

population of rather more than a million, 613 births and 325 deaths were registered during the week ending Oct. 23rd. The mean annual rate of mortality in these towns, which had been equal to 15.1 and 15.2 per 1000 in the two preceding weeks, declined to 14.8 in the week under notice. During the first three weeks of the current quarter the annual death-rate in these Irish towns averaged 15.0 per 1000, whereas the mean death-rate during the same period did not exceed 12.4 in the 76 largest English towns and 12.6 in the eight principal Scotch towns. The annual death-rate during last week was equal to 15.2 in Dublin (against 17.5, 16.8, and 16.0 in the three preceding weeks), to 12.9 in Belfast, 21.2 in Cork, 16.9 in Londonderry, and 19.5 in Waterford; the mean rate in the 16 smallest Irish towns was equal to 14.5 per 1000. The 325 deaths from all causes in the 22 town districts last week showed a decrease of 9 from the numbers in the previous week, and included 22 which were referred to the principal epidemic diseases, against 42, 37, and 29 in the three preceding weeks; these 22 deaths were equal to an annual rate of 1.0 per 1000, corresponding with the rate from the same diseases last week in the 76 English towns. The 22 deaths from these epidemic diseases in the Irish town districts last week included 12 from diarrhoea, 5 from whooping-cough, 2 from diphtheria, and 1 each from measles, scarlet fever, and "fever," but not one from small-pox. The deaths attributed to diarrhoea in the 22 towns, which had been 22 and 14 in the two previous weeks, further declined to 12 last week, and included 5 in Belfast and 2 both in Dublin and in Cork. The 5 fatal cases of whooping-cough were within one of the number in the previous week, and included 2 both in Cork and in Limerick and 1 in Dublin. Of the 2 fatal cases of diphtheria, 1 occurred in Ballymena and 1 in Clonmel. A fatal case of typhus was registered in Dublin. The 50 deaths referred to pneumonia and other diseases of the respiratory system last week in the 22 towns corresponded with the number returned in each of the two preceding weeks. The causes of 14, or 4.3 per cent., of the deaths in the 22 towns last week were not certified by a registered medical practitioner or by a coroner; in the 76 English towns the proportion of uncertified causes of death last week did not exceed 1.0 per cent., but in the eight Scotch towns the proportion was equal to 3.6 per cent.

## THE SERVICES.

### ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Fleet-Surgeons: M. L. B. Rodd to the *Niobe*, and to the *Kent* on re-commissioning; E. R. D. Fasken to the *Argonaut*. Staff-Surgeons: J. C. Rowan to the *Mars*; P. H. Boyden to the *Fisgard*; and E. T. P. Eames to the *Endymion*. Surgeon: E. Cameron to the *Argonaut*.

### ROYAL ARMY MEDICAL CORPS.

Colonel Maclean officiates as Principal Medical Officer, 8th (Lucknow) Division, vice Surgeon-General Ellis, on leave. Colonel Anderson has reverted to his permanent appointment as principal medical officer, Allahabad and Fyzabad Brigades.

Lieutenant-Colonel G. E. Hale, D.S.O., has been appointed medical inspector of recruits in the Eastern Command, and Lieutenant-Colonel T. Du B. Whaite has been appointed to the Eastern Command. Major C. K. Morgan has been appointed to the Belfast District for duty.

Captain Francis S. Irvine, from the Seconded List, is restored to the establishment (dated Oct. 13th, 1909).

### INDIAN MEDICAL SERVICE.

Major H. G. Melville officiates as Principal, Medical College, Lahore, vice Major Sutherland, going on one year's leave; and Captain Macgilchrist officiates as Professor of *Materia Medica*, Lahore Medical College, vice Major Melville. The services of Major Smith are placed permanently at the disposal of the Punjab Government. Captain E. C. Hepper has been appointed to the substantive medical charge of the 51st Sikhs (Frontier Force), vice Captain H. Halliday. Captain G. W. Maconachie has been appointed to the substantive medical charge of the 73rd Carnatic Infantry, vice

Captain W. C. Hamilton. Captain R. F. C. Talbot has been transferred to the temporary half-pay list from July 24th.

### TERRITORIAL FORCE.

#### Royal Army Medical Corps.

3rd Lowland Field Ambulance: Lieutenant James H. H. Pirie to be Captain (dated Oct. 1st, 1909).

1st South Midland Field Ambulance: Lieutenant Hans Frederick William Boeddicker, from the 2nd South Midland Field Ambulance, Royal Army Medical Corps, to be Lieutenant (dated Sept. 29th, 1909).

1st North Midland Field Ambulance: Captain William J. Reid to be Major (dated April 19th, 1909).

### THE PHYSICAL EFFECTS OF THE ALLOWANCE FIELD SERVICE RATIONS.

An officer with 20 volunteers of the 1st Battalion Loyal North Lancashire Regiment, none of them specially selected, have recently been the subject of an experiment for the purpose of determining the quality and quantity of the field service rations in relation to the clothing and equipment of the soldier. The company were instructed to march for 12 days a distance of at least 14 miles under service conditions. The valise equipment with field service kit was carried together with 150 rounds of ball ammunition, weighing altogether, with rifle, more than half hundredweight. For the first six days the food consisted wholly of biscuit and preserved meat and vegetables. Subsequently fresh meat and bread were issued in lieu of preserved rations, and this was followed by a noticeable improvement in the physique and spirits of the men. A report will be made for the information of the Army Council by Lieutenant-Colonel Melville, R.A.M.C.

## Correspondence.

"Audi alteram partem."

### THE DANGERS OF THE DRY SHAMPOO.

To the Editor of THE LANCET.

SIR,—My absence in America has prevented me from following in detail the proceedings arising out of the accident in July last in consequence of the use of carbon tetrachloride as a "dry shampoo." I learn, however, on my return that by what has since taken place the public and the trade concerned have been duly warned of the dangerous character of this particular chlorinated compound, carbon tetrachloride. I learn further from the answer returned yesterday by the Home Secretary to a question by Sir William Collins that "the matter is receiving his serious attention and the question whether legislation ought to be undertaken will be fully considered."

I should like at this stage to point out a further consideration that in my opinion is of sufficient gravity to call for prompt decision as to the prohibition or not of the use of carbon tetrachloride and similar poisons for toilet purposes. Carbon tetrachloride, chloroform, ethylene chloride, ethylidene chloride, &c., are all more or less anæsthetic and stimulant, just as in lesser degree ether and alcohol are anæsthetic and stimulant. In my experience the physiological equivalence between chloroform and alcohol is approximately 100 to 1, and a few drops of chloroform or of carbon tetrachloride rubbed in the palm of the hand and inhaled as a "refresher" or a "sedative," are quite as effective, pleasant, and insidious as a glass of brandy. More or less carbon tetrachloride is necessarily inhaled in the course of a "dry shampoo," and there are in existence numerous other chlorinated compounds of similar properties. Chloroform is scheduled as a poison. Carbon tetrachloride, which is more poisonous than chloroform, and allied substances that are more or less poisonous, are not so scheduled.

Ought the use of these substances to be left at the discretion of the more or less enterprising hairdresser? Or ought not the public to be protected by the scheduling as poisons of substances that are more dangerous to life than chloroform and more insidious than alcohol? According to the evidence given by one of the witnesses at the inquest held last July the number of persons taking the dry shampoo with carbon tetrachloride averaged between 90 and 100 per day at one establishment alone (or between 20,000 and

30,000 for the year, with the total consumption of 14 tons of the liquid).

I am, Sir, yours faithfully,

A. D. WALLER.

Physiological Laboratory, University of London,  
Oct. 21st, 1909.

## EDRIDGE-GREEN'S THEORY OF VISION AND COLOUR VISION.

*To the Editor of THE LANCET.*

SIR,—The question of the meaning of the structure of the retina is the latest one in physiological optics—i.e., from the subjectival standpoint held by E. Hering, Mach, and myself. As Edridge-Green has found for the distribution of the visual purple, so I, Hering, Hess, Garten, and others, have found only gradual quantitative differences in the sight between the foveal and extrafoveal area. The phenomenon of Purkinje, the alteration of optical white equations by the state of light- and dark-adaptation, the colourless interval for spectral lights of increasing intensity, the different phases of the after-image,—all these subjective reactions exist, not only in the extrafoveal, but also (only gradually diminished) in the foveal region. The analogy between this behaviour and Edridge-Green's objective statement about the visual purple is a striking one.

As *principia*, I believe that it is absolutely necessary for the classification of colours to start with sensation analyses, from the statement of the simple effects by some definite but individually different lights, homogeneous or mixed. It is also necessary to note the changes produced in each case by varying states of light- and dark-adaptation. We must ascertain the position of pure green, pure yellow, pure blue in the spectrum, and of pure red in mixed light, and of the corresponding neutral points in the colour-blind. It is totally wrong to conclude from the constitution of physical stimuli (composition, wave-length) that the physiological effect or the psychological sensation are similarly constituted. Therefore all colour theories based on light mixture (colour mixture is a very bad expression), as the theory of Young-Maxwell-Helmholtz, A. Fick, J. v. Kries, are fallacious.

Hering holds that for the regular cases of colour blindness there is a defect of red-green or yellow-blue or red-yellow-green-blue perception. The antagonistic correlation between red and green and yellow and blue is founded in the nervous apparatus; the regular cases of colour blindness are therefore nervous anomalies. On the other side, I believe that alone or combined with a nervous anomaly there are many cases in which photo-chemical anomalies in the retina exist. I believe that the visual purple could be one of the photo-chemical stimulus-transformers for the nervous apparatus, especially the stimulus-transformer for the white sensation in the dark adapted eye. There may be a large number of such photo-chemical substances, at least six (for red, yellow, green, blue, and two for white sensation), the absorption spectra of which coincide partially, for p.e. the point of pure green varies according to the state of adaptation of the eye. As a pupil of Hering I may say that Hering has always objected to the association of his theory with the photo-chemical processes of the retina as it is only concerned with the central processes.

I am, Sir, yours faithfully,

A. VON TSCHERMAK,

Oct. 25th, 1909.

Professor of Physiology in the University of Vienna.

## THE TREATMENT OF ADDER BITES.

*To the Editor of THE LANCET.*

SIR,—The recent correspondence on adder bites has prompted me to report a case which came under my care last year.

A boy, aged 11 years, was brought to me by his mother on July 15th, 1908, at 1.10 P.M., the history being that he had been bitten by a grass snake which he had caught the previous day, and which he had handled freely until 12.55 P.M. on the 15th, when it had bitten him. When I examined him, only one-quarter of an hour after he had been bitten, I found a small pin-prick wound on the dorsum of the right index finger from which a little serum was exuding. The skin around the wound was discoloured, and the whole finger and dorsum of the hand were very cedematous. There

was slight lymphangitis of the forearm, and the axillary glands formed a lump of the size of a pigeon's egg. The boy was evidently in great pain. He was pale; his pulse was 60 and of very low tension, and his temperature 98.2° F. He had vomited twice on the way to my house. I asked the mother to fetch the snake, which turned out to be a female viper, and in the meantime put on a tourniquet, and I made a deep incision an inch long through the site of the bite. The tourniquet was then slightly loosened and the patient sucked the wound for half an hour. As the boy had fainted twice and again vomited I gave him 1-100th grain strychnine hypodermically, dressed the wound with permanganate of potash crystals and wet boracic lint, and having removed the tourniquet I ordered that he should be taken home and put to bed. He was there wrapped in blankets and kept warm with hot-water bottles, brandy being administered in drachm doses every half hour until 5.30 P.M., when I visited him. He was then in much pain, the whole hand and arm greatly swollen, and the axillary glands so much enlarged that the arm could not be adducted to the side. The glands in the anterior triangle were also enlarged and tender. The pulse was 80 and very soft; his temperature was 99°. I stopped the brandy and gave another 1-100th grain strychnine, together with 1-12th grain morphia. At 7 P.M. the swelling had slightly decreased, but there was still much pain. His pulse was 48, low tension, and his temperature 100°. 20 cubic centimetres of Burroughs and Wellcome's polyvalent antivenom serum were injected into the flank.

At midnight the condition was as before, and as the patient complained greatly of pain in the arm and also at the seat of inoculation I gave him 10 grains of Dover's powder. On the following morning the boy was slightly more comfortable, the arm was less swollen but much discoloured, the glands had not decreased in size, and the whole of the right side of the thorax resembled a large black bruise. The pulse was 72, normal tension, and the temperature was 98.4°; the wound looked dirty and was discharging much clear serous fluid. I therefore ordered him to use a hand-bath thrice daily, consisting of one drachm of tincture of iodine to a pint of hot water. From this moment the swelling and glandular enlargement quickly subsided and the wound became healthy; the discolouration on the chest-wall persisted, however, for several days. It is difficult to say from a single case whether any benefit follows the use of antivenom serum, but I am inclined to agree with Dr. Sapwell that it certainly does no harm.

The points of interest in the case were: (1) the rapidity of the glandular swelling; (2) the collapse as evidenced by the low tension of the pulse, together with vomiting and fainting; (3) the extreme discolouration of the chest wall; and last, but not least, the adder's tractability during the first 24 hours of its captivity. This may, I think, be accounted for by the fact that she "struck" several times at the boy's boots while he was capturing her, and that she had thus more or less exhausted her stock of venom.

I am, Sir, yours faithfully,

MAURICE AMSLER, M.B., B.S. Lond.

Eton, Oct. 23rd, 1909.

## MALARIA TREATED WITH INJECTIONS OF QUININE.

*To the Editor of THE LANCET.*

SIR,—In THE LANCET of Sept. 11th Dr. G. W. Young quotes three cases of malaria treated with injections of quinine, apparently being under the impression that this is a new form of treatment. I would point out that not only is this method fully described in Sir Patrick Manson's "Tropical Diseases," but also that several thousand injections are given during the year in India, as it is a favourite method of treating malignant cases, especially in the army.—I am, Sir, yours faithfully,

A. H. SAFFORD, Captain, R.A.M.C.

Fyzabad, India, Sept. 26th, 1909.

## THE BENHAM TOP.

*To the Editor of THE LANCET.*

SIR,—In reply to Mr. C. E. Benham's letter in THE LANCET of Oct. 23rd, I may say that the fact which I have discovered is that the Purkinje phenomenon is found with small portions of the retina, and