REMARKS

ON

PROPER AND IMPROPER BURIAL, WITH AN
EXAMINATION OF THE CLAIMS MADE
FOR CREMATION.

BY SIR FRANCIS SEYMOUR HADEN, F.R.C.S.ENG.,

THE present communication is intended to be in no way controversial. In 1875—nearly a generation ago—it will be recollected by some and necessarily forgotten by many, that I wrote certain letters to the *Times* in deprecation, alike, of the serious but readily removable abuses which disfigure our cemeterial system, and of the dangerous and wholly insufficient resources of cremation as a suggested substitute for it. To-day, without the least intention of reviving a discussion which, in the face of combination, the attractions of the advertisement, and the methods of the newspaper, I have found to be useless, I do nevertheless desire—and that in the columns of a press which is alone competent to deal with the subject on its technical side—to leave behind me such an epitomised version of my share in the matter as I care to be permanently identified with.

I had hoped to be able to do this without any reference whatever to the statements which cremation relies upon to advance its interests. I have not found that possible. Some sort of visible connection between the statements made on one side and the other has proved to be necessary to an intelligible comprehension of either of them, and this all the more that, while some of my own have been both written and printed, others of them, though written and sent to the press, have not as yet been permitted to see the light. I have therefore taken care to preface each pronouncement of my own by the cremationist statement which called it forth, and of course to reverse the order of precedence when the fact happens to have been the other way.

I may also state that my object in choosing the present moment for this final record of my views has been the delivery by Dr. G. V. Poore of the Milroy Lectures, and their reproduction both in the *BRITISH MEDICAL JOURNAL* and *Lancet*. For some such summary of the scientific aspects of the case—though hardly expecting it to come in my own time—I have in a sense been long waiting. I had, of course, not seen the lectures or had any knowledge of the form they would take; and if, now that I have seen them, I find myself venturing to take exception to certain details of terminology which appear to me to impair their value, I may say at once that such details in no way affect the authority of their conclusions, with which it will be seen I am heartily in accord. Nor am I, I trust, unduly elated to find those conclusions, while confirmatory of my own views, altogether out of harmony with the alarming pronouncements of the *Times*.

I have nothing, however, to say against the *Times*. My relations with it have been of the very best all my life, and they are not likely to alter now because it happens to have changed its editor and the editor the views of the paper.

THE CASE FOR CREMATION.

On January 12th, 1875, I wrote in the *Times* as follows:

"Interment, the apostles of cremation tell us, in substance if not in terms, and speaking of it in its most comprehensive sense, is repulsive in idea, costly and ineffectual in fact, horrible in practice, a vilification of the dead, and a danger to the living. In a variety of publications which have excited much attention, they denounce not any particular mode of interment or any palpable abuses which they recognise as having crept into the practice to discredit it, but the practice itself. They take no notice of the fact that the dead are little more than nominally buried, and that, by the interposition between them and the earth that should resolve them, of such media as wood, lead, brick, and the like, interment as a principle is rendered all but nugatory and as a practice deprived of its *raison d'être*. Finally they leave it to be inferred, since they give us no hint to the contrary, that the evils thus created are inherent in the principle of interment, and upon this inference and upon no other ground found their recommendation of cremation."

THE CASE FOR PROPER BURIAL.

"The case for earth burial may be thus summarised:

1. The natural destination of all organised bodies that have lived and that die on the earth's surface is the earth.
2. The evils supposed to be inseparable from the principle of interment are independent of that principle and of our own creation.
3. The source of these evils is to be found, not in the burial of the dead, but in the unreasoning sentiment which prompts us to keep them unburied as long as possible, and then to bury them in such a way that the earth (or rather the air) can have no access to them.
4. The principle of burial supposes the resolution of the body by the agency of the earth to which we commit it, and that the earth is competent to effect that resolution, and to effect it innocuously.
5. To seek to prevent the beneficent agency of the earth by enclosing the dead in imperishable coffins, brick graves, and vaults is in the highest degree irrational, since it engages us in a vain resistance to an inevitable dispensation, and has led us to accumulate in our midst a vast store of human remains in every stage and condition of decay.
6. Unwarned and undeterred by the magnitude of the evils we have thus ourselves created, we are still engaged in extending and perpetuating them.
7. Were the dead only properly buried, not one of those evils would have any existence, not a single dead body would remain to encumber the soil, and a quantity of land of incalculable value, now hopelessly alienated, would be liberated for purposes of hygiene or of utility.
8. The remedy for such evils is, therefore, not in cremation, or in any of the alternatives that have been proposed for burial, but in a sensible recognition of, and a timely submission to, a well-defined law of Nature, and, since some of these alternatives are dangerous, in legislative action to enforce the provisions of that law.
9. The claim that earth has upon its dead, no less than that which the dead have upon the earth, is in short a proposition too obvious to merit discussion. To understand it we need only consider the properties with which the soil at our feet and everywhere at our disposal has been endowed; that it is the most potent disinfectant known, and the readiest of application, and that, by a combination of forces inherent in it which might well appear contradictory but for the wonderful purposes they are destined to effect, it is resolute and reformative as well; that that which under the influence of the air was putrefaction, in the earth is resolution; that which was offensive becomes inoffensive; that which was mere decay a process of revivification. To question the competency of the earth, thus endowed, to effect the resolution and conversion of its dead, or to fail to perceive and profit by that competency, would pass comprehension if habit had not taught us to shut our eyes to it, and if the advocates of cremation had not stepped in to tell us that we may improve upon it."—*Times*, January 12th, 1875.

STATEMENT BY THE "TIMES."

On December 22nd, 1897, the *Times*, in a leading article in favour of cremation, wrote as follows:

"By the act of interment," says Sir Henry Thompson, "we literally sow broadcast through the land innumerable seeds of pestilence which long retain their vitality, many of them destined at some future time to fructify in premature death or ruined health to thousands."

SIR SEYMOUR HADEN'S ANSWER TO THIS.

My commentary on this remarkable statement was in these terms:

If this statement is true, the whole cosmical fabric on which our knowledge of the world we live in rests must be untrue, and the earth, instead of the resolute and disinfectant of all forms of organic decay accruing in the course of Nature to its surface no better than a mine at our feet charged with the elements, not of our well-being but of our destruction.

Our now established habit of stamping out cattle plague without fear of its recrudescence by simply burying its infected carcasses in shallow trenches, with or without quicklime, must be regarded as a myth; and the stay of the Great Plague itself (never to return by casting any number of its unconfined victims into pits extemporised in the open streets for the purpose), but an historical figment.

STATEMENT BY SIR CHARLES CAMERON.

On August 19th, 1898, in a second leading article, as if to

justify the extraordinary statement to which I have referred, the *Times* drew attention to a recent pronouncement made at Dublin by Sir Charles Cameron (also a member of the Cremation Society) to the following effect: That it had been borne in upon him that the infection both of diphtheria and typhoid fever was in some way or other connected with the soil.

SIR SEYMOUR HADEN'S ANSWER TO IT.

To this I replied, October 3rd, 1898, in a letter (which, however, was not inserted) as follows: "That as far as I knew there existed no ground whatever for any such statement; that by common consent typhoid fever owed its convection to overcrowding, filthy surroundings, squalor, starvation, and the actual contact of one poor unwashed, fever-stricken skin with another—in a word, to infection, or contagion, or both;" and if I had seen at the time Dr. Poore's Milroy Lectures, I might have added of diphtheria: "(1) That its bacillus had not as yet been recovered from the soil; (2) that out of thirty collected examples of soil from areas likely to be infected, not a single *bacillus typhosus* had been found in one of them; (3) that, according to Koch and Loesner, it had, in fact, never yet been found outside the human body; and (4) that, so far from being found in the earth, 'virgin soil' so-called was fatal to it."

All infectious diseases, I declared, divide themselves into two great groups or classes—one which derives its origin from surface water as a carrier of the morbid agent; the other from actual contact of one case with another in the open air. Again, the first of these classes is itself subdivisible into two distinct types of disease—one which depends on putrescent vegetable exhalations from marsh lands, and which includes within it all those forms of febrile disturbance known as malarial; the other which, like cholera and choleraic diarrhoea, depends on the actual introduction into the intestinal canal, by means of surface water, of the *dejecta* of patients affected with the same disease. Burial, therefore, four feet below the soil can have nothing whatever to do with any of those forms which constitute, as I have said, the first class of infectious disease. The second, and by far the larger class again, and which comprises small-pox, measles, whooping-cough, typhus, scarlet fever, diphtheria, etc., owes its propagating power to the actual contact or close contiguity in the open air of one patient with another. That class, therefore, has no connection with either soil or water, and being wholly independent of even the surface of the earth, can have even less to do with burial than the first class. To lump these two classes together, therefore, as, to help cremation, is now being done, is, to begin with, a scientific solecism of the most glaring kind, and, seeing how perfectly well known the superficial method of their propagation is, to suggest that they are spread when buried below the surface is a statement to all appearance in the nature of a direct appeal to popular ignorance and credulity. The zymotic death-rate, in fact, has nothing whatever to do with burial, only two out of the seven diseases which comprise it having ever been shown to depend in any way whatever either on soil or water.

THE "TIMES" AGAIN.

Meanwhile, as if determined not to give up its unsupported statement of December 22nd, 1897, the *Times* on April 12th, 1898, printed a letter from Sir Henry Thompson which contained the following story:

THE STORY OF THE BURIED COW.

Pasteur's success in dealing with anthrax is known to all..... Pasteur proved that the earthworms brought up the spores and not the bacilli themselves, which soon disappear from the buried corpse after the event. These spores long retain their vitality, and unless the body is cremated or is buried in a large quantity of quicklime, the disease will sooner or later appear when a favourable nidus presents itself. Pasteur examined the surface mould at the spot where two years before a cow, dead of anthrax, had been buried at the depth of seven feet, and observed germs which by inoculation produced anthrax in a guinea-pig. *This is an illustration, and amply suffices here, as one among the various ways in which "innumerable seeds of pestilence are sown broadcast through the land," a sentence characterised by my critical friend as "inflated phraseology," but it has at least the merit of being strictly true.*

SIR SEYMOUR HADEN'S COMMENTARY ON THIS STORY.

"Pasteur did not 'prove' that earthworms brought up from a depth of 7 feet the spores of anthrax: (1) because worms do not commonly burrow to such a depth; and (2) because the buried bacilli of anthrax do not live long enough in the earth to form spores. The bacilli here referred to, like mosses, fungi, and other plants of low organisation require for their growth carbon and nitrogen; water also and a certain temperature are necessary for the maintenance of their vitality. Like plants, also, by the disintegration of organic combinations containing nitrogen, they produce certain chemical products, and, as fungi, assist fermentation. They vary, too, as to the amount of atmospheric air they require, some of them, like the bacteria of anthrax, being unable to maintain their vitality without it, and some being able to do with little (the so-called aerobic and anaerobic bacteria of Pasteur). Like other plants, again, some are reproduced by spores, or seeds. When, by a linear arrangement of their primitive cells, bacteria grow like rods, they are called, as every one knows, bacilli. Anthrax is a bacillus of this kind, and being, like *bacillus septicus*, what is called anaerobic, dwindles and dies when deprived of air. If therefore the body of an animal which has died of anthrax is buried entire—that is, without being opened, the bacilli which characterise this form of disease die with it, and notwithstanding state-

ments to the contrary, not only die with, or very shortly after, it, but are incapable of reproduction in an active form. The infection of anthrax cannot, in fact, as cremationists declare, be spread when so buried. When therefore it has been reproduced in fields in which cattle infected with the disease have grazed, died, and been buried, the fresh outbreak is owing not to the buried carcass but to the spores which have been left by the *dejecta* of the infected animals upon the surface of the field in question. Both Klein and Koch are fully agreed as to this, and Koch, in addition, has proved by direct experiment that the spores of anthrax are not, as Pasteur has stated, taken up by earthworms and deposited on the surface by their castings; and that the spores of anthrax bacilli, when mixed with earth in which worms are present, are not taken up by these creatures at all. Klein, indeed, carries these statements further, and says: "If bacilli grow in the depths of a fluid medium—in a medium, that is, but scantily supplied with air—they do not form spores, and at length degenerate, and, as the fluid dries up, this degeneration goes on till, finally, nothing is left of them but their debris. Such bacilli, of course, are quite innocuous when introduced into the tissues of animals, or into fresh nourishing media." Those, therefore, who have followed me in this statement—a statement examined, re-examined, and confirmed by the most eminent men to whom I have submitted it (and, as I have since understood, admitted by Pasteur himself)—will see how little reliance can be placed on the reports spread broadcast through the land by the advocates of cremation that by the act of interment we shorten human life!"

CREMATION AN ENCOURAGEMENT TO CRIME.

I now, and I trust for the last time, come to that part of the subject which no cremationist if he can help it is willing to hear mentioned, which the newspapers engaged in the cremationist propaganda are careful not to discuss, and which, whatever the momentary success which may attend (or appear to attend) the agitation of the question, will assuredly, sooner or later, provoke the repressive action of the law.

On April 25th, 1893, in his evidence before a Select Committee of the House of Commons, nominally on "Death Certification," but really largely employed to advance the interests of cremation, Sir Henry Thompson made the following admission (Q. 1125, 1139), namely: that, out of 393 bodies which he had up to that time burnt, he had thought it prudent, in "four or five cases," to take out and preserve the stomach, kidney, spleen, and a portion of the liver. Why? He had previously told the Committee that cremation, as he practised it, involved little or no risk, and the Committee, as is proved by their report, had believed him. Why, then, these precautions? Well might one of its members ask (1377, 1378) whether, if such an admission were "known" (sic), it would not put an end to cremation altogether! I ask, is it known? Have the votaries of cremation the least idea of any such proceeding as a condition precedent to a participation in its benefits? Is it duly set forth as such in the *Manual of Modern Cremation*, which they are invited to depend upon as their guide? Has it occurred to them that, in submitting the bodies of their friends and relatives to be thus dealt with, they have one and all more or less identified themselves with these four or five suspected cases, and that the day may come when, in the cause of justice, it may be necessary to obtain the names of those who thus figure as possible homicides? Why, again, confine these precautions to the detection of poison, as if poison were the only weapon of the murderer? And *cui bono*, when, having burnt the body, a stab in the back or a knock on the head, or a ligature round the neck, is beyond the possibility of discovery? And, again, if in the early part of 1893, 4 or 5 suspicious cases out of 393 had already been burnt, how many more, may I ask, has it been considered prudent to put under lock and key since then, when the number burnt amounts to 1,283? Is it possible that any Government in its senses, on the Report of a Committee composed largely of cremationists, that with the special precautions taken by Sir Henry Thompson "there was little probability that cases of crime would escape detection; still, that inasmuch as such precautions were purely voluntary, they ought in the interests of public safety to be enforced by law." Have they been enforced by law? Has the smallest notice been taken of this formal recommendation of the Committee? None whatever. The destruction of evidence still goes on. That such a thing can be done with impunity by a self-constituted private society would, if it were not a fact, be deemed incredible, and as such I respectfully bring it to the notice of the Home Secretary. Nor, having once embarked in so hazardous a business, do I blame the Cremation Society for taking adequate precautions against "accidents." But are they adequate? How can they be? That the Cremation Society

has all along been fully conscious of the risks it was running is proved by its own offer to make a *post-mortem* examination of every body it burnt. Why did it withdraw that offer, and adopt instead of it the disembowelling process I have described? By what process of ratiocination is it now satisfied with a certificate (given it may be by the murderer, as in the case of Dr. Cross and Mr. Palmer), and "verified" by a stranger to the case who, being called in to see the body, has nothing to go by but what the possible murderer chooses to tell him? That such a certificate is not worth the paper it is written upon is certain, and that it would be so regarded would appear by the evidence given before the Committee by Mr. Braxton Hicks the well-known coroner. My own evidence on the point is, meanwhile, as follows:

EVIDENCE OF SIR SEYMOUR HADEN.

3631. "And that (exhumation) you think, would be a protection against crime?—*I think it would be the best protection you could get against crime.*"

3632. "Then you would still have the body to be exhumed if necessary?—*Yes, certainly.*"

3633. "And on that account you would not approve of other methods of doing away with the body other than "earth-to-earth" burial?—*I should approve of no method of doing away with the body except such a method as admitted of its exhumation.*"

3634. "If portions of the viscera were retained, say the stomach and its contents, and portions of the liver and portions of the kidneys were retained, and the body cremated, would that meet your purpose?—*Certainly not; no such retention of those viscera would be sufficient. Poison, for instance, is not always found in the stomach and primary organs of digestion*"—nor, I might have added, is poison the only, or even the most frequent, resource of the murderer.

3635. "It would probably be in the liver or the kidneys, would it not?—*It might be and it might not.*"

3636. "You want the whole body, you think?—*I mean that it may be necessary to examine other organs than those you indicate. Such ultimate organs and tissues, that is to say, as are capable of retaining the poisonous agent.*"

3635. "You would not go so far as to require a *post-mortem* examination in every case?—In the case of *proper burial* I would not require a *post-mortem* examination. *In the case of every other method of disposing of the body I would absolutely require a post-mortem examination, and something more than a post-mortem examination—a medico-legal post-mortem examination.*"

3636. "You consider that would be absolutely necessary?—*Yes. I say that every attempt to destroy a body without such an inquiry would, in my opinion, be a criminal act.*"

3637. "Your opinion is, I think, that earth burial in the way we have referred to is also better from a sanitary point of view?—*Quite so. In a sanitary point of view it is perfect.*"

3638. "And does not in any way, you think, tend to spread infectious disease?—*Absolutely in no way whatever. Any state to the contrary is a statement which is not warranted by fact.*"

CONCLUSIONS.

The conclusions I have arrived at, therefore—many of them, I may say, forced upon me—are as follows:

1. That, owing to the one-sided statements put forth by the Cremation Society, a very general impression has been created that there is only one kind of burial, and only one remedy for it—cremation—a statement which is entirely misleading.

2. That this belief has been greatly assisted by the systematic suppression on the part of an influential portion of the press of all effectual answers to the cremationists' statements, and that in this way the country has become flooded with these unopposed fallacious statements.

3. That the Government, as represented by the divided authority of the Home Office and the Local Government Board and the London County Council, is equally to blame for allowing the abuses I have pointed out to go on, and is, therefore, to that extent responsible for the cremationist agitation.

4. That burial, as at present carried out in coffins which prevent the resolution of the body, is equally a reproach to the intelligence of the country, and to the Government which permits and even prescribes such a practice.

5. That to make the practice of burial perfectly harmless, and

to do away with all excuse for cremation, nothing more is necessary than to take the whole management of cemeteries out of the hands of the undertaker and the speculator, and to make it a matter of State or municipal regulation.

6. That while the earth, properly used, is capable of disposing of any number of dead bodies, and of disposing of them insensibly and with advantage both to its own substance and to the air above it, the practice of cremation, on a scale large enough to have even the slightest influence on burial either as a rite or as a custom, supposes the necessity not of one but of many furnaces, the use of which in or near towns no municipal authority would for a moment permit, and which, even in the open country, would cause such a consumption and carbonisation of pure air as to render (changes of wind considered) a large area in the neighbourhood of such vomitoria uninhabitable.

7. That the cremationist statement, as reported in the *Times*, that burial, however conducted, is "a propagator of infection and a cause of increase in the zymotic death-rate," is not only untrue but abundantly disproved by expert evidence from all parts of the country.

8. That there is no definite statistical evidence to show (a) that the general death-rate, or (b) the zymotic death-rate, or (c) the death-rate from any group of diseases, or (d) the death-rate from any single disease, zymotic or otherwise, has ever been affected by burial, even under the present objectionable conditions.

9. That the further statement, made in the *Times*, as to the number of exhumations practised and of murders discovered by them, is absurdly incorrect, unless Palmer's 6 cases are counted as 1, De Trouville's 7 as 1, Higgins and Flannigan's 10 as 1, Cotton's 20 as 1, Dr. Brouardel's 445 as 1, and so on.

10. That the statement in *Modern Cremation* (pp. 61, 62) which allows the reader to infer that, though "exceedingly rare in this country," it cannot be altogether denied, that premature burial is possible, while "with cremation no such catastrophe could ever occur," is fairly disposed of by the following question put to six of our most distinguished physicians and surgeons and their answer to it:

"As hospital physicians and surgeons of extended experience, has it ever occurred to you to see a case of so-called suspended animation or trance which, in your opinion, could be mistaken for death; and do you think, the present state of our knowledge and resources considered, that the occurrence of such a case, or of such a mistake, can be regarded as possible?"

"In reply to this question we desire to say that no case of the kind it suggests ever presented itself to any of us, and to express our confident belief that the dread of the possible occurrence of such a case is without support in the medical experience of this country; and further, that the signs of death are as certain after a few hours' suspension of the vital functions as they can be after many days.

"It would, we feel, be a matter of regret, and an indication of a low state of public intelligence, if the groundless fears to which our attention has been directed by Mr. Seymour Haden should hinder, for a moment, the adoption of an improvement in our social system, the importance of which cannot be overrated.

"GEORGE BURROWS, M.D.,

"President of the Royal College of Physicians.

"WM. FERGUSSON.

"WILLIAM W. GULL, M.D.

"WILLIAM JENNER.

"JAMES PAGET.

"THOMAS WATSON, M.D.

"London, March 13th, 1875."

12. That the destruction, therefore, by cremation, of all demonstrable evidence of the cause of death—of all such evidence, that is to say, as is only to be obtained by the exhumation of the body—is a danger to society, and an arbitrary act on the part of an irresponsible body of persons, which ought to be at once made the subject of competent investigation, and, if its dangerous character is recognised, to be declared illegal.

13. It would seem, in fact, that what is wanted is not a Bill to regulate cremation—which, on the contrary, as a measure of public safety ought rather to be at once declared a misdemeanour—

but a Bill to regulate and ensure *safe and proper burial*, which Bill, to be effectual, should, besides dealing with the whole subject of cemeterial management, contain the following provisions:

- (1) For burial within the earth as the only legal mode of disposing of a dead body.
- (2) For a limitation of time beyond which it should be illegal to keep a dead body unburied.
- (3) For the illegality of strong coffins, brick graves and vaults, and of all contrivances having for their effect to retard resolution, and to confer on the dead a tenure, practically illimitable, of the soil which is necessary to the purposes of the living.⁵

THE MILROY LECTURES.

The importance of these lectures as the first utterance of the kind in affirming by the aid of personal observation and collected facts the principles for which I have been contending for so many years, and as dissipating the fallacies which for too long a time have been allowed to possess the uneducated ear, is so considerable that I can do no less than accord them a distinguished place in the final record I am now making. If in his evident desire to be judicially fair Dr. Poore has somewhat attenuated the value of his own observations by giving undue prominence to those of others, this cannot be chargeable upon him as a fault. It is enough for the purpose of this record that he tells us in correction of the speculations of Sir Charles Cameron, of Dublin, that the bacillus of diphtheria like that of enteric fever has never yet been found in the soil; that the discovery of hæmatozoa in the blood has opened to us a new view of malaria as something altogether different from a soil disease; that the plague bacillus has never been met with beneath the surface; that it is not in the earth but in the air that we must chiefly expect to find the morbid particle (whatever that may be), and in the surface water, which is its readiest carrier to the soil, and, it may be, a little, but only very little, below it; that the *dejecta* of the patient, and the germs of anthrax and of tetanus, though found to have attained a lodgment within the particles of the earthy mass, form no part of its substance, and lose all their virulence when once there. In a word, that the enteric fever referred to by Sir Charles Cameron, so far from having its *nidus* in the soil, is, as I have stated, far more likely to have its origin in the actual contact, under conditions of filth and overcrowding, of one fever patient with another.

AD TERRAM.

For myself, however—and I am not sorry to have an opportunity of making the statement here—I am disposed, in the absolute belief which I have in the soil as the final correctant of every form of organic decay—and even of disease—accruing, in the course of Nature, to its surface, to go farther than Dr. Poore, and invest it with supreme power as such universal correctant—as the chief factor in the great cosmical design, in short—for this great purpose. Never, surely, was the cremationist farther at sea than when, in pursuance of his aims, he assumed the contrary, and, with the aid of the *Times*, went out of his way to proclaim it *urbi et orbi*. “By the act of interment we literally sow broadcast through the land innumerable seeds of pestilence, which long retain their vitality, etc., destined at some future time to fructify in premature death or ruined health to thousands!” Such is the statement which, in presence of a world's population which is ever-increasing, and an individual duration of life which is ever-extending, the public is seriously invited to believe, as if—for it means nothing less—the earth and its inhabitants were thriving on disease.

I can, in fact, see nothing more probable than that, as water, in the shape of rain, is chiefly concerned in cleansing and washing the germs of disease out of the air, so the earth, as the natural filter of such water, is the ultimate cleanser and disinfectant of both. In a word, that its beneficent office in this respect is the very opposite of the malevolent office which is imputed to it by the advocate of cremations.

Here, however, I find myself under the necessity of parting company (though only for a moment) even with Dr. Poore, seeing that, though we arrive at the same conclusions, we get at them by the aid of materials, which are

not the same, and by means of a language which does not convey the same thing to the educated ear. The point is an important one, because much of our misunderstanding of the power of the earth as a disinfectant has arisen out of it, and no small amount of capital hostile to its pretensions on this score has been manufactured out of it.

In his first lecture, for instance, Dr. Poore expressly tells us that when he speaks of earth he means *humus*—that is, of the earth of his kitchen garden, which is heavily laden with animal matter—while I have been making my experiments in the comparatively hungry soil of the park land which surrounds this house. In other words, while he has been burying animal matter in animal matter, I have been burying it in earth which nearly approaches the condition of what is called “virgin soil.” The results obtained by us are consequently not the same. My reason, however, for taking note of the difference is that while his proceeding represents “interment” in its worst form, mine represents it in its best; his in the form which I have especially condemned, and which is in fact made the groundwork of the cremationist objection to burial; mine in the form in which burial ought to be, and might be, carried out if cemeteries were only properly managed.

The language, again, which he employs, and which is that only too commonly used by the bacteriologist, is from my point of view objectionable because it encourages the popular belief that the body, even when properly buried, instead of re-entering the atmosphere insensibly and in every way inoffensively, is beset by a sort of nondescript borderland saprophytic fauna whose office it is to devour it—a reading which the cremationist of course goes out of his way to encourage, and which is really materially helped by the use of such terms as “the living earth” to signify nitrification, and of such a word as “hatched” to signify the germination of the saprophyte, which, I take it in common with Dr. Poore, is at best an organism little higher than the lichen or the fungus. Nor am I attaching too much importance to a carelessness of terminology which I believe began with Pasteur, because, while it imposes upon the popular ear, it is not without its effect even on our own—an effect which, in fact, is demonstrable. When Dr. Poore, for instance, digs down into the *humus* in which he has buried a rabbit and finds it “full of earwigs,” even he derives, *ipso facto*, a sort of warrant for his terminology; while I digging into my own graves, which I do once a year to determine the progress of nitrification and finding nothing of the kind, not unnaturally take exception to it. I have also another reason for objecting to it in the fact that seventeen years ago, when bacteriological science was comparatively young, I wrote a letter to a late very distinguished friend on the subject which, though only half serious, will even now bear repetition.

38, Hertford Street, Mayfair.
December 18th, 1882.

MY DEAR GULL,

I am glad to observe that what I have called the bacterial bugbear is beginning to moderate its pretensions as a general alarmist. Not that I disbelieve in “germs” and other entities equally occult and speculative, which by a pretty free use of Pasteur's term are being employed to shake our faith in the plan pursued by Nature for the resolution of dead matter since the world began. All I say is that, without being in a position either to affirm or deny the existence of these aggressive germs and the harm they are said to do, I should like to hear something of the friendly germs and the good they do. If it should come to be proved, which is possible, that the great operations of Nature, destructive as well as constructive, are carried on by germs, all I can say is that I am prepared to think as highly of germs as I do of chymical action, or of any other of those forces, physical or vital, by which Nature is pleased to work. I object, however, to their employment as missiles. I object to hear them spoken of as if they were creatures which prey upon us, and to have them hurled at us as Nemesis for our misdeeds, when, really, all we know about them is that the work they do is very like the work of ferments such as the yeast plant and other vegetable products of a similar character. I will be bound to say that if, at this moment, we canvassed public belief upon the point we should find nine-tenths of it in terror of all microbes not as plants but as predacious animals, the more formidable that they are invisible to all but the expert, and that—if we swallow them, as perforce we must—it is in the hope that by doing so we sterilise them—which, in fact, in nine hundred and ninety-nine cases out of a thousand I fully believe we do.

Yours,

F. SEYMOUR HADEN.

The reappearance of this letter in connection with the Milroy Lectures reminds me, however, of another thing which has amounted to a profession of faith with me for many years, and which I observe has not escaped the acumen of Dr. Poore

—the recognition, I mean, of the inherent power of the individual to resist, against the heaviest odds, the convection of disease—a power evidently immeasurably greater than that either of the *soi-disant* omnipresent microbe or of the artificial bacillus, however carefully it may be cultivated. I cannot but think, with every respect for the praiseworthy efforts of the bacteriologist to track the morbid particle to its lair, and to master it there with its own weapons, that room still exists for a larger faith in those provisions of Nature for our individual protection than we are altogether willing to accord to them. If it is really a fact that, with every drop we drink and every mouthful we eat, we are taking in enough of the active principle of disease to destroy a regiment, and that, notwithstanding, we not only escape infection but are perpetually diminishing the zymotic death-rate, I find myself, with Dr. Poore, obliged to accord a far greater value to this beneficent endowment of personal immunity than is commonly conceded to it.

NOTES AND REFERENCES.

¹ Mittheil. a. d. k. Gesundheitsamte, 1881. ² Klein, *Micro-organisms and Disease*, ch. xi, pp. 155, 156, Macmillan, 1886. ³ Haden, *Congress of Hygiene and Demography*, London, 1891. ⁴ It is to be remembered in this connection that as all things which have lived die and return to the earth, so the amount of decay which the earth is thus continuously and insensibly disposing of is exactly equal to the whole sum of life which is present upon its surface. ⁵ Since writing the above I see an announcement in the *BRITISH MEDICAL JOURNAL* of March 25th, that "at no distant period" and possibly by means of a limited liability company it is proposed to erect a completely equipped crematorium in the near neighbourhood of London.

A CLINICAL LECTURE

ON

SOME CASES ILLUSTRATING THE SURGERY OF THE STOMACH.

Delivered at University College Hospital, May 6th, 1899.

By ARTHUR E. BARKER, F.R.C.S.,

Professor of the Principles and Practice of Surgery and Professor of Clinical Surgery at University College; Surgeon to University College Hospital.

DURING the last few months it has fallen to my lot to have to do surgically with a group of cases of stomach disease which have taught me much, and it appears possible that a brief review of them may be of use to you. They arrange themselves as follows:

1. Gastrocolic gastroenterostomy, uneventful recovery
2. " " " " death
3. " " " " uneventful recovery
4. " " " " "
5. " " " " "
6. Pylorotomy " " "
7. Perforated gastric ulcer " " "

These are consecutive, and include all the gastric cases in which I have operated completely during the period named. Two other cases were admitted under my care in a moribund condition from perforated ulcer. In one I simply let out the abdominal gases to give immediate temporary relief; in the other the patient died within an hour of admission untouched.

Glancing at the gastroenterostomies in the first place, they were all done for carcinoma of the pylorus on patients of 55, 49, 29, 52, and 55 years of age respectively. The first two have already been briefly recorded elsewhere, and I will only say of them now that when last heard of they were well, and No. 2 had increased his weight from 8 st. 6 lbs. to 12 st. 4 lbs., and was following his calling in comfort. No. 3 made a perfectly uneventful recovery until the eleventh day, when he was seized with a sudden pain in the abdomen; the pulse was rapid, but the temperature did not rise but rather fell until death, which occurred the next (twelfth) day. The necropsy revealed a peritonitis of low intensity with a small amount of turbid fluid in the flanks and some in the pelvis. The surgical registrar, after the most careful search, failed to find any perforation. The gastroenterostomy opening was firm, perfectly watertight, and all that could be desired. The button lay in the stomach. The only suggestion which the surgical registrar could make in regard to the cause of the sudden peritonitis was that it had perhaps started from a

patch of congested colon which was found at the spot at which the latter would be likely to lie upon the button. His theory was that the compression of the colon between the abdominal wall and the button, as the latter rested on the vertebral column, had inflamed the coats of the viscus and thereby allowed of the passage of the septic organisms through its coats. This may be so; but I think the cause of the peritonitis must be admitted to be still doubtful. It does not, however, appear to have started from the anastomosis itself in any way.

In Case iv the only complication in an otherwise perfect convalescence was an aggravation of some bronchitis, from which the patient suffered at the time of operation. He had not passed the button when he left the hospital at the end of five weeks, but seemed to be none the worse for its sojourn. But yesterday he returned saying that it was giving him much trouble in the rectum, and I removed it with my finger. It had, therefore, been in the bowel forty-three days.

Case v made a perfectly straightforward recovery except for some stitch abscesses, and passed the button on the tenth day. In all these cases Murphy's button was employed, and gave considerable satisfaction. It was retained in one case, but appeared to give no inconvenience. In the four remaining cases it was passed on the fourteenth, twelfth, tenth, and forty-third days respectively. In all 5 cases posterior gastroenterostomy was employed (or, as it is perhaps better named, retrocolic gastroenterostomy), and contrasting them with half a dozen cases in which I have done the anterior operation of Woelfler I must say that the retrocolic seems to be preferable. At first sight it looks the more difficult procedure, but I cannot say that it appears to me now to be so after the experience of these cases. And the condition *qua* the emptying of the stomach without kink of the intestine is undoubtedly superior to that resulting from the anterior operation. When done with the button it takes but a short time, and there is not the same likelihood of the latter falling back into the stomach as when the opening is made in the anterior wall of the organ. But whether the use of the button is in all respects a distinct gain I confess appears to me still an open question. In the hands of a surgeon who has become familiar with its use, and also with the best methods of simple nature, I do not think there will be much difference in the time spent over the two methods; and undoubtedly the presence of such a large foreign body in the intestine or stomach is, to say the least of it, undesirable. In one case, as I have told you, it caused at all events much pain in the rectum, and in another it may possibly have been the cause of death. But this is not all. The largest button which can be used with safety in the jejunum leaves an opening which has been known to contract subsequently to a dangerous extent, while in the case of simple lateral anastomosis by suture the opening can be made as large as desired. Probably an incision of 2 inches is the best length for both stomach and intestine if the opening is to be large enough to allow of a certain amount of subsequent contraction.

In Case v, as you have seen, I performed pylorotomy five weeks after the gastroenterostomy. The patient is now, seventeen days after operation, before you, and gives every hope of a good recovery. She is eating solids with relish, and is steadily gaining the ground lost before the operation. I was induced to remove the pyloric end of the stomach in this case by the fact that at the first operation I found a very limited carcinoma of the pylorus with no adhesions and very little glandular infection. And as there was now a new gastroenterostomy opening of five weeks' standing from the stomach into the jejunum, which was working well, I felt that the simple removal of the end of the stomach and closure of the opening of the latter and of the duodenum without the lengthy and delicate operation of adaptation of the divided viscera to one another would not make too large a demand upon the patient's resources. Again, the patient and her husband were very anxious for the removal of the growth, and I knew from a study of the results of a large number of other operations that the duration of life after successful pylorotomies, even where recurrence ultimately takes place, is incomparably longer, as a rule, than where relief has been given by a gastroenterostomy. It is too soon to decide in this case whether recurrence will be early or late, but this much I have learned, namely, that to remove the end of the stomach when gastro-