infusum gentianæ was given every six hours, and half a grain of morphia was given at midday The bowels were not opened. At 3 P.M. half an ounce of sodii sulphas was administered. About four hours afterwards the bowels were opened once. The motion was similar to that on the 30th. The tongue was thinly coated with white fur. The temperature varied between 101 5° and 102·5°, and the pulse was 108. On Feb. 1st four motions were passed—feculent, brown with a light-coloured sediment. The temperature ranged between 100 8° and 102·5°. The pulse was 100. There was a dull pain in the right side. A pill of mercury (five grains) with hydrochlorate of morphia (a quarter of a grain) was administered and the patient put into a hot sitz-bath containing some mustard. The patient passed a good night, the bowels not being open. On the 2nd the pulse was 100 and the temperature 98·6°. The pain in the right side was almost gone, but the patient complained of a dull, heavy pain in the right arm and shoulder. Two doses of thirty grains of salicin were given at 10 A.M. and 2 P.M. respectively. During the morning the patient had two slight rigors, with a rise of temperature to 100°, which remained till 9 P.M. and then fell to normal. At 8 P.M. a pill of colocynth and hyoscyamus (five grains) was administered. One solid motion was passed. On the 3rd the temperature was 98 2° and the pulse 90. At noon the temperature rose to 102 5°. A mixture containing six grains of quinine, three minims of liquor arsenicalis, and twenty minims of acidum

hydrobromicum was ordered every six hours. The evening temperature was 101 8°. On the 4th the midday temperature was 98 4°. There was still some pain in the right arm and shoulder. At night an injection of three minims of morphia was administered. From this date the patient made a comparatively quick recovery with one or two slight rises of temperature which were treated with the same mixture as given on Feb. 3rd, and the patient till 1896 enjoyed excellent health.

CASE 82. *Chronic dysentery.*—The patient, a man aged thirty years, had suffered from dysentery in India. On July 17th, 1894, his temperature was 104° and the pulse 98. The tongue was dry and furred. The skin was dry. The patient suffered from acute dysenteric pains and passed mucus and blood every half-hour. A powder containing ten grains of quinine and ten grains of antifebrine was administered and an enema of hot soap-and-water was given. The patient commenced to perspire profusely in about a quarter of an hour. The pain became much relieved. Four hours afterwards three drachms of tincture of monsonia were administered and repeated every four hours. The dysentery was much relieved, but continued slightly till the 19th. A lead and opium pill was given with each dose of the medicine. The dysenteric symptoms had disappeared by the evening of the 19th. A return of the fever occurred about 8 P.M. I administered two grains of the bark of a tree whose value in intermittent fever I had learned from Kaffirs living in the fever districts of the Murchison Range, Transvaal, but which I was not able to identify, although it belonged, I believe, to the Croton family. The bowels were thoroughly well opened once, after which the patient went to sleep for eight hours. The symptoms all disappeared and the patient made a complete recovery. Up to the time I left the country—a period of nearly two years—he had had no relapse.

CASE 83. *Acute dysentery.*—This was a man, aged forty years, who came under my care on July 19th, 1894. He had been suffering for three days from an acute attack of dysentery, and had been taking powders composed of ten grains of pulvis ipecacuanhæ compositus and pulvis ipecacuanhæ respectively without effect. I at once ordered an enema of about three pints of hot water with a little Condy's fluid. The patient passed a large quantity of fæces. I then

administered three drachms of tincture of monsonia, with a lead and opium pill every four hours. Three doses were given. The dysentery entirely stopped after the first dose. On the 20th. at bedtime, four grains of calomel were given. In the morning the patient passed a loose motion with slight tendency to tenesmus. Two more doses of the medicine of the 19th were given during the day, with the result that the dysenteric symptoms disappeared. Up to July, 1896, no recurrence had taken place.

CASE 84. *Acute dysentery.*—The patient, a woman, aged forty-two years, came under treatment on Sept. 20th, 1894. She had been suffering from acute dysentery for two days. The treatment was similar to that in Case 83. She passed dysenteric stools three times after the first dose of medicine, but all bad symptoms disappeared after twenty-four hours.

CASE 85. *Chronic dysentery with sloughing mucous membrane; death from cancrum oris*—I saw this patient, a girl, aged four and a half years, on Aug. 2nd, 1894. She had been suffering for three weeks previously from whooping-cough and had been treated by a chemist with a mixture containing bromide and belladonna. When called in the child was extremely weak, and besides the whooping-cough was suffering from a severe attack of dysentery, which had commenced six days previously. The patient was frequently passing portions of sloughy mucous membrane mixed with blood. A mixture containing half a drachm each of tincture of monsonia, tincture of callilipis,[1] and syrup of tolu, with ten minims of spirit of chloroform, was given every four hours. At night a powder of six grains each of pulvis ipecacuanhæ compositus and bismuthi subnitras with half a grain of calomel was ordered. The child improved steadily, and on the 4th the dysenteric stools had almost ceased, although the bowels were still too loose. A mixture containing chalk with two minims of tincture of opium and five minims of tincture of catechu was given alternately with the previous mixture every four hours. The whooping-cough was considerably

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[1] Tincture of callilipis is made from the root of a plant of that name, which is peculiar to South Africa. It is used by some of the natives as a cough drug. As such it is not of great value, but in the few cases in which I have used it it has proved of marked value in the treatment of whooping-cough, especially in its late stages.

relieved and the bowels became normal. The child took her nourishment well, but did not appear to gain strength as quickly as could be wished. On the 9th the left cheek was noticed to be very much swollen, and on examining the mouth a large sloughing ulcer, evidently cancrum oris, was seen. The child rapidly sank and succumbed early on the morning of the 10th.

CASE 86. *Fever and dysentery.*—A girl, aged three years, came under my care on Sept. 25th, 1894. The patient had been suffering for three days from dysentery. The parents had been giving her chlorodyne without effect. When seen the child was slightly feverish, with bilious symptoms, and was also suffering from dysentery. A powder containing five grains of pulvis ipecacuanhæ compositus, four grains of bismuthi subnitras, and one grain of calomel, was administered at night. The patient passed some mucus mixed with blood and bile. On the 26th one drachm of tincture of monsonia and three minims of spirit of chloroform were ordered every four hours and at night five grains of pulvis ipecacuanhæ compositus with six grains of bismuthi subnitras. The patient was passing some greenish stools without blood, but with slight tenesmus and a little mucus mixed with the motion. On the 27th this treatment was continued. The powder given on the 25th but without the calomel was repeated morning and night. The bowels became normal during the day, but symptoms showed themselves of a slight attack of cerebro-spinal fever with pain in the head and irregular temperature. A mixture of ten grains of bromide of potassium, one grain of chloral hydrate, and fifteen minims of compound tincture of camphor was ordered every six hours, the head to be kept bathed with cold water. The symptoms continued for four days and then gradually disappeared. The bowels were regulated with small doses of calomel when necessary and a Dover's powder was given at night.

CASE 87. *Chronic dysentery.*—On Oct. 17th, 1894, I saw a man, aged thirty-three years, who had had several previous attacks of dysentery, one of which had lasted seventy days, two years before. He had been treated in a military hospital in India. Since then he had been subject to chronic attacks. The present attack had commenced insidiously two weeks before. When seen the patient was passing mucus and blood, frequently with great pain in the abdomen and tenesmus.

The temperature was 102° F. The skin was hot and dry. The patient had a jaundiced appearance. Two grains of the powder mentioned in Case 82 were given and the patient vomited about a pint of bilious fluid two hours afterwards. A large enema of warm water was administered and a quantity of fæcal matter was passed. The patient felt much relieved, and a mixture of three drachms of tincture of monsonia with a lead and opium pill (4 grains) were ordered every four hours. On the 18th the bowels were moved three times; the patient was easy and his temperature was normal. The motions contained a little blood and mucus mixed with feculent matter. There was slight tenesmus. On the 19th there were two movements of the bowels. The mucus and blood had disappeared from the motions, but the patient complained of a feeling of distension about the stomach. Half an ounce of castor-oil was given and four hours afterwards a large loose motion was passed. Two doses of tincture of monsonia with a lead and opium pill (5 grains) were given at intervals of six hours. All dysenteric symptoms ceased. The patient was ordered a tonic of two minims of liquor arsenicalis with half an ounce of infusum gentianæ three times a day and made a complete recovery. No relapse occurred to the end of June, 1896—a period of over eighteen months.

CASE 88. *Acute dysentery.*—A man, aged twenty-three years, was seen on Feb. 24th, 1895. The patient was tall and rather poorly nourished, with a history of phthisis on his mother's side. Three days previously the patient was attacked with severe diarrhœa, for which he took large doses of laudanum and afterwards a lead and opium pill on his own account. When seen he was suffering from an acute attack of dysentery, and was passing mucus and blood with a good deal of tenesmus. The temperature was 98° F. and the pulse 90 and feeble. An enema of warm soap-and-water was given and a large quantity of fæces was passed. Four drachms of tincture of monsonia with a lead and opium pill (4 grains) were administered every six hours. The pain and tenesmus ceased, and during the next twelve hours one dysenteric motion was passed with very little straining. Early in the morning of the 25th the tendency to griping pains and tenesmus returned. Another enema was given and the medicine was continued. On the 26th the patient was improving slowly and the motions gradually became feculent with slight tenesmus. On the 27th the enema was repeated

and the mixture continued. The patient felt much better, but still had a little pain in the lower part of the abdomen and slight straining In the afternoon he took a drive into the country, and from that time no recurrence occurred. In June, 1896, he was still in good health.

CASE 89. *Acute dysentery.*—A man, aged twenty-two years, came under my care on Feb. 27th, 1895. He had had an attack of malarial fever two days previously. During the night symptoms of acute dysentery had commenced When seen at 9 A.M. he was passing mucus and blood frequently with a good deal of tenesmus and pain in the lower regions of the abdomen. The temperature was 98·6° F. and the pulse 70. An enema of warm soap-and-water was given and the patient passed a fair amount of fæcal matter. Half an ounce of tincture of monsonia with a lead and opium pill were ordered every four hours. Three doses only were taken and the patient resumed work on the 28th. No relapse occurred.

CASE 90. *Acute dysentery.*—A man, aged thirty-three years, came under treatment on March 12th, 1895. He suffered for two days previously from acute dysentery. He stated that he had been drinking rather heavily of spirit, and three days before he had been for a long walk in the heat of the day and had drunk a large quantity of water from a spruit. The symptoms came on within twelve hours. He had taken chlorodyne in full doses without effect. The same treatment was followed as in Case 89 On the 13th the patient complained of the bowels feeling full and uncomfortable. A large enema of hot soap-and-water was given and a large quantity of fæces was passed. Half an ounce of tincture of monsonia was administered and the patient resumed work in the afternoon.

CASE 91. *Chronic dysentery.*—A man, aged twenty years, had been for two months suffering from chronic dysentery. His first attack occurred in December, 1894. and lasted fourteen days. He came to me on July 13th, 1895. During the previous week the dysentery had been most troublesome during the early morning and daytime, the patient passing mucus and blood seven or eight times a day with a good deal of tenesmus. When seen the temperature was 98 4° F. and the pulse was 60. The tongue was white and flabby. The patient, although naturally strong appeared very much

exhausted. The exertion of walking to the surgery caused him to faint. An enema of weak Condy's fluid and water was administered. He passed a quantity of fæcal matter mixed with a little stringy mucus and blood. The same treatment as in the two previous cases was carried out, with the result that the patient was completely cured in about four days. I did not see him again, but met him some time afterwards, when he told me that no recurrence had taken place. He remained well to June, 1896—eleven months afterwards.

CASE 92. *Acute dysentery.*—A man, aged twenty-seven years, came under my care on Aug. 10th, 1895. He was suffering from an acute attack of dysentery, which had commenced on the previous day. An enema was given and medicine similar to that in the last three cases. He had no recurrence after the second dose of the medicine.

CASE 93. *Chronic dysentery.*—A man, aged twenty-four years, came under treatment on Sept. 14th, 1895. His temperature was 102·4° F. and the pulse was 98 The tongue was thickly coated with a brownish fur. The bowels, according to the patient's statement, had been continuously straining during the last twenty-four hours, accompanied by very severe pain in the lower part of the abdomen. A powder containing eight grains each of phenacetin and quinine was administered in a cachet, and a mixture of three drachms of tincture of monsonia and ten minims of spirit of chloroform was ordered every four hours. An enema of about a pint of warm solution of hydrargyri perchloridum (1 in 3000) was given. This produced violent pain and a feeling of faintness. A hypodermic injection of morphia (four minims) was administered, and the patient remained fairly easy for some hours till about 10 P M. He then had three or four dysenteric motions slightly streaked with blood. An enema of warm water with a few drops of Condy's fluid was given and the patient felt much eased. On the 15th the straining disappeared and the temperature was 99·5°. The tongue was dirty. There were four motions, which were feculent, with very little mucus. The mixture was continued. On the 16th the temperature was 100·2°. The tongue was coated with dirty brown fur. The patient still strained occasionally, but passed nothing. The cachet of the 14th was repeated and an enema of soap-and-water was given, but without effect. One ounce of castor oil with

fifteen minims of tincture of opium was administered. Two hours afterwards the patient passed a large quantity of hard fæcal matter. Tincture of monsonia was continued every six hours. On the 17th the temperature was normal ; no motions were passed and the tongue was clean. On the 18th the bowels were normal and the medicine was discontinued, the patient being convalescent. The patient had had two previous attacks of dysentery with violent tormina, and since this attack he has had another which he cured with a fresh infusion of monsonia which a friend made from plants growing on his farm. No relapse has occurred since.

CASES 94, 95, 96, AND 100.—These were all acute cases treated at my own surgery. An enema was given in each case and a mixture of two and a half drachms of tincture of monsonia, fifteen minims of liquor opii sedativus. and six minims of spiritus chloroformi every four or six hours was ordered.

CASES 97, 98, AND 99.—These were all in one family—a mother and two children. The mother had been suffering for two months from chronic dysentery, which had been treated in various ways by another practitioner. The mixture given in the four preceding cases was given. As she had been taking castor oil no enema was necessary. The children (Cases 98 and 99) were both acute cases. Enemata were given and the same mixture ordered, Case 99, a child, taking one-fourth of the doses mentioned.

In discussing the foregoing cases it will be better to divide them into two classes, acute and chronic. First, acute. Out of 100 cases recorded ninety come under the heading of acute. In none of these was ipecacuanha used, the treatment consisting of monsonia in from two to four drachm doses every four or six hours. In a few of the later cases the action of the monsonia was supplemented by pilula plumbi cum opio, as, for instance, Case 88 ; but it is interesting to note in this case that the patient had previously to coming under treatment been taking both tincture of opium in full doses and pilula plumbi cum opio, and that in spite of the exhibition of these drugs the symptoms had become steadily worse, showing that the pilula plumbi cum opio alone was ineffectual as a cure. My reasons for adding pilula plumbi cum opio to the treatment in some of the later cases was that the specimens of monsonia from which the tincture I

was using was made had been gathered nearly three years previously and appeared to be losing to some extent its activity. It is a recognised fact among pharmacists that some drugs, especially when kept in the dry state in hot climates, steadily deteriorate in quality, and in my experiments I have found that this was apparently the case with monsonia. The average number of days that a patient was under treatment was 2·3, which is certainly far below the average of any statistics which I have been able to consult under any other form of treatment.

Although, according to some of the Indian authorities, the records of the treatment of acute dysentery with ipecacuanha show almost equally good results, monsonia has one great advantage in that it requires no special precautions and can be taken by the patient just as any other drug without the necessity even of remaining in bed. Secondly, chronic dysentery, on the other hand, has not up to the present time proved amenable to any form of treatment, and has been hitherto looked upon as incurable and very frequently fatal, but the preceding records go far to prove that monsonia is as efficacious in the treatment of chronic as in that of acute dysentery. Out of the 100 cases I have reported ten were chronic, and of these nine made complete recoveries, and were under treatment for 8·1 days on the average. The one exception was Case 85 ; even in this case the dysentery was cured, but the constitution was so exhausted by the long illness previous to treatment that the child succumbed to cancrum oris. Seven of the chronic cases recorded as being cured were under observation for periods varying from one to four years, no relapses occurring. One case was lost sight of after six months, during which time the patient had no recurrence. The remaining case (No 93) was the only one to my knowledge in which a relapse occurred ; this was due, in my opinion, to the tincture of monsonia having lost some of its qualities, the plants from which it was made having been kept too long. This case was soon cured, however, by a fresh infusion of the drug made from plants collected on the patient's farm. The monsoniæ belong to the order Geraniaceæ, of which they form a genus. A great number of varieties are found in Southern Africa. The plants I have used come under the varieties Monsonia ovata and Monsonia Burkei. Several species are known to have astringent properties due to the tannic acid which they contain, chiefly in the roots. Their action as astringents is, however, weak, and I do not think

that the results obtained by the preparations I have used in dysentery were at all due to their astringent properties. This conclusion is borne out by the fact that the drug appears to have very little effect on ordinary diarrhœa and also that the preparations made from the dried flowering plant without the root were in dysentery quite as effective as, if not more so than, those in which the root was used, and in which certainly a large proportion of tannic acid was present.

Judging from the number of cases which I have now treated I feel convinced that the plant has a specific action on the poison of dysentery apart from any mere astringent properties. Whatever the active principle of the drug may be it appears to have a soothing influence on other forms of intra-abdominal irritation to the lower nerve centres. This was shown by the distinct and rapid relief it gave in about six cases in which I tried it in pelvic pain due to old inflammatory peri-uterine lesions. In each of these cases the relief was much greater than that obtained by opium or its alkaloids. These facts lead me to conclude that the effect of the drug on dysenteric symptoms is partly due to its soothing action on some of the lower nerve centres and partly to the peculiar healing influence which it exerts on ulcers of the intestinal tract. In the beginning of 1896 through not being able to obtain specimens of the plant I was obliged to return to the use of pharmacopœial drugs. This was unfortunate, as during the Matabele rising from March to July, 1896, an epidemic of dysentery occurred at Bulawayo, which would have afforded me very valuable materials for further researches with regard to the action and the peculiar properties of the drug. Though so far nonplussed I was still able to cope successfully with acute cases of dysentery, and it may be of general interest to give some account of the treatment pursued. One of the first cases which came under treatment was that of a child, four years of age, suffering from acute dysentery. I ordered four grains of pulvis ipecacuanhæ compositus with four grains of pulvis kino compositus every six hours and an enema of warm water twice a day. The child appeared to be all right the next day, but two days after the mother sent for me again, when the dysentery was as bad as ever and prolapse of the rectum was commencing. The powders seemed to have no effect. I ordered the enema to be continued and three grains of phenacetin to be added to the powders. The result was excellent, the child rapidly recovered and no relapse occurred. Most

of the subsequent cases occurring in this outbreak were of a very acute form, often associated with a good deal of vomiting and sometimes high temperature. The treatment, briefly stated, was as follows. A mixture containing one and a half drachms of liquor bismuthi, one minim of acidum hydrocyanicum dilutum, ten minims of liquor morphiæ hydrochloratis and water to one ounce was given every four hours in cases where there was much vomiting. Ten minutes after each dose of the mixture a powder containing ten grains of pulvis ipecacuanhæ compositus, ten grains of pulvis kino compositus, and five grains of phenacetin was administered. In other cases ten grains of bismuthi sub-nitras was given before or with the powders. Where much fever was present a powder containing eight grains of quinine with eight grains of phenacetin was given night and morning. In cases in which the attack was of more than forty-eight hours' standing an enema of about two quarts of warm water with a little Condy's fluid was given. The patients were not kept in bed except in severe cases. Meat diet was strictly forbidden. Most authorities incline to the opinion that astringents and full doses of opium are not only useless but do much harm in the acute phase of the disease, and I think the foregoing powder would certainly come under that condemnation. The results, however, were extremely satisfactory in all the acute cases, which numbered somewhere about forty. I attribute their success to the addition of the phenacetin and also to the administration of the enemas. With regard to phenacetin, the *rationale* of its action in dysentery is somewhat similar to that of ipecacuanha. Dr. Ewart attempted to explain the action of the latter in the following terms :—
"In large doses it stops inflammatory action, augments the alvine secretions from œsophagus to rectum, increases the flow of bile and pancreatic juice, purges without irritating, lessens peristaltic action, produces rest, restrains tormina and tenesmus, promotes diaphoresis, restores the balance of the portal circulation, is a direct sedative to cardiac action, and acts on the stomach and duodenum, pancreas, liver, and small intestines, and on the glands of the large intestine."

Although this statement is somewhat vague it is in the main, perhaps, as correct a representation of the action of ipecacuanha, and still more so of such powerful diaphoretics as phenacetin, as in the present state of our knowledge can be given. Consequently it acts as a corrective to the astringent qualities of kino and to the tendency which

opium has to check the natural secretions in the intestines, which latter it is most important to encourage. Both the astringent action of the kino and the sedative action of the opium are very necessary in relieving the dysenteric symptoms, provided any deleterious action is guarded against. In order to explain the beneficial effects of large enemata in the treatment of dysentery it will be essential to draw attention to a very important point in the pathology of the disease and one which appears to have been almost entirely overlooked. After the first day or two in an acute attack of dysentery, and commonly in chronic cases, the small intestines are loaded with fæces. The way in which this condition is brought about appears to be as follows. An acute attack commences with diarrhœa which is at first feculent in quality; the stools gradually change from feculence to mucus and blood. This change takes place any time within the first forty-eight hours. From this stage onward, perhaps for days, no fæcal matter is passed. What apparently happens is that the dysenteric ulcers in the large intestine cause spasmodic contraction about the ileo-cæcal valve, which entirely shuts off the small intestine from communication with the large, thus preventing any chance of irritation to the dysenteric ulcers from fæcal matter. An exactly similar condition is seen in inflammation of the cornea, where the eyelids are spasmodically contracted as a natural protection against the irritation of light. This condition having been once induced it is self-evident that to give heavy doses of opium and astringents, without at the same time endeavouring to clear the small intestines of fæcal matter, would only tend to aggravate the disease. The fæcal matter continues to accumulate in the small intestine, increases the tendency to tormina and tenesmus, and adds fæcal poisoning to the other symptoms. This latter accounts, I think, to a large extent for the very rapid exhaustion which occurs in cases which are left untreated. It is for these reasons that large doses of opium and astringents have been so universally condemned; but I contend that if given with proper precautions opium and astringents are of decided benefit in the acute stages. I now make it a rule to inquire on first seeing a patient whether any fæces have been passed during the last twenty-four hours, and unless the attack is quite recent I invariably find that such has not been the case. I then order an enema of two or three pints of warm water with a little Condy's fluid in it. The patient as a rule passes a large quantity of fæcal matter and experiences a

great feeling of relief, the tenesmus disappearing for the time being. Very weak solutions of any disinfectant are applicable, with the one exception of bichloride of mercury; this drug in the weakest solutions causes acute pain. In some cases, where the ulcer is low down in the rectum, the sphincter ani will be found to be paralysed temporarily. It is then impossible to evacuate the small intestine by means of enemata. In these cases it is necessary to give castor oil. In the subsequent treatment of dysentery, provided the tendency of the small intestine to become blocked is counteracted, no harm can result from the use of opium and astringents, combined with such diaphoretics as ipecacuanha and phenacetin; and judging from my experience in a large number of cases I feel convinced that they materially assist in the cure of the disease.

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