shall probably modify its shape, as, with the forked and hinged stem I can, if necessary, adopt a ring or any other suitable pattern.

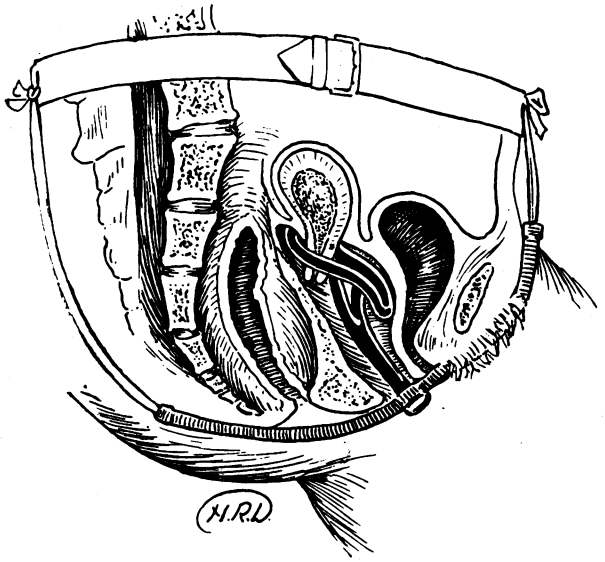


Fig. 2.—Prolapse, retroversion, and flexion, pessary in position.

The whole apparatus can be self-applied by the patient with very little instruction, and it can be easily cleansed. Old ulcerations, induced by friction from badly-fitting pessaries, or from external violence, are soon cured by the use of my instrument, as all pressure in the neighbourhood of the ulceration is removed. The size of the pessary, its length of stem, etc., can of course be modified to suit each particular case. My instructions and ideas have been carried out in a most satisfactory manner by Messrs. Krohne and Sesemann. Without encroaching too much upon valuable space, perhaps I may be permitted to quote one of my cases in which marked benefit has followed the use of my pessary:

Mrs. L., aged 54, mother of a numerous family, for years had suffered from prolapsus uteri in its worst form. Her occupation, standing nearly all day, much aggravated her condition. Numerous pessaries had failed, so that, in despair, she sometimes for days together used to perform her daily routine with the congested, ulcerated uterus completely outside her body. She came under my care, and for a time a ring pessary, specially made, and measuring 5 inches in diameter, gave relief. But then, as may be expected from such an instrument, bowels and bladder suffered; and, to add to her discomfort, despite daily douchings, a persistent foul-smelling discharge issued *per vaginam*. Even this pessary was frequently ejected at stool. For her case—a fairly typical one—my pessary was principally evolved, for surgical interference was emphatically refused. Nine weeks ago I inserted my ordinary-sized retroversion and prolapse pessary. In spite of my instructions I did not see her again until yesterday, when I found the following condition of affairs: First, there had been perfect comfort in bowels and bladder, whose functions had been normal; secondly there had been no shifting of instrument, and—consequently—no prolapse. Nightly, in bed, she had unfastened the tapes and belt, replacing them upon rising in the morning; thirdly, there had been since a few days after the pessary had been *in situ* absolutely no offensive discharge, so that she had even considered the daily douche unnecessary; and, lastly, not the least in importance, she earned her daily living in perfect comfort.

I could quote other cases, but to spare your space take the above history as a sufficient type. If those who give my instrument a trial will bear in mind that vaginæ vary in length, and that Messrs. Krohne and Sesemann will carry out any special instructions as to length of stem, etc.; they will ensure successful application, and consequently relief of symptoms. That my respected old master and friend, Dr. Robert Barnes, has inspected my instrument and kindly expressed his approval and the opinion "that it is a desirable addition to our obstetric armamentum," will not, I am sure, lessen its value in the eyes of the profession.

VICTORIA CENTRAL HOSPITAL, LISCARD.—This new hospital, which has been erected in commemoration of the Queen's Jubilee and the beginning of the twentieth century, was opened on January 1st fully equipped and free from debt. It contains two principal wards, each accommodating fourteen beds, and four private wards each holding three beds.

BILLS OF MORTALITY IN SOUTH AFRICA.

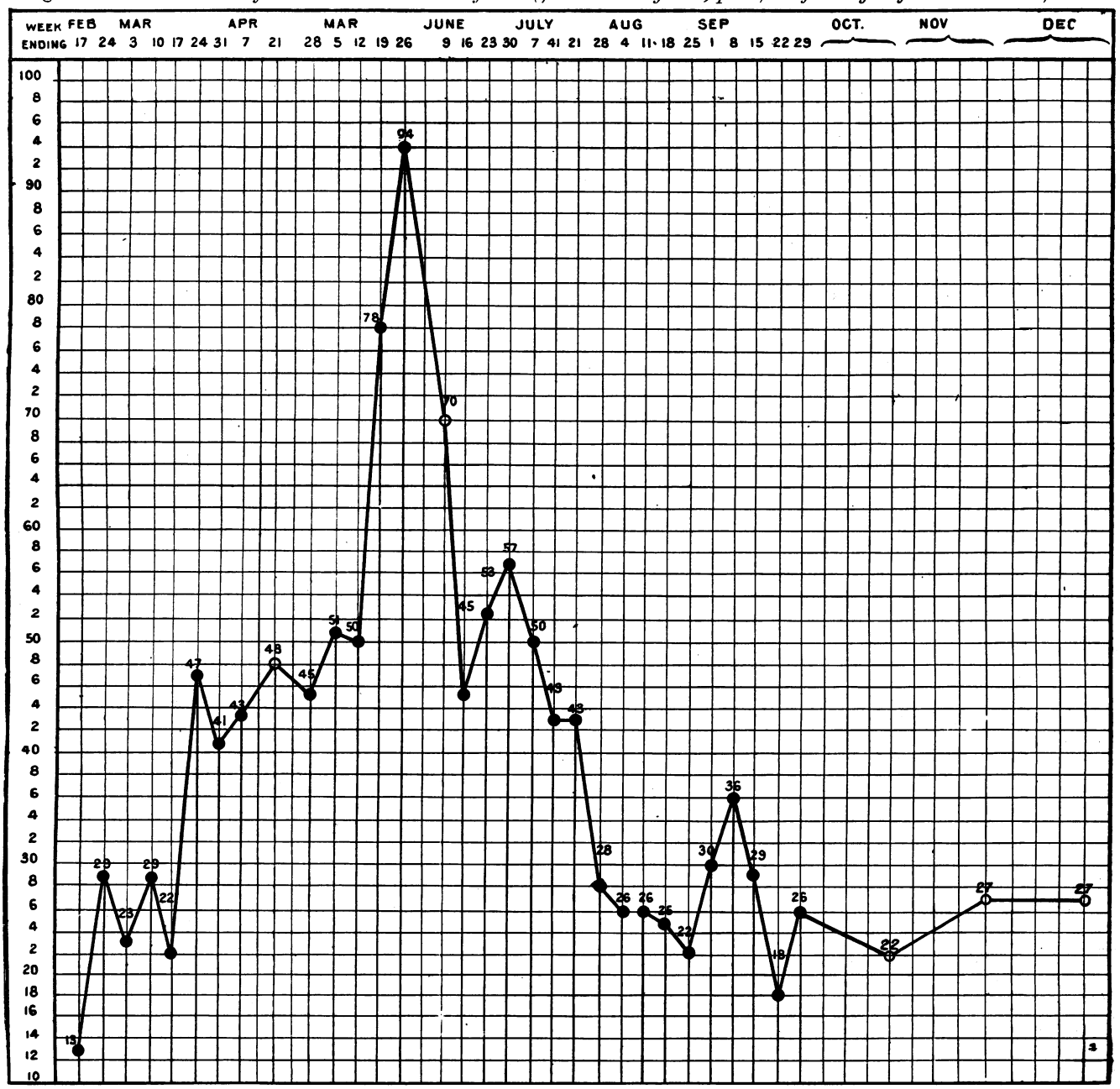
THE official tables issued during the past year as to casualties and deaths from disease in the Field Force in South Africa are not easy reading. It is of great importance, however, that they should be read and studied, and an attempt has therefore been made to rearrange and classify the returns, published weekly or monthly during the past year, in such a form that their full meaning and magnitude can be easily grasped. One difficulty in doing this is the variable strength of the army for which these returns have been made. On February 8th, 1900, Mr. Wyndham, then Under-Secretary for War, stated that the total of British forces of all kinds in South Africa was about 194,000. A return issued on December 6th gives the total strength on December 1st, 1900, of non-commissioned officers and men only as, in round numbers, 210,000. In the first total officers are included, but not in the second. In the following table it has been assumed that the strength of non-commissioned officers and men has been throughout 200,000. This assumption will imply that in the early part of Table I the death-rate from disease is somewhat understated, while in the latter part of the same table it is slightly overstated. The error, however, is probably but small, and Table I and the curve based upon it (Fig. 1) may be trusted as showing at least the general trend of and variation in mortality from disease between February 10th and the end of December, 1900, in the Field Force in South Africa.

TABLE I.—*Number of Weekly or Monthly Deaths from Disease among Non-commissioned Officers and Men in the South African Army.*

	Died of Disease.	Annual Death-rate per 1,000 of Strength.
In all preceding weeks of the war	514	
Week ending February 17, 1900	49	13
,, ,, 24 ,, ...	111	29
,, March 3 ,, ...	89	23
,, ,, 10 ,, ...	111	29
,, ,, 17 ,, ...	85	22
,, ,, 24 ,, ...	179	47
,, ,, 31 ,, ...	159	41
,, April 7 ,, ...	167	43
Two weeks ending April 21, 1900	368	48
Week ending April 28, 1900	175	45
,, May 5, ,, ...	196	51
,, ,, 12, ,, ...	193	50
,, ,, 19, ,, ...	302	78
,, ,, 26, ,, ...	361	94
Two weeks ending June 9th, 1900	538	70
Week ending June 16, 1900	173	45
,, ,, 23, ,, ...	203	53
,, ,, 30, ,, ...	219	57
,, July 7, 1900	194	50
,, ,, 14, ,, ...	165	43
,, ,, 21, ,, ...	164	43
,, ,, 28, ,, ...	109	28
,, August 4, 1900	101	26
,, ,, 11, ,, ...	99	26
,, ,, 18, ,, ...	94	25
,, ,, 25, ,, ...	85	22
,, September 1, 1900	117	30
,, ,, 8, ,, ...	140	36
,, ,, 15, ,, ...	110	29
,, ,, 22, ,, ...	71	18
,, ,, 29, ,, ...	100	26
In the month of October	362	22
,, ,, November	451	27
,, ,, December	455	27

It will be noted that in Table I the death returns from disease are only given from February 10th onwards. Before that date 514 deaths from disease had occurred in the army during the campaign. If we assume that the deaths from disease during the seven preceding weeks of the year occurred at the rate of 50 per week, the total of deaths from disease during 1900 was 7,501, which on an assumed strength of 200,000 men gives a death-rate from disease of 37.5 per 1,000 of strength. To these must be added the killed in battle and those dying of wounds in South Africa (not including any invalided home), and 200 deaths from accident apart from battle, and 92 prisoners who have died in captivity. This gives a total casualty list for the year 1900 of 4,318 non-commissioned officers and men, or a casualty

Fig. 1.—*Annual death-rate from disease in each week of 1900 (from February 10th) per 1,000 of strength of the Field Force, S. A.*



death-rate of 21.6 per 1,000 of the assumed strength. The apparent proportion between deaths from disease and deaths from battle is as 37.5 to 21.6, but if we make allowance for the number of invalids who have died on the way home or after reaching England, it is highly probable that the death-rate from disease has been about twice that from actual fighting.

The figures as to invaliding deserve passing notice. Since the commencement of the war 36,986 non-commissioned officers and men, as well as 1,638 officers have been sent home as invalids, or 185 per annum per 1,000 of the total force. It may be urged that as the total strength of the army has been maintained approximately at 200,000, this statement, as well as the death-rates already given, exaggerate the real facts. Many more than 200,000 men have been in succession fighting in South Afriea in the Imperial forces, and therefore the proportion of invalids being for a much larger number of men will be less than 18.5 per cent. To argue thus is to contravene an elementary point in statisties. The death-rates and the invaliding-rate so far given are annual rates, and represent the experience for an entire year. Assuming the conditions to which they are exposed are identical, the exposure of 600,000 men for one-third of a year is only equivalent to the exposure of 200,000 for an entire year. Of the 36,916 invalids sent home up to the end of 1900, 5,662 were wounded, 30,243 were sick, and concerning 1,081 it was not specified for which reason they were invalided. Of the same number, 243 had died when the return was issued, 1,570 have been discharged from the service as unfit, and 654 are in hospital.

The preceding figures have an added significance when they are contrasted with the statistics of the army under the con-

ditions of peace. The last issued annual report of the Army Medical Department (for 1898) gives the data necessary for such a comparison. The total death-rate of the Field Force during 1900 has been approximately 59 per 1,000 of strength, the death-rate from disease alone being 37.5 per 1,000.

Thus:

Field Force, 1900...	Estimated death-rate from all causes ...	59.1
	Ditto from casualties	21.6
	Ditto from disease ...	37.5
Troops at home and abroad, 1898...	Total death-rate ...	10.8
Troops in South Africa and St. Helena, 1898	Ditto ...	11.3
Troops at home and abroad, average of 1888-97	Ditto ...	8.9
Troops at South Africa and St. Helena, average of 1888-97	Ditto ...	6.6

Unfortunately the available statistics do not enable us to state what proportion of the above enormous death-rate from disease during the Boer war is due to enteric fever. There can be no doubt, we think, that enteric fever bulks largest in the returns which have been published. Probably the four most common causes of death in the field army have been enteric fever, dysentery, respiratory diseases, and rheumatic fever, and probably also the order in which these diseases are given is the order of their importance in the death returns. It is not unlikely that an annual death-rate of at least 10 per 1,000 has been caused by enteric fever alone. In one week, that ending May 26th, 1900, the deaths from disease were at a rate which, if it had been continued throughout the year, would have killed 94 out of every 1,000 soldiers, or on the above assumption 25 out of every 1,000 soldiers would have died of enteric fever. Whether the proportional mortality ascribed to enteric fever has been as heavy as, or more or less heavy than here surmised, it has undoubtedly been extremely heavy. A few comparative figures will bring out this point. It is to be noted that soldiers are at the most susceptible age for enteric fever, and that new arrivals in countries like India and South Africa, in which this disease is markedly endemic, are more susceptible than inhabitants of an older date.

Death-rates from Enteric Fever per 1,000 of Population or Strength.

England and Wales, 5 years,	1891—95,	entire population ...	0.17
England and Wales,	1881—90,	Males aged 20—25	0.34
United Kingdom Troops,	1887—96	... ...	0.26
India	,, 1886—95	... ...	5.16
South African	,, 1885—89	... ...	1.37
,,	,, 1892—96	... ...	1.76

Thus, while among the troops in the United Kingdom the death-rate from enteric fever is not dissimilar from that of the civil population at the same ages, the death-rate from this disease among the troops in South Africa was excessive in the years preceding the Boer war, and was about one-third to one-fourth that among European troops in India. The problem in South Africa, so far as the prevention of enteric fever is concerned, very closely resembles the same problem in India.

Although the preceding figures show that in past years enteric fever has been very prevalent among our troops in South Africa, the experience of last year is altogether exceptional. Over 200,000 men have been subjected to conditions which were known to be a fertile cause of enteric fever, and this experience has been associated with a mortality from this disease which is greatly in excess—possibly eight to ten times in excess—of anything previously experienced in South Africa.

That the evils causing enteric fever in South Africa were known is shown by a Report on the Prevalence of Enteric Fever in Pietermaritzburg by Major R. J. Simpson, M.A., M.B., which is published in the Report of the Army Medical Department for 1898 (Appendix No. XI, p. 490 *et seq.*). This paper embodies a very careful study of enteric fever among the troops forming the peace establishment in South Africa, and particnlarly among the 1,400 soldiers stationed in the capital of Natal. In this paper Major Simpson shows that, "comparing two periods of five years each at the beginning and end of the period 1884-96, and excluding epidemic years, the admission rate per 1,000 from enteric fever has increased nearly fourfold, while the death-rate has increased about one-seventh."

The sources of this enteric fever were carefully investigated. It was shown that "the surroundings of the water supply of the town, especially close to the intake, warrant the gravest suspicion as to its purity." On the problem of convection of infection by dust, Major Simpson has some important remarks. There is a relationship between deficiency of rainfall and prevalence of enteric fever, not, however, through dust storms, but in association with the rains following drought. Thus:

> In 1890 there was a constant deficiency of rainfall from May to November, followed by a rainfall in November 2 inches above the average. The enteric began in December..... In the seasonal prevalence, and at least in the occurrence of epidemics, the same feature is recognisable, that a prolonged dry season, followed by a heavy rainfall, is associated with a rapid increase in the number of cases of enteric fever.

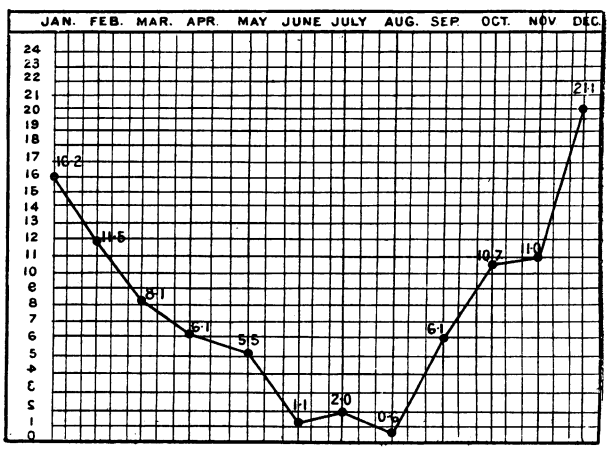
In short, the disease was chiefly waterborne. In October, 1896, a garrison order was published directing that all water used for drinking should be boiled, and that measures should be taken to ensure its use. The remark which follows the above statement is significant:

> It is, however, one thing to provide boiled water for drinking, and another to ensure that nothing else is used even in camps. There is abundant evidence to show that the men were in the habit of drinking water, regardless of its source when on route marches, field days, or walking out, and as a matter of convenience, probably the water nearest to the road or track they were pursuing. They also habitually drank unboiled water from the taps in the ablution rooms.

Assuming, however, that the water supply could not be purified at its source, what official is responsible for the continued supply of impure water to the soldiers at camp at Pietermaritzburg, although recommendations as to the provision of filters were made by Major Simpson?

The curve in Fig. 1 shows a seasonal maximum at the end of May, followed by a fall, interrupted by a smaller rise in September. The trend in the last three months is not so obvious. This may be due to the fact that only monthly returns of deaths from disease have been furnished. This curve represents all fatal diseases. It will be interesting to compare it with a curve of the ordinary seasonal incidence of enteric fever in South Africa. This we are able to furnish by again drawing on Major Simpson's paper.

Fig. 2.—*Seasonal incidence of enteric fever in Natal. Based on the dates of admission to hospital of 347 cases of enteric fever in the years 1888-97, out of a total strength of 13,196. The figures for each month indicate the percentage of the total annual cases = 100, admitted in each month.*



It would appear, therefore, that at Pietermaritzburg, and probably also in other parts of South Africa, the maximum seasonal incidence of enteric fever is in December and January, after which it gradually declines to a minimum in June-August. Epidemics of enteric fever frequently, however, disturb seasonal curves, as the experience of last May (Fig. 1) too sadly proves. It would greatly relieve the public mind to be assured that at this season of maximum incidence of enteric fever the army authorities had profited by the experience of last year, and had grasped and grappled with the difficulties of prevention of enteric fever as a practical problem in connection with which immediate action is required.