

## ABORTUS FEVER:

NOTES ON A CASE OCCURRING IN SCOTLAND.

BY

J. NORMAN CRUICKSHANK, M.C., M.D.,  
F.R.F.P.S.GLAS., M.R.C.P.LOND.,ASSISTANT PHYSICIAN, ROYAL INFIRMARY, GLASGOW; SENIOR ASSISTANT  
TO THE MUIRHEAD PROFESSOR OF MEDICINE, UNIVERSITY  
OF GLASGOW;

AND

ROBERT CRUICKSHANK, M.D.ABERD., D.P.H.,  
BACTERIOLOGIST, ROYAL INFIRMARY, GLASGOW; LECTURER IN  
BACTERIOLOGY, UNIVERSITY OF GLASGOW.

THE following case of *abortus* fever, which we have had under our observation recently, is, we believe, the first example of this disease to be recorded in Scotland.

A dairy farmer, aged 27 years, living in Ayrshire, developed a febrile illness in June, 1929. From the clinical features of the case his doctor suspected a typhoid or paratyphoid infection, but the Widal reaction was negative on two occasions, and the diagnosis remained in doubt. After five weeks the patient was transferred to the care of one of us in the Royal Infirmary, Glasgow. He remained there for four weeks, and was then sent home to complete his convalescence. There is a record of the temperature over a period of six weeks, commencing within one week of the abrupt onset of the illness. The fever was of an undulant type, with three distinct febrile periods, each of which lasted from five to seven days, and several ill-defined attacks of lesser intensity. The intervals between the attacks were not entirely afebrile, for the rectal temperature was above normal at some time during each day, even though on some occasions the skin temperature was not elevated.

The clinical course of the case showed few striking features apart from the fever and the rigors which accompanied its exacerbations. The only subjective symptoms noted were malaise, headache, and pains in the limbs during the febrile periods. The appetite and digestion were good, and the patient slept well. Sweating was moderate, but never excessive. During the initial stages of the illness, before the patient came under our observation, there had been slight dullness and increased vocal resonance over the left lung. There was enlargement of the inguinal, axillary, and cervical glands, which persisted until about the fifth week, but no enlargement of the liver or spleen was noted at any time. Physical examination revealed no other abnormality. Blood counts showed a persistent relative increase of lymphocytes and large mononuclear leucocytes, but the total white cell count never exceeded 11,000 per cubic millimetre.

In view of the peculiar type of fever present, and the patient's association with cattle, the possibility of infection with *Brucella abortus* was considered. A Widal test on the patient's blood serum gave a negative result for typhoid and paratyphoid, but showed a strongly positive reaction for *Br. abortus*. This test was repeated on several occasions, with the following results.

**Agglutinin Titre of the Patient's Blood Serum.**—August 5th: Titre for *Br. abortus* (a standardized emulsion from the Oxford Laboratories) = 1 in 2,560. August 9th: Titre for *Br. abortus* = 1 in 2,560. Titre for *Br. melitensis* = 1 in 2,560. August 20th: Titre for *Br. abortus* = 1 in 1,600. August 29th: Titre for *Br. abortus* = 1 in 800. A further sample obtained on October 26th, two months after recovery, had a titre for *Br. abortus* of 1 in 800.

**Agglutinin Absorption.**—An emulsion of *Br. abortus* removed completely the agglutinins of the homologous organism, but not entirely those for *Br. melitensis*. Conversely, an emulsion of three serological strains of *Br. melitensis* removed all agglutinins for *Br. melitensis* and *Br. abortus*.

Blood cultures, taken on three occasions (August 2nd, 9th, and 20th), were all negative. The urine and faeces were examined and cultured repeatedly, but no growth of *Br. abortus* was obtained. Guinea-pigs, injected with the patient's blood and with three consecutive specimens of his urine, failed to show any agglutinins in their blood or any post-mortem evidence of infection with *Br. abortus* when killed six weeks later. Portions of axillary gland, removed from the patient shortly after admission to hospital, were sterile on culture. Histological examination of the gland tissue by Dr. Alice J. Marshall showed only lymphatic hyperplasia.

A diagnosis of *abortus* fever was made on the following grounds: (1) The presence of an undulant fever. (2) The presence of a high agglutinin titre (1 in 2,560) for *Br. abortus*, and the absence of a positive Widal reaction for the typhoid-paratyphoid group. (3) The absence of clinical, bacteriological, and serological evidence of any other infection likely to cause an undulant fever. (4) The patient's close association with cattle.

The absolute confirmation which isolation of the organism would have afforded is lacking, but the evidence seems sufficient to justify the diagnosis of *abortus* fever.

## Memoranda:

## MEDICAL, SURGICAL, OBSTETRICAL.

## SOME DISEASES OF THE MOTORIST.

THAT the motor car is playing no small part in the etiology of diseases of widespread nature is daily becoming more apparent. Mr. Bertwistle's account of motorist's heel in the *Journal* of November 9th, 1929 (p. 855), has prompted me to look up records of those of my patients whose symptoms were referable to their activities as motorists.

I have notes of several cases of neuritis in the right arm. In every case the patient had been driving a small touring car for considerable distances in cold weather. The protection of the windscreen was insufficient to prevent a constant blast of cold air impinging on the right shoulder. The insertion of a thick plate of leather into the coat at this point proved effective in abolishing the painful symptom. Right-sided conjunctivitis, again, is common in drivers of the small touring car, and responds to no treatment until driving goggles are worn.

An interesting case came to my notice a few years ago of a veterinary surgeon whose work involved much motor-ing; his car had a central gear lever. He complained of shooting pain in the left leg and dragging of the left foot. He had noticed that when his foot was on the clutch pedal contact of the leg with the gear lever produced pain like that of an electrical shock passing down the limb. This he attributed to the presence of a short circuit. His explanation was, of course, untenable, the true one being that, with the leg in the posture to which he referred, the common peroneal nerve in its course round the fibula was pressed upon by the knob surmounting the gear lever. Repeated trauma of this nature had resulted in persistent tenderness of the nerve, with marked weakness of the muscles which it supplied. Careful padding of the top of the gear lever resulted in early disappearance of symptoms.

Two patients suffered from the effects of cranking-up the old-fashioned type of Ford car in cold weather. The first, a man aged 21, had been exerting himself on the starting handle for ten minutes before success crowned his efforts. The same evening his right leg felt "queer," and he became alarmed when he found that the temperature of his morning cold bath was not appreciated by this limb. On examination I found that the pain and thermal sense were lost over the right leg and thigh and the right side of the abdominal wall for an inch above Poupart's ligament. The outer border of the foot and knee and the lower external surface of the leg were normal in respect of sensation. The sense of position and appreciation of touch were unaffected. The reflexes and cerebro-spinal fluid were normal; the Wassermann reaction was negative. Within seven days the dissociated sensory loss was reduced to the skin of the thigh, and two weeks later no abnormal signs could be discovered. There has been no further symptom in the intervening five years. Presumably an intraspinal haemorrhage had resulted from rupture of a blood vessel during the excessive physical effort.

The second case occurred in a man of 30, who had had similar difficulty in starting the engine. At the last few swings of the handle he felt a bursting sensation in his chest, and then a violent thud, as if he had been struck. At this point he fell to the ground. I found him collapsed, with faint heart sounds. As improvement developed, a loud aortic diastolic murmur became audible and persisted over the next three years, after which time I lost touch with him.

The real point of interest lies in the fact that this last patient was a perfectly fit man before he tackled the "gummed up" pistons. I had examined him at an earlier date for life insurance and found no traces of abnormality. He was highly athletic, playing football and sculling frequently. There was no history of rheumatic fever, growing pains, etc. The Wassermann reaction of the blood was persistently negative. There seems no escaping the fact that this was a true case of rupture of a healthy valve cusp.

London, W.1.

A. H. DOUTHWAITE, M.D., F.R.C.P.

**Sale of Poisons as Disinfectants.**—Mr. CLYNES told Lord Fermoy, on January 27th, that his attention had not been called to the increasing sales of poisons in the form of disinfectants. The report of the Departmental Committee on the Poisons and Pharmacy Acts was expected shortly, and would be laid before Parliament. Under the existing law he had no power to add to the schedule of poisons, such powers being vested in the Pharmaceutical Society, whose action had to be approved by the Privy Council.

**National Health Insurance.**—Lord ELMLEY asked Mr. Greenwood, on January 23rd, whether in the case of men who had been insured under the National Health Insurance Act for three years or more he would consider abolishing the existing period of three days before any benefit could be drawn. Mr. GREENWOOD replied that payment of sickness benefit from the first day of incapacity, instead of the fourth, might be made under the present law where an approved society was able to make the necessary financial provision out of a disposable surplus and the members decided to do so. Any general abolition of the normal waiting period of three days would necessitate an increase in the contributions, and would entail difficulties in administration. He was not aware that there had been any demand for such a change from the societies.

**Registration of Nurses.**—Mr. GREENWOOD, replying to Dr. Morris-Jones on January 23rd, said he did not intend to introduce legislation to amend the Nurses Registration Act, 1919. Dr. MORRIS-JONES asked if Mr. Greenwood knew that dissatisfaction had been expressed by representative organizations against recent decisions of the General Nursing Council. Mr. GREENWOOD answered that there might be dissatisfaction, but there were many more pressing subjects for legislation. Dr. MORRIS-JONES further asked Mr. Greenwood to draw the attention of the General Nursing Council to their duties and to the Act. Mr. GREENWOOD said he must assume the Council was familiar with the Act.

**Inflammable Films in Cinemas.**—In reply to Dr. Forgan, Mr. CLYNES stated, on January 23rd, that in the present state of development it was not feasible, on technical grounds, to forbid the use of inflammable types of films in cinema theatres, but that present regulations, properly carried out, reduced the risks to a minimum. If investigations into the recent Paisley disaster showed that these regulations required amendment at any point, immediate action would be taken.

**Medical Examination of Young Persons at Sea.**—On January 28th Miss BONDFIELD informed Sir Basil Peto that the draft convention relating to the compulsory medical examination of children and young persons employed at sea, adopted by the International Labour Conference at Genoa in July, 1920, had been ratified by twenty-one countries, including Great Britain, Canada, and India.

**Opium Consumption in Calcutta.**—Mr. WENWOOD BENN, replying to Major Pole on January 27th, said the consumption of opium per 10,000 of the population in Calcutta was 86 seers in 1928-29. The League of Nations standard of the limit of legitimate consumption per 10,000 of the population was suggested for the medical and scientific requirements of countries possessing a highly organized medical system. It had little applicability to the conditions of India, and was equivalent to about 6 seers per 10,000.

#### Notes in Brief.

Mr. Clynès is considering the question of extending the Metal Grinding (Silicosis) Scheme under the Workmen's Compensation Acts to employment on the machines known as Slack's machines, and hopes to come to a decision within a fortnight. Representations on the subject had been received from Sheffield workers and employers.

The commitments of the Government render the introduction of legislation dealing with excessive noise caused by faulty machinery, sirens, hooters, and mechanical appliances impracticable. Other considerations than those of public health would also arise in such legislation.

## Universities and Colleges.

### UNIVERSITY OF OXFORD.

At a congregation held on January 23rd the degree of B.M. was conferred on G. Secker-Walker.

### UNIVERSITY OF CAMBRIDGE.

A. B. APPLETON, M.D., University lecturer in anatomy, has been elected to a non-stipendiary Fellowship at Downing College.

At a congregation held on January 24th the degrees of M.B., B.Chir., were conferred on E. L. Graff, J. I. Sapwell, and T. K. S. Lyle, and the B.Chir. on C. D. Politeyan.

### UNIVERSITY OF MANCHESTER.

Dr. E. St. G. GILMORE has been appointed an assistant lecturer in bacteriology.

### CONJOINT BOARD IN SCOTLAND.

The following candidates have been approved at the examination indicated:

**FINAL EXAMINATION.—Medicine:** E. T. Buck, W. H. Taylor, G. L. Chadha, B. W. Advani, R. K. Pal, K. Mikhail, M. D. D. Jaywardana, A. Paterson, J. A. R. Lavoipierre. **Surgery:** B. W. Advani, A. Paterson, J. A. R. Lavoipierre, N. Y. Labib, D. Millar.

**Midwifery:** H. O. Parkinson, W. H. Taylor, G. L. Chadha, S. J. B. Collins, T. Y. Bhide, R. T. A. Morrow, R. K. Pal, K. Mikhail, M. K. Thiruvilangam. **Medical Jurisprudence and Public Health:** J. P. Walsh, E. R. Fothergill, C. M. Douglas, H. W. C. Robertson, T. F. Kirkpatrick, L. Ahmed, A. W. Turnbull, J. T. M. Fenton-Fyffe, G. D. Morgan, G. L. Whitton, B. A. Armitage, H. L. Lucas.

Out of 76 candidates entered the following were admitted L.R.C.P. Edin., L.R.C.S. Edin., L.R.F.P. and S. Glas.:

W. S. Lee, M. Freed, D. P. Dow, J. Schwartz, J. Kinnear, O. V. Short, W. E. Faulkner, J. H. McGibbon, J. C. Coetzee, L. H. Abeyewardene, Margaret Leslie, T. G. Ward, E. O. Hagedorn, Florence L. M. Millard, H. S. Hamilton, G. Henderson, R. F. L. V. Harvey, G. R. Parker, P. van der Lith, I. El-Aroussi.

### SOCIETY OF APOTHECARIES OF LONDON.

The following candidates have passed in the subjects indicated:

**SURGERY.**—M. Asaad, L. P. Clarke, K. Graftdyk, H. W. Maurer, M. Naylor, M. S. Rappoport, Z. Risk, T. G. Robinson, F. A. Yarde. **MEDICINE.**—R. F. M. Child, V. J. H. Coidan, C. E. P. Davi s, W. J. D'Rosario, K. Graftdyk, C. B. Jennings, A. Kellner, C. Skinner, P. Somasunder.

**FORENSIC MEDICINE.**—T. Chandrasekharan, A. R. Edwards, E. A. Frey-wirth, C. B. Jennings, E. Lethem, P. Somasunder.

**MIDWIFERY.**—H. C. Halge, E. Jacob, F. Lethem, M. S. Rappoport.

The diploma of the Society has been granted to Messrs. R. F. M. Child, C. E. P. Davies, W. J. D'Rosario, A. Kellner, H. W. Maurer, T. G. Robinson, F. A. Yarde.

### BRITISH COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS.

A COUNCIL meeting of the British College of Obstetricians and Gynaecologists was held in London on January 21st.

It was reported by the honorary secretary that a large number of names had been received from the Dominions in regard to the election of Foundation Fellows and Members of the College.

Two memorandums, one on the use of anaesthetics in labour and another on maternal mortality, drafted at the request of the Ministry of Health, were submitted to the council by a special committee elected for the purpose; both memorandums were approved by the council.

It was agreed that the election of the council by popular vote shall take place in May, as foreshadowed at the annual meeting held in December last.

## Medical News.

THE annual dinner of past and present students of the Royal London Ophthalmic Hospital will be held at the Langham Hotel, Portland Place, on Thursday, February 13th, at 7 for 7.30 o'clock. The chairman will be Mr. J. Herbert Fisher, consulting surgeon to the hospital. The price is 15s. (excluding wines). An early reply is requested to Mr. Rupert Scott, 70, Harley Street, W.1.

PROFESSOR FRANCIS R. FRASER will give an address entitled "Before the finals; and after," at a meeting of the Metropolitan Counties Branch of the British Medical Association to be held in the Association's House, Tavistock Square, W.C., on Tuesday, February 11th, at 5.30 p.m. Fourth and fifth year students and recently qualified practitioners are cordially welcome. Tea and coffee will be served at 5 o'clock.

THE next quarterly meeting of the Royal Medico-Psychological Association will be held on February 4th at the David Lewis Colony, Warford, near Alderley Edge, Cheshire. Papers will be read by Dr. Alan McDougall, Dr. Richard Handley, and Major D. E. Dhunjibhoy.

AT a meeting of the Pharmaceutical Society of Great Britain, to be held in the lecture theatre of the society's House, 17, Bloomsbury Square, W.C., on Tuesday, February 11th, a lecture, illustrated with lantern slides, will be given at 8.30 p.m., by Dr. T. G. Hill, professor of plant physiology in the University of London, on the biologic factor in plant anatomy. Scientific friends of members will be welcomed.

THE opening meeting of the winter session of the South-West London Post-Graduate Association will be held at St. James's Hospital, Ouseley Road, Balham, S.W., on Wednesday, February 5th, at 4 p.m. Dr. R. G. Canti will demonstrate his cinematograph film on the biological aspect of radium. Tea will be served at 3.30.

THE Fellowship of Medicine announces that Professor Hugh MacLean will lecture in the House of the Medical Society, 11, Chandos Street, W., on Tuesday, February 4th, at 4 p.m., on the present position of gastric physiology and its bearing on gastric diseases. On February 6th, at 5 p.m., Mr. E. T. C. Milligan will demonstrate rectal cases at St. Mark's Hospital; and on Saturday, February 8th, Dr. Batty Shaw will demonstrate allergic pneumonia in the theatre at the Brompton Hospital for Consumption. There is no fee for attendance at this lecture or these demonstrations. From February 4th to March 1st (on Tuesdays and Saturdays), at 11 a.m., Dr. Porter Phillips and members of his staff will give lecture-demonstrations at the Bethlem

Royal Hospital. From February 10th to 21st, a special course in gynaecology will be held at the Chelsea Hospital, occupying some afternoons and some mornings. From February 11th to March 6th, on Tuesday and Thursday afternoons, at 2 o'clock, a course will be held at the Hospital for Tropical Diseases, by Dr. Carmichael Low and Dr. Philip Manson-Bahr. A four weeks' course in dermatology will be conducted at St. John's Hospital for Diseases of the Skin, from February 17th to March 15th, consisting of instruction in the out-patient department in the afternoons and evenings, and a series of lectures twice a week. Practical pathological demonstrations can be arranged if desired. A comprehensive course in diseases of children will be held at the Children's Clinic, in association with several other hospitals, from February 24th to March 9th. An afternoon course, consisting of demonstrations on the diagnosis and treatment of the eye, will be conducted at the Royal Eye Hospital from February 24th to March 8th. Copies of all syllabuses and of the *Post-Graduate Medical Journal*, with information regarding the general course of work at the associated hospitals, may be obtained from the Secretary of the Fellowship, 1, Wimpole Street, W.1.

THE West London Medico-Chirurgical Society will hold a cinematograph demonstration in the out-patients' hall of the West London Hospital, Hammersmith, on Friday, February 7th, at 8.30 p.m., when films will be shown of (1) William Harvey and the circulation of the blood, and (2) the mechanism of the brain (Pavlov).

THE Minister of Health and the Minister of Labour received a deputation on January 22nd from the Trade Union Congress General Council on the subject of social insurance. Mr. A. Hayday, M.P., drew the attention of the two Ministers to the following resolution passed at the Trade Union Congress held at Belfast in September last: "This Congress resolves that the Government be requested to appoint a commission of inquiry with a view to consolidating and merging the various contributory schemes of social insurance, to be administered by a department charged with the special duty of social insurance administration. Further, that the commission should also inquire into the various non-contributory social services for the purpose of reporting upon the possibility of reorganizing same." Mr. Hayday then referred to the anomalies inherent in the present piecemeal methods of administration, and expressed the hope that the inquiry proposed in the resolution would be undertaken. The Minister of Health said that the Government realized the need for an inquiry into the possibility of co-ordinating the national social services, but the subject was so large that he felt the inquiry could only be undertaken by the Cabinet itself. A Cabinet Committee had been appointed with wide terms of reference to make this investigation, and was already at work. The Minister of Labour said that any suggestions from the T.U.C. General Council would be carefully examined by the Cabinet Committee.

THE sixth annual report of the Ella Sachs Plotz Foundation for the Advancement of Scientific Investigation gives details of the twenty-four grants made during 1929. In the six years of its existence the Foundation has made ninety-five grants, aiding those engaged in scientific research in Europe, Asia, and Africa, as well as in America. Two of the recipients of grants during 1929 were British. Applications for grants tenable during the year 1930 to 1931 should be sent before May 1st to Dr. J. C. Aub, Huntington Memorial Hospital, 695, Huntington Avenue, Boston, Massachusetts.

REFERENCE was made in our columns on November 16th (p. 907) to a paper read by Dr. Cuthbert Dukes before the Society of Public Analysts on the subject of the heat resistance curve: a new bacteriological test for pasteurized food. His paper has now been published in the January issue of the *Analyst*.

DR. DONALD MCINTOSH JOHNSON of Bury was called to the Bar at Gray's Inn on January 27th.

GEHEIMRAT SPATZ has recently resigned the editorship of the *Münchener medizinische Wochenschrift*, which he had held for forty-four years, and has been succeeded by his son, Dr. Hans Spatz.

WE are informed by the directors of the Carlsbad Post-Graduate Medical Course that the next (twelfth) course will take place from September 14th to 20th, 1930. Particulars may be obtained from the director, Dr. Edgar Ganz, Carlsbad, Czechoslovakia.

DR. PAUL RAVAUT, physician to the Hôpital St. Louis, has been elected a member of the Académie de Médecine.

THE following appointments have recently been made in the Lille Faculty of Medicine: Dr. E. Doumer, professor of therapeutics; Dr. Duhot, professor of therapeutic hydrology and climatology; and Dr. Ingelrans, professor of morbid anatomy and general pathology.

## Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **THE EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

THE **TELEPHONE NUMBERS** of the British Medical Association and the *British Medical Journal* are MUSEUM 9361, 9362, 9363, and 9364 (internal exchange, four lines).

THE **TELEGRAPHIC ADDRESSES** are:

EDITOR OF THE *BRITISH MEDICAL JOURNAL*, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Mediscera Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

## QUERIES AND ANSWERS.

### OSTEITIS DEFORMANS.

"H. G." asks for suggestions as to the treatment of Paget's disease of bone in a case of three years' duration. Has light therapy been tried, and, if so, with what results?

### INTESTINAL FLATULENCE IN THE AGED.

"NEMO" writes: I should be grateful for suggestions for the relief of flatulence, particularly in the large bowel, in a patient, aged 80, who has cardiac disease, is an old asthmatic, and has visceropneumonia. Most drugs have been tried without effect; even charcoal and the flatus tube do not afford relief. The patient is fairly well except for this distressing distension, which occurs mostly in the evenings. There is no obstruction in the bowel.

### EFFECT OF TROPICS ON MENORRHAGIA.

DR. MARY N. Fysh (Whitstable) writes in reply to the inquiry in the *Journal* of January 25th (p. 177): My experience in Ceylon was that menorrhagia was made much worse by residence in the low country, and I should say that any patient suffering in this way should be advised against going to the tropics.

### THE ETERNAL COLD QUESTION.

MR. W. S. T. NEVILLE (Harrogate) writes: In answer to the inquiry of "H. H." (January 18th, p. 133), his colds are probably due to an ethmoiditis. The only sure way of diagnosing the cause is to have an x-ray photograph taken by one who owns a Potter-Bucky screen. Without this, sinus x-rays are not clear. The septum operation would not benefit him if he had sinusitis also.

DR. A. E. DRUITT (Southampton) writes: I submit that the constantly recurring colds may be due to a chronic pharyngitis assuming the subacute form whenever so provoked by a gastric catarrh; that this gastric catarrh (manifested perhaps only as "a cold") should be prevented by abstaining from tea, coffee, and cocoa, fried foods, and pastries; alcohol in all its forms should be avoided, and, in fact, no drink should be taken at any meal excepting milk and thick soups. Water, however, or lemonade should be freely drunk between the meals, and an evacuation of the bowels obtained twice daily—that is, once every twelve hours. A tablespoonful of plain bran with the morning or evening meal, or both, should be sufficient to overcome all tendency to constipation, provided other dietetic rules are observed, such as the free eating of fruit at morning and evening meals; of vegetables at the midday or evening meal, without fruit; and avoidance of excess of flesh foods.

"B. H." writes: Since "H. H." suffers from colds from November to March this might be due to insufficient ventilation. It is astonishing the number of houses which are kept hermetically sealed during the winter months: windows are painted up, to prevent their ever being opened; doors are kept shut and heavily curtained; fireplace chimneys are also blocked up. Free ventilation by day and night is highly necessary. If a change of climate is possible mountain air is the best—better even than sea air. "H. H." need not be in a room with open windows; these can be shut when he comes in and opened while he is out. For the rest, avoid being with people with infectious colds and see that all underclothes and sheets are well aired. When clothing has been worn it becomes very damp and should be hung by the fire. A bedroom gas-fire is a necessity. Otherwise clothing is taken off at night warm and damp, and put on in the morning cold and damp.