miles east of Pretoria. "No. 3 Model School" was part of an army general hospital in which some of the medical officers and men of the Yeomanry Field Hospital and Bearer Company assisted for a time and did most excellent work. It was situated in the town of Pretoria.

I shall feel obliged if you would insert this explanation in justice to my colleagues on the staff of the Transvaal Imperial Yeomanry Hospitals (Pretoria, Elandsfontein, and Johannesburg).

I am, Sirs, yours faithfully,

C. R. KILKELLY, Surgeon-Major, Grenadier Guards,
Late Principal Medical Officer Transvaal Imperial Yeomanry
Hospitals.

Guards' Depôt, Caterham, Surrey, Feb. 19th, 1903.

RIGHT-HANDEDNESS AND LEFT-BRAINEDNESS.

To the Editors of THE LANCET.

SIRS,—Left-handedness surely must not be taken as an indication of anatomical superiority of the right hemisphere of the cerebrum, for such superiority should result not only in left-handedness but in functional superiority of all the parts supplied and dominated by that half. Obviously, then, as a preliminary step it is necessary to ascertain the existence or non-existence of right- or left-footedness. This your contributors do not seem to have done. If left-footedness never exists then the theory of superior anatomical development of the right hemisphere falls to the ground and we may with comparative safety assume right-handedness as the result of training or unconscious imitation.

I inclose drawings done with the right and left foot respectively, also several hand-drawings. None are touched up, every stroke being in ink and final, the foot-drawings being done by means of a rough paper-cone tied round the great toe. The drawing done by the left foot is, I think, equal to that done with the right. This is my second attempt at foot-drawing. My impression is that I can control the left foot better than the right.

As regards the hands, I sharpen my pencils with the left hand and can handle a Graefe a shade better with it also. In nothing else am I left-handed except in target shooting. A perusal of the hand-drawings shows no marked superiority in favour of either hand. I inclose also a specimen of bimanual drawing, the left hand drawing the left face whilst the right draws the right face. The bimanual signatures attached afford strong evidence that I am naturally left-handed, for the right-hand writing represents a lifetime of practice, the left-hand writing that of a few months only. A most important matter is the fact that the right arm swings with the left leg and the left arm with the right. Is this the explanation of our ability to write backwards mirror fashion with the left hand more easily than in the opposite direction as in ordinary writing, for in walking the hands move in opposite directions—i.e., there is a tendency to automatization of movements in an opposite direction. If a person can be left-handed and left-footed and these conditions are dependent upon the superiority of the right hemisphere we ought to find a similar superiority of the left eye and ear. I do not know whether other left-handed people do the same or not but I have always noticed that, though my hearing in both ears is perfect, yet I analyse sounds best on turning my left ear towards the source of sound. As regards the eye, though my sight is $\frac{5}{6}$ easily and my refraction E, I always retinoscopise with my left eye and for accurate as opposed to quick shooting prefer firing from the left shoulder, indeed, I never fire from the right in target shooting. It is common knowledge that though the vision is perfect in each eye and the refraction normal nearly every person has a "master eye"; this is determined by holding a ring at arm's length with both eyes open and covering an object a few yards away. A left-eyed person on shutting his left eye will find the ring too far to his left. If, on the other hand, he shuts his right eye he finds he is "dead on" his object. This test shows that I am left-eyed. As regards experimental shooting my observations are founded on about 30 exceptionally intelligent subjects, mostly professional men, each of whom fired 20 shots from each shoulder, the right eye sighting with right-shoulder shooting and the left eye with left-shoulder shooting, the shots being fired from the right and left shoulder alternately. Left-eyed men, and especially if left-handed, very frequently

shoot 20 per cent. better with the left eye from the left shoulder. One thing is beyond all doubt: there was never what left-handed men who had always shot from the right shoulder expected—a very bad record for the left shoulder. Another point to which reference may be made is the almost invariably superior coördination of the right hand with the right eye. To show this facing $\frac{3}{4}$ of Snellen's

Bimanual Drawing

Bimanual Drawing

C. R. Kil Kelly

C. R. Kil Kelly

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type point promptly at the middle letter with the index finger of the right hand and shut the left eye. If right-handed the pointing is accurate. Now by pointing with the left index finger in the same way it will be found the pointing is accurate if the experimenter is left-handed, but inaccurate if he is right-handed.

These remarks have been made without any knowledge of the literature of the subject, but I trust that they may prove of interest.—I am, Sirs, yours faithfully,

CHAS. WRAY, F.R.C.S. Eng.

Surgeon Western Ophthalmic Hospital; Ophthalmic Surgeon
Jan. 23rd, 1903. Croydon Hospital and Infirmary.

To the Editors of THE LANCET.

SIRS,—The hand-loom weaver mentioned by me in my communication in THE LANCET of Jan. 17th, p. 200, was not only ambidextrous but used both feet as well in working his machine. His hands drove the pirn or bobbin, carrying the thread backwards and forwards in a groove or shuttle by means of an upright rod to form the weft of the cloth. This might be called pure automatism, but, at the same time, he could with either hand by a certain movement of a cord throw out of gear or start the mechanism when a thread broke or anything else went wrong. The two hands were undoubtedly used for a common purpose but in a different direction, while either hand, left or right, could rectify any fault. In short, the left hand was as good and deft and necessary as the right, and each seemed as competent as the other. In shoeing a horse the blacksmith pares out the feet with his left as deftly as with his right hand. Trimming the nails with knife or scissors, the mariner at his wheel, and the juggler tossing his brass balls in the ring are instances in point, not to mention the accoucheur whose left hand both in turning and applying the forceps has often to take on the duties of the right. The surgeon cutting down upon and tying an artery must be ambidextrous if anything. His right hand must know what his left hand doeth; and the latter takes as important a position in the operation as the other.

Sir William Gowers, in THE LANCET of Dec. 20th, 1902, p. 1719, in an interesting note on this subject says: "Every child seems to be born either-handed; one-handedness comes with development, partly from inherited, partly from educational influences, &c." This places the whole scope and force of the discussion, as it were, in a nutshell. The child will, as a rule, use the right hand first and become right-handed and any tendency to left-handedness should be, and can be,

corrected. There are still many unappropriated facts, as Mr. Wallace would say, which might be brought forward in evidence to prove that right-handedness is due to a great extent to influences outside the body, though inheritance and bodily idiosyncrasy cannot be overlooked. Apologising for taking up so much space in your columns on a subject though of great interest of not much practical importance,

I am, Sirs, yours faithfully,
JAMES MORE, M.D. Edin.

Rothwell, Northamptonshire, Feb. 28th, 1903.

APPENDICITIS.

To the Editors of THE LANCET.

SIRS,—Without reference to Professor Bourget's plan of treatment no discussion on this very important question can be considered complete. Bourget does not hesitate to use leeches if indicated or to purge his patients with castor oil if needful, but he places his chief reliance on warm anti-septic injections passed through a long tube so as to get beyond the sigmoid flexure and so wash out the hepatic flexure and even the cæcum itself. Bourget declares that when this is done pain and tension cease as if by magic, that the temperature falls and agony is at once replaced by repose, sleep, and speedy restoration to health. He points out that even if pus be formed it may be absorbed or discharged innocuously into the bowel or come to a head on the surface; also that removal of the appendix is no guarantee against subsequent attacks and that it is only when the parts have become gangrenous or are approaching that condition that operation is indicated or is really necessary. Bourget has treated a number of cases during the last ten years; he gives minute details of 26 cases and declares that he has had no operations, no accidents, and not a single death—"aucun cas de mort." Such was my experience when a student in the wards of the Royal Infirmary of Edinburgh and subsequently in the rare opportunities I have since had of seeing cases of typhlitis, perityphlitis, or appendicitis. Certainly in former times such cases were rare; those afflicted did not die and, as a rule, were no worse off for what they had undergone. According to Chauvel's statistics of the French army the old-fashioned treatment compares favourably with the present system of almost constant excision, and I must say that I cannot bring myself to believe that any portion of the human body exists only for the production of disease or removal by operation or that things have so violently changed that a disease which was rare and easily dealt with and almost never fatal 20 years ago should without obvious cause become exceedingly common, very fatal, and require operation in 80 out of a 100 cases. Of course, where the peritoneum is bathed in pus and the parts are gangrenous or approaching that condition operation is imperative and we ought to be thankful indeed that we have among us so many profound clinicians and excellent surgeons who open the abdomen with so much skill and such splendid results.

I am, Sirs, yours faithfully,
Nottingham, Feb. 28th, 1903. C. BELL TAYLOR, M.D. Edin.

THE NATIONAL HEALTH AND ARMY RECRUITING STATISTICS.

To the Editors of THE LANCET.

SIRS,—In sequence to my letter in THE LANCET of Feb. 7th, p. 397, on the above topics I would ask you to allow me a little more space further to elucidate the bearings of the army recruiting statistics on the asserted wastage of military strength, expressed as a loss of three out of five between application at the recruiting office and the end of the second year of service, and the grounds which they offer for an impeachment of the national health. I base my remarks on the information given in the Army Medical Reports for the years 1897-1900, not taking these four years as specially applicable to the matter in hand but merely as being the latest and most convenient for the purpose, the period embraced being sufficient for a fair deduction—as indeed any similar period is within the last 30 years, the recruiting ground throughout remaining the same and the yearly divergencies in the major details being but

fluctuations brought about by changes in the standard adopted in accord with the army needs of the time. From the figures and details to be adduced I think that the readers of THE LANCET will be in a position to form a conclusion on the question raised so far as the army data can assist thereto. And first as to the recruit supply. During these four years there was a total of 278,977 applicants for army employ and of these 188,061 were accepted and 90,916 were referred to civil life, the yearly average of inspected being 69,744 and the yearly ratio of rejected being 329.10 per 1000, though if the further rejections within three months of service be added this ratio is increased to 336.44. Such a large elimination of one out of every three points clearly either to a high standard of necessary qualifications or poorness of the human material available for army purposes under the conditions which exist. That the latter is the true reading there is no doubt, most probably, concurring with the anonymous writer of "The Problem of the Army" in the Times of Feb. 4th that the standard is "appallingly low." Of the divisions of the United Kingdom furnishing the applicants in each 1000 England and Wales give 762, Scotland 96, Ireland 129, and the colonies and stations abroad 13, though if we compare the numbers with the total male population of each section according to the last census we find that while each contributes a fair quatum to the sum total Ireland is somewhat in advance of the other two and Scotland gives the lowest rates; it requires, however, to be borne in mind that locality does not connote nationality and that the recruits from England and Scotland contain a fair proportion of men of Irish descent. Tested by the ratio of rejected to inspected the colonies and stations abroad give the best results, then follows Ireland, while Scotland and England and Wales closely approximate in the maximum ratio.

The classifications of the previous occupations of those seeking army employ are as under, the number for the year 1898 being taken as a fair index for the whole period except in the boy class which varies considerably in years:—

	Proportion per 1000 inspected.	Ratio of rejection per 1000.
Labourers, servants, husbandmen	657	351.41
Manufacturing artisans (clothmakers, weavers, lace-makers)	139	395.05
Mechanics (favourable to physical de- velopment)	92	334.36
Shopmen and clerks	72	370.09
Professional occupations, students, &c.	9	320.40
Boys under 17 years of age	31	169.37

These figures indicate how limited as to social strata the army mass is and how vastly the sons of manual toil pre-dominate; they show also the better physical status of the boys. As might be anticipated the indoor workers head the rejection ratio, while the too high ratio of the outdoor workers shows the existence among them of causes antagonistic to physical well-being.

Passing now from those inspected to those received into the service we have figures dealing with the age and physical qualities. The ages are arranged in years, mainly between 17 and 25, and the most numerous group in the whole period is between 18 and 19—about 4400 in every 10,000. That between 19 and 20 comes next with about half this number and these two groups constitute three-fifths of the whole mass; on the other hand, the 17 to 18 group varies considerably in some years and the group 24 to 25 is a very small one—about one-fortieth of the whole. It is apparent that youthfulness is a marked characteristic of those entering the military service and this potent factor must correspondingly influence the results. In respect to height the most numerous group is 5 feet 5 inches to 5 feet 6 inches, corresponding to 18 to 19 age group, and next 5 feet 6 inches to 5 feet 7 inches group; on the other hand, group 5 feet 8 inches to 5 feet 9 inches gives a considerable decline and group 5 feet 4 inches to 5 feet 5 inches marked fluctuations, in 1900 giving a ratio almost as high as the maximum group. In respect to weight, those between 120 and 130 pounds are most numerous; then follows those between 110 and 120 pounds and at a lower ratio those between 130 and 140 pounds. In respect to chest girth, from 33 to 34 inches constitute the largest group—about 3019 in each 10,000; 34 to 35 inches group gives about

¹ Traitement Médical des Inflammations du Cæcum. Par le Docteur Bourget, Professeur de Clinique Médicale à la Faculté de Médecine de Lausanne. Eggiman.