The following experiment illustrates the kind of result obtained:

TABLE II.

Tube A.	*Tube B.*
(1) 0.5 c.cm. blood suspension (washed corpuscles).	(1) 0.5 c.cm. blood suspension (washed corpuscles).
(2) 0.5 c.cm. sodium chloride 1 in 50,000 in N.S.	(2) 0.5 c.cm. sodium arsenite 1 in 50,000 in N.S.
Incubated for 15 minutes at 38° C.	
(3) 0.15 c.cm. cyclamin solution.	(3) 0.15 c.cm. cyclamin solution.
Reincubated.	
Result.	*Result.*
In 5 hours complete haemolysis.	In 5 hours considerable haemolysis. In 18 hours incomplete haemolysis.

This experiment shows that an amount of cyclamin which will in five hours completely haemolyze a certain number of corpuscles in saline solution fails, even in eighteen hours, to haemolyze completely the same number of corpuscles when the saline solution contains sodium arsenite in the proportion of 1 in 100,000.

Many experiments of this nature were carried out in which the corpuscles were subjected to concentrations of sodium arsenite varying from 1 in 20,000 to 1 in 500,000. When the concentration of arsenite was 1 in 100,000 or greater there was a varying amount of absolute protection against haemolysis; when the concentration was 1 in 200,000 to 1 in 500,000 there was considerable delay in the onset of complete haemolysis in the arsenite tube as compared with the control tube, but within twenty-four hours all the corpuscles were haemolyzed also in the former tube.

In some other experiments the following variation was introduced. After the sodium arsenite had been allowed to act on the corpuscles at 38° C. for fifteen minutes in the usual way, the arsenite solution was removed from the corpuscles by thrice alternate centrifuging and replacement by normal saline solution, the final replacement bringing the blood suspension up to the original bulk of 1 c.cm. The control tube went through all the same processes apart from the exposure to sodium arsenite. The arsenite corpuscles, as compared with the control corpuscles, were now found to manifest an increased resistance to the haemolytic action of cyclamin, similar to that which had been found in the preceding series of experiments. From this it follows that the interference with the haemolytic action of cyclamin is due not to the presence of sodium arsenite in the saline solution, but to some combining action of sodium arsenite with one or other constituent of the corpuscles.

(c) *Protection of Corpuscles against Haemolysis by Sodium Glycocholate.*

It is well known that salts of the bile acids are haemolytic agents. To determine whether arsenic protects against haemolysis by bile salts, experiments were made with sodium glycocholate. A strength of solution of this substance convenient for these experiments was found to be 1 in 5,000 or 1 in 10,000 in normal saline solution. The former concentration was used in the following experiment, which illustrates the kind of result obtained.

TABLE III.

Tube A.	*Tube B.*
(1) 0.5 c.cm. blood suspension (washed corpuscles).	(1) 0.5 c.cm. blood suspension (washed corpuscles).
(2) 0.5 c.cm. 1 in 10,000 sodium chloride in N.S.	(2) 0.5 c.cm. 1 in 10,000 sodium arsenite in N.S.
Incubated 30 minutes at 38° C.	
(3) 0.3 c.cm. sodium glycocholate solution.	(3) 0.3 c.cm. sodium glycocholate solution.
Reincubated.	
Result.	*Result.*
In 3½ hours complete haemolysis.	In 3½ hours no haemolysis. In 20 hours incomplete haemolysis.

It is evident from this experiment that the presence of sodium arsenite in the proportion of 1 in 20,000 renders the corpuscles markedly less vulnerable than the control corpuscles to the haemolytic action of sodium glycocholate.

Many such experiments were made in which the corpuscles were subjected to varying concentrations of sodium arsenite, and it was found that solutions at least as dilute as 1 in 100,000 exerted a distinct protection of the red cells against haemolysis by sodium glycocholate.

II. SODIUM ARSENATE.

Series of experiments of the same kind as have been described with sodium arsenite were performed also with sodium arsenate. They showed that sodium arsenate acts in the same way as sodium arsenite in protecting the red blood corpuscles against haemolysis by distilled water, cyclamin, or sodium glycocholate.

According to Binz, blood has very little oxidizing power on arsenious acid, but acts in a strongly-marked manner as a reducing agent on arsenic acid. It is probable, therefore, that the major part of arsenious acid, after its absorption, will exist in the blood as sodium arsenite, and for this reason we have described in detail the experiments with arsenite.

CONCLUSIONS.

The conclusions we draw from these experiments are that arsenic, whether in the form of sodium arsenite or sodium arsenate, exerts on the red blood corpuscles an action antagonistic to that of certain haemolytic agents. The experiments, therefore, afford additional proof in favour of the view that a protective action on the formed red blood corpuscles against normal or abnormal haemolytic processes may, in part at least, account for the as yet imperfectly explained benefit which results from the medicinal administration of arsenic in blood diseases.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

MENINGOCELE OF SKULL CAUSING DIFFICULTY IN DELIVERY.

READ in connexion with Dr. Robinson's case reported in the JOURNAL of December 3rd, 1910, p. 1773, the following may be of some interest:

In August I was called to attend a primipara, but, on arrival, I found that delivery had taken place, and that it only remained for me to remove the placenta, about which there was no difficulty. The nurses then asked me, with consternation, to tell them what had been delivered. The creature was uncovered, and I found the following remarkable conditions:

There was a frontal meningocele—perhaps as large as the head—drooping over and concealing one side of the face. It was tense and the skin appeared to be thin. There was a certain amount of exophthalmos of one eye, a double harelip, and a cleft palate. Otherwise there was no apparent malformation, but the child was quite vigorous and—perhaps owing to the latter circumstance—presented an appearance more horrible and repulsive than anything I have seen before, not excepting museum specimens.

It was necessary to conceal it from the mother, and so appalling was the appearance that even the nurses' feelings had to be taken into consideration. Obviously it was unsuitable for private guardianship, and, imagining that its existence must be brief, I induced a public institution to take charge of the child. However, on inquiry about six weeks later, to my great surprise, I learnt that the infant was thriving, crying for food, and showed no indication whatever of failing. I can follow the history no further, but what the future of such a creature must be, should it survive, requires little imagination.

I was informed that the delivery occurred normally and without assistance, the tumour, of course, presenting, and from the appearance of the skin I have no doubt that any manipulation would have caused the meningocele to burst.

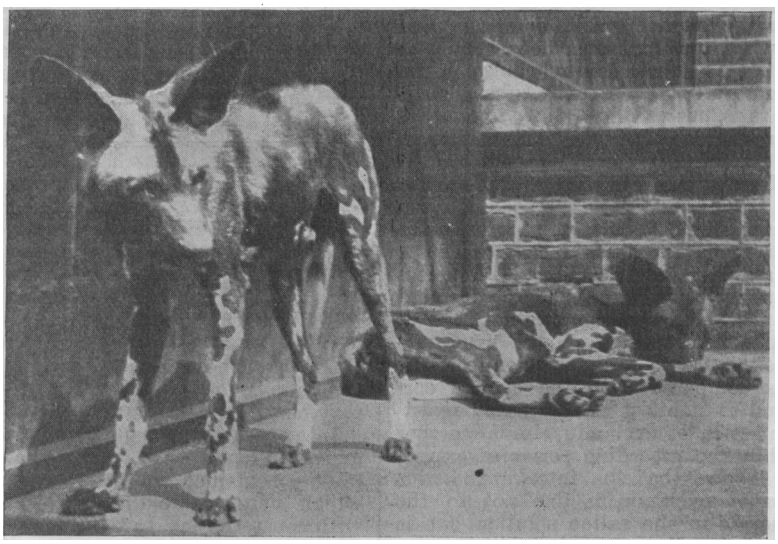
The only statistics of congenital meningocele with which I am acquainted are those of Z. Laurence. He quotes 39 cases, of which 6 reached adult age. I am not aware that he gives the dimensions.

Brixton. E. F. O'FERRALL, L.R.C.P.Lond.

LEUCODERMA AND PALAEOGENESIS.

In the British Medical Journal of August 13th, 1910, there appeared a letter criticizing my statement in the issue of July 30th regarding leucoderma: "The curious mottled appearance may well be accepted as atavistic; but the complete truth appears to be much more wonderful than that." Medical men who are also biologists know that atavism is by no means the evolutionist "dust heap" that some would style it. The microscope may, indeed, explain how skin changes occur; but palaeogenesis (atavism) explains *why* they occur. On this hypothesis the pathological lesion is grafted upon a preformed physiological skin pattern of incalculable antiquity. The palaeogenetic explanation of leucoderma postulates some knowledge of biology equally with dermatology; one must appeal to the entire phylum of mammalian vertebrates, or even descend to the reptiles and amphibians, reviewing the whole subject from a comparative and phylogenetic standpoint.

The clinical association of leucoderma with alopecia areata and dermatitis atrophicans, far from weakening the case for palaeogenesis, actually strengthens it. In many animals irregular pigmentation of the skin is normally associated with loss of hair. Even under domestication this still holds good. The hairless dogs—"sand dogs"—kept as pets have their shivering bodies pigmented in blue-black or grotesquely marbled in a bizarre pattern, like a piece of soap. The Mexican hairless cats have mouse-coloured backs, and the neck, stomach, and legs flesh colour. Siamese cats have one or more bald spots on the forehead; the kittens are born pure white, but gradually assume a contrasted coloration, the body fur being cream or fawn, while mask, ears, limbs, and tail become seal brown. The calf of the Indian elephant at birth has a considerable hairy covering which becomes lost in the adult; the sacred "white" elephant is merely an individual irregularly patched with yellowish-white areas which have been actually diagnosed as leucoderma. The common hippopotamus is liable to irregular asymmetrical pigmentation on face and feet. The rhytina, which the physician Steller discovered in the North Pacific, is said to have been of a brown colour streaked and spotted with white.



African wild dogs. Note the irregular mottled pigmentation. The limbs are black and white. The forehead and back are patched with ochre. The black line bisecting the forehead is the "linea faciem percurrens" of Dr. Burchell.

In cetaceans not only has the hair almost entirely disappeared, but even the sebaceous glands and the muscular fibres of the hair follicles have vanished. Some remarkable pigment patterns occur in this class. The narwhal—an aberrant porpoise—during youth and adult life is mottled grey and white in a most curious fashion, the pattern recalling vividly certain appearances seen in disease in the human subject, though the actual tints are different. In old age the pigment disappears and the animal becomes white. The white whale is remarkably interesting. The fetus is, of course, at first colourless. An embryo in the Royal College of Surgeons Museum I have elsewhere described as of "a smooth creamy whiteness throughout, giving an impression of hardness, as if it had been cast in plaster."

At birth the animal is dark slate colour; when 8 ft. long the slate colour has become mottled with chocolate; then it becomes yellowish, and finally glistening white. Thus one has (1) primary fetal apigmentation, (2) natal hyperpigmentation, (3) phaeism, (4) xanthism, and (5) depigmentation. These creatures of course are not albinos, the iris being dark blue. Neither of these two species have any hair or bristles, even as fetuses. In several species of dolphin pigmentation seems almost inhibited: the Chinese dolphin is milky white with pinkish fins; another is yellowish-white above, pure white below; while a third is uniform plumbeous grey. The Amazon freshwater dolphin is remarkably unstable, some individuals being entirely black, others entirely flesh-coloured, while others again are black above and flesh-coloured beneath.

Now these cetaceans are of such ancient lineage that their ancestors are unknown. Freshwater dolphins occur as fossils as far back as the Eocene epoch. For the pigment pattern one may reasonably claim an immense antiquity. One finds examples in almost every group of mammalia—from the primitive, monotrematous, almost reptilian duckbill to the higher apes. Even those forms normally coated with fur tend to develop in their pelage patterns of startling individuality; since hair is an epidermic structure, these furred forms cannot be left out of consideration. The coat of the fetal giraffe is at first uniform brown, with no trace of the subsequent spots or blotches; the puppy of the African wild dog has a black head and body, the limbs being mottled black and white; after three months a curious marbled pattern develops on the body, an irregular mixture of black, white, and ochre. The writer had the privilege of exhibiting at the recent Annual Meeting a series of photographs illustrating these and other matters, one print being of immediate interest, demonstrating that in these curious dogs each white (unpigmented) blotch is always margined by a black border of intensified pigmentation. Amongst anthropoid apes, one form has the face pale, curiously freckled in heavy blotches of dark tan,[1] while another (orang-outang) has normally large freckles on the throat.

With regard to the change in the winter coat of animals, Schwalbe has shown that in the ermine the colour change is epithelial, as has been claimed for leucoderma. One must dismiss all attempts recently made to compare winter changes in mammals with winter changes in birds. Embryonic hair appears first as a thickening of the Malpighian layer of the epidermis, the hair papilla being formed by a thickening of the corium; feather papillae consist of corium only without epidermic modification. Hence the two types of covering are structurally distinct. All mammals (including man) are descended from the theriomorphic reptiles of Triassic times; hence birds—descended from the dinosaurian reptiles—are hopelessly side-tracked. Pigments in birds—zoomelanin, zoonerythrin, zoöxanthin—are but feebly comparable to pigment in mammals; the two last-named are coloured fatty oils, which suggest actual lipochromatosis.

I do not propose at present to construct a metameric evolutional series linking up the pigment changes in man with those of the lower mammals. The following considerations, however, favour an atavistic explanation of some diseases:

1. Pigmentation in leucoderma, etc., is epithelial in origin.

2. Pigmentation in normal mammals is epithelial in some cases, if not in all.

3. In hairless mammals the pattern is transferred in the denuded skin. Compare the hairless African dog with the coated wild dog of the same regions.

4. Toxins, in stimulating or inhibiting pigmentation, are

[1] *Proceedings of the Zoological Society*, December 13th, 1904.

merely comparable to the action of a developer in producing a photographic negative already present, though latent.

The novelty and difficulty of the study of palaeogenesis render it proportionately both interesting and fascinating. An intricate blending of the sciences ancillary to medicine is imperative and essential for this branch of research. Only by adopting combined methods will light be focussed upon this youngest of all sciences, this bridge over a biological chasm—the Cinderella of dermatology.

Sale, Manchester. GRAHAM RENSHAW, M.B.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

BEDFORD COUNTY HOSPITAL.

A CASE OF PERFORATED GASTRIC ULCER: OPERATION: RECOVERY.

(Under the care of S. J. Ross, M.D., Ch.B., Surgeon to Out-patients.)

THE patient was a female domestic servant, aged 27 years. For four years she had been troubled with indigestion, and for six weeks had been under the care of Dr. Pollard, of Bedford. On Saturday, August 6th, about 1 p.m., she was suddenly seized with acute pain in the left hypochondriac region; she fainted, and showed symptoms of collapse. She was seen by Dr. Pollard, who diagnosed perforated gastric ulcer, and advised her removal to hospital, where she was admitted at 8 p.m. Mr. Nash being away on his holiday I was called to see her.

I found that she was suffering general abdominal pain; the facies abdominalis was well marked. The abdomen was somewhat distended, and tender all over. The pulse was 140. We decided to operate without delay. Chloroform having been administered by Dr. Whiting, I made a longitudinal incision, three inches in length, in the left semilunar line.

Upon opening the peritoneal cavity curdled milk was seen, and sponged away. The stomach was found to be adherent to the left lobe of the liver. There were strong adhesions, and not of recent origin. They were ligatured and divided. The ruptured ulcer was readily found upon the posterior surface of the stomach, 2 inches from the lesser curvature and 1½ inches from the pylorus. The surrounding area was thinned, and softened by inflammation. The operation area was carefully packed, and two rows of continuous Czerny-Lembert suture were inserted. A third supporting layer of interrupted sutures was then introduced. This was done on account of the softened condition of the stomach wall surrounding the ulcer. The peritoneal cavity was well swabbed with normal saline solution. The wound in the abdominal wall was closed in three layers except the lowest part, into which a drainage-tube was inserted.

The tube drained serum for two days. The skin sutures were removed on the tenth day, the wound having healed by primary union. The tube sinus closed on the seventeenth day. The patient left hospital at the end of a month. I heard on December 10th, 1910, that she had had no return of indigestion and intended to return to service in the new year.

The success of this operation was doubtless due (1) to the fact that the case was so quickly diagnosed by Dr. Pollard, and that an operation within a few hours of the perforation was rendered possible; (2) that the perforation was easily discovered and accessible; and lastly, but not least, to the skilful administration of the anaesthetic by Dr. Whiting.

MR. T. GUNTON ALDERTON, on his retirement from the post of Senior Anaesthetist at the West London Hospital after upwards of thirty-four years' service, was presented by his colleagues on the staff with an excellent portrait of himself painted by Mr. Edward Mills. The presentation was made by Mr. Swinford Edwards at the staff dinner held at the Great Central Hotel on January 11th. Mr. Alderton is Treasurer (late President) of the West London Medico-Chirurgical Society, and a member of the Board of Management of the West London Hospital.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

YORKSHIRE BRANCH: BRADFORD DIVISION AND BRADFORD MEDICO-CHIRURGICAL SOCIETY.

A COMBINED meeting was held on Tuesday, December 20th, 1910.

Specimens.—The following specimens and cases were shown: Dr. MITCHELL: Cases from the *X*-Ray Department. Mr. ALTHORP: (1) Epithelioma of chin and lower lip, operated on three years ago; (2) polypus of small intestine causing intussusception; (3) fibroid uterus removed by abdominal hysterectomy. Dr. BRONNER: A case of choroido-retinitis simulating retinitis pigmentosa, in a boy of 8 with good vision. Dr. JASON WOOD: (1) Fibroid uterus, broad ligament cyst removed by abdominal hysterectomy; (2) calculous kidney; (3) malignant growth of the upper jaw; (4) scirrhus of breast with unusual amount of ulceration of skin; (5) extrauterine gestation. Dr. CAMPBELL: Liver, spleen, and stomach from a case of ascites which died suddenly. Mr. WILMOT: Kidneys from a case of puerperal eclampsia. Dr. EURICH: Cases of: (1) Thomsen's disease; (2) cardiac infantilism; (3) tabes in an old woman with paralysis agitans; (4) psychosis of peripheral neuritis; (5) a clinical method for detection of blood. Dr. LITTLE and Mr. GOYDER: Three cases after decompression operation for intracranial tumour—(1) tuberculous tumour in region of internal capsule; (2) tumour of pituitary body; (3) tumour in posterior cranial fossa. Mr. F. W. GOYDER: (1) Five cases after operation for cleft palate; (2) five cases after operation for harelip; (3) specimen of gangrenous small intestine removed from a case of strangulated umbilical hernia; (4) prostate removed by "Young's" perineal method.

Reports of Societies.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Wednesday, January 11th, 1911.

Dr. BYROM BRAMWELL, President, in the Chair.

Treatment of Plague.

DR. J. C. THOMSON said that in view of the recent outbreak of plague in the eastern counties in England, it might be interesting to give some results of his experience of the disease in Hong Kong. With regard to general management, while pneumonic cases were virulently infective through the lung emanations, bubonic and septicaemic cases could be treated with safety in a general hospital, the ordinary disinfection arrangements used in typhoid fever being sufficient. The faecal and urinary discharges should be placed for some time in a strong disinfectant before being put into the drains. Combined measures for extermination of rats were necessary, and for infectious rooms and houses strong pulicide sprays were required to destroy the fleas. Good nursing was of the first importance as in the asthenic fevers. The nurses should be warned to at once seal with collodion any skin wounds and abrasions. The recumbent posture was essential in view of the danger of heart failure. Fresh air, frequent cleansing of the mouth, daily sponging of the body, were all important. The food should be bland and fluid. Cold water was to be given between meals, and, if necessary, forced upon the patient. Cardiac stimulation was a routine from the earliest stages. He gave about 4 oz. of brandy daily, and also strychnine and strophanthus. Occasional symptomatic treatment was called for: constipation at the outset by a mercurial and saline purge, and later by enemata; diarrhoea by modification of the diet, and, if need be, by opiates; high temperature by cold application, and never by antipyrin; headache by caffeine; delirium by morphine and hyoscine, or by cold application; and haemorrhage by calcium chloride or adrenalin. With regard to the plague bubo, the speaker was opposed to excision, and advocated the ordinary conservative surgical treatment, trying to stave off suppuration, but, if that

Universities and Colleges.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY Council was held on January 12th, 1911, Mr. H. T. Butlin, President, in the Chair.

Examiner.

Mr. H. J. Waring was appointed Examiner in Surgery in the vacancy occasioned by the retirement of Mr. Bruce Clarke.

Epidiascope.

The purchase of an epidiascope (Carl Zeiss) was sanctioned for the illustration of College lectures.

Queen Victoria's Jubilee Institute.

Mr. Edmund Owen was nominated to represent the College on the Council of Queen Victoria's Jubilee Institute for Nurses.

University of St. Andrews.

The President was delegated to take part in the celebration of the Five Hundredth Anniversary of the Foundation of the University of St. Andrews, in answer to a letter from that university.

Lectures for 1911.

The following are the arrangements for lectures:

Professor F. W. Edridge-Green, on colour vision and colour blindness, on February 1st and 3rd.

Professor W. d'Este Emery, on the immunity reaction in relation to surgical diagnosis, on February 6th and 8th.

Professor B. Moore, on new views on the chemical composition and mode of formation of renal calculi, and the metabolism of calcium in gout and allied conditions, on February 10th.

Professor G. Elliot Smith, on the history of mummification, a discussion of the nature and historical significance of the important mummies and other embalmed bodies, and the Egyptian and Nubian anthropological and pathological specimens in the College Museum, on February 13th, 15th and 17th.

Professor Arthur Keith, on the anthropology of ancient British races, illustrated by the Museum collection, on February 20th, 22nd, 24th, and 27th, and March 1st and 3rd.

Professor K. W. Goadby, on the association of diseases of the mouth with rheumatoid arthritis, and certain other forms of rheumatism, on March 6th.

The lectures will be given at 5 o'clock on each day.

As already announced, the Hunterian Oration will be delivered by Mr. Edmund Owen at 4 p.m. on Tuesday, February 14th.

CONJOINT BOARD IN ENGLAND.

THE following candidates have been approved in the subjects indicated:

FIRST COLLEGE PART I (*Chemistry*) and PART II (*Physics*).—J. Andrew, *K. L. Bates, *R. N. Bates, †J. H. Bayley, *J. Behesnilian, J. W. Bouwer, †A. A. Brown, †W. B. Buer, A. Bulleid, *P. H. Burton, *A. S. Carter, †E. S. Cuthbert, †H. G. Dresing, D. J. Evans, I. Fischer, †J. Fox-Russell, †C. C. G. Gibson, †K. J. M. Graham, J. V. Griffith, *H. J. Grimshaw, W. T. Gwynne-Jones, †G. Hahr, W. L. A. Harrison, †R. A. Holmes, †L. Horsley, †E. G. Howell, *H. B. Hyde, V. C. James, W. B. Jepson, *J. R. John, N. S. Koch, C. W. Lakin, H. G. Ludolf, †A. J. V. McDonnell, J. McDonnell, W. H. Milligan, H. D. Pickles, D. J. Platts, †W. H. A. Pratt, †R. B. Pullin, R. M. Reid, Khan Sahib, *P. Savage, *N. A. Scott, *A. D. Stammers, *D. P. Thomas, *J. A. Tippet, *J. Totton, R. M. Tuke, *W. A. Turner, J. Victory, *H. Whyte, †H. E. P. Yorke.

* Passed in Part I only. † Passed in Part II only.

FIRST COLLEGE. PART III (*Elementary Biology*).—J. G. Ackland, P. W. L. Andrew, K. L. Bates, J. W. Bouwer, W. A. Clements, O. F. Conoley, H. C. Duggan, J. E. Evans, Moustafa Fahmy, I. Fischer, J. D. Fleck, W. T. Gwynne-Jones, A. R. Hacker, G. H. Haines, D. V. Halstead, W. O. Hughes, V. C. James, W. B. Jepson, C. W. Lakin, Marie G. G. C. Link, N. H. S. Maelzer, L. T. Montgomery, H. M. Peacock, R. B. Pullin. B. Pyman, N. W. Rawlings, N. A. Scott, Mian M. Shaffi, W. A. Turner, F. B. Yonge.

FIRST COLLEGE. PART IV. (*Practical Pharmacy*).—R. C. Briscoe, R. E. R. Burn, M. Burnett, *P. H. Burton, A. S. Coalbank, J. Coplans, J. H. Cumming, W. Dale, G. A. Ewart, S. A. Faulkner, B. Grellier, H. K. Griffith, J. C. Hallinan, W. P. Harrison, G. A. Hooton, E. E. Johnson, F. W. Lawson, V. E. Lloyd, R. H. Lucas, G. O. Maw, H. Millett, G. Nelson, Lily F. Pain, J. L. Perceval, H. Platts, C. H. G. Pochin, F. A. Powell, P. W. Ransom, E. G. Reeve, T. C. Reeves, G. A. Russell, D. Scott, A. K. Soutar, R. C. W. Staley, E. J. Storer, O. R. Unger, B. T. Verver, W. P. Vicary, E. White, A. T. Williams.

* Under old regulations.

SECOND COLLEGE (*Anatomy and Physiology*).—Ahmed Abdelal, F. D. Annesly, E. B. Argles, G. Aspinall-Stivala, H. J. Bower, H. C. Billings, C. F. Burton, J. S. Cocks, L. D. Cohen, G. M. Coope, D. C. Cooray, E. D. D. Davies, R. Ellis, E. D. Fountain, Vraspillai Gabriel, A. P. Green, H. S. Groves, H. Gwynne-Jones, Mahammad Z. Hanafy, A. M. Henry, J. Higgins, T. H. Jackson, J. W. Kemp, H. D. Lane, D. Lewis J. Lloyd, D. H. McDonald, D. D. Malpas, P. U. Mawer, J. D. Mercer, H. Parker, Mahamarrakhelegy G. Perera, M. G. Pettigrew, A. C. Pickett, W. R. Pryn, H. J. Rawson, P. H. Rawson, E. E. Samaraweera, C. P. C. Sargeant, Abd-el K. Selim, Jagannath V. Shirgaokar, C. R. Smith, F. L. Spalding, W. A. Stewart, E. A. Sutton, T. H. Thomas, A. R. Turtle, J. A. Watson, J. D. Wilkinson S. A. Wilkinson, L. D. Wright.

Public Health AND POOR LAW MEDICAL SERVICES.

MANAGEMENT OF ISOLATION HOSPITALS.

OUR attention has been directed to the proceedings at a coroner's inquest, a report of which appeared in the *Blaydon* (County of Durham) *Courier* of December 24th, 1910. This inquest was held at the Addison Colliery on the body of a female child 6 years of age, who had been certified by her medical attendant (Dr. Pirrie) as suffering from diphtheria and requiring removal to the isolation hospital. The removal of the patient was not effected by the isolation hospital staff, as the patient when brought under their notice then appeared too ill to bear the journey and the risks necessarily associated with it.

It appears from the evidence of the father of the deceased child that on Sunday, December 11th, 1910, she became ill with a supposed cold, and continued to get worse till the following Thursday, when Dr. Pirrie prescribed medicine for her, and early on the following day visited her at her home; he then found her to be in a serious condition from diphtheria, considered tracheotomy necessary, and urged in writing her early removal to the isolation hospital, in order that the operation he considered necessary might be performed there. This written document was sent at once to the medical officer of health, Dr. Morrison, and reached him at 11.18 a.m. He immediately telegraphed to the sanitary inspector to visit the case and to report thereon; this process appears to have taken up more time than might have been expected, but when the sanitary inspector arrived at the patient's house he found her in such a serious condition that he hesitated to take steps for her removal to the hospital without further instructions. A report to this effect was made to Dr. Morrison, which report appears to have reached him at 2.45 p.m., and almost at the same time a further request for the patient to be removed to the hospital arrived. Dr. Morrison then visited the patient himself, and after examination formed the opinion that the patient was in too dangerous a condition to face the risk of removal. The child consequently remained at home, and died about 3 o'clock the following morning, no operation having been performed. The jury, after much evidence had been given, returned a verdict that the deceased died from asphyxia due to diphtheria, but this verdict was accompanied by a rider that "they wished the Blaydon Council to make different arrangements in the future."

Such are the main facts of this unfortunate case which, we are inclined to think, has been made rather too much of, and discussed at unnecessary length. The coroner was, of course, quite right in telling the jury that there was only one doubtful point they had to decide—namely, whether blame attached to any one in consequence of the deceased child not having been removed to the isolation hospital—a very difficult, if not impossible, question for the jury to decide, since Dr. Pirrie, the private medical attendant of the patient, was strong for the removal, and Dr. Morrison held an equally strong opinion against removal; both agreed that the case was one of most critical character, and it would be indeed wonderful if in such cases some difference of opinion did not sometimes arise. We notice in the report of the case that the term "blundering" was used to express a fault which some one had been guilty of, but we fail to see that any real blunder in the matter was proved by the evidence to have occurred, nor do we think it quite fair to the sanitary inspector that he should have been described as being "frightened" by the blue appearance of the child when he visited it. This appearance had the effect of putting him on his guard, but for him to be spoken of as being "frightened" seems to be a misuse of words. The court would appear to have forgotten the fact that when isolation hospitals were established the main object for bringing them into existence was not to provide special operative or other treatment for patients after admission, but for the purpose of isolating patients with infectious diseases away from their own homes, and so preventing the spread of such infectious diseases; when suitable patients are removed with this object in view a few hours' delay in the process can hardly be correctly regarded as of vital importance. No doubt efficient treatment after removal to these special hospitals is the next thing to be provided there.

It was stated at the inquest that in the past the officials of the Blaydon Isolation Hospital had endeavoured to frame regulations for the admission of patients which would meet the requirements of the day, and we sincerely hope the verdict of the jury and the rider following it will bear some good fruit in this direction. We are pleased to see that no one engaged in the case was in any way censured by the verdict; it would have been hard indeed if such had been the case. The jury evidently considered that all so engaged had endeavoured to perform their respective duties under difficulties.

RAG FLOCK AND BEDDING.

A DEPUTATION representing the rag flock trade waited on Mr. John Burns at the Local Government Board on January 12th to urge that any regulation or legislation contemplated for governing the manufacture of rag flock for use in the bedding, mattress, furnishing, and upholstering trades should compel

efficient steam sterilization of the raw material. It was insisted that disease germs could not be removed by washing alone, and if a chemical standard were permitted a sense of security would be implied that had no existence in fact.

Mr. Burns, in replying, said that since he had received the deputation on this subject in June last he had himself visited several works where rag flock was manufactured, and had seen material converted into flock which no amount of sterilization could possibly have rendered innocuous. On the other hand, he was of opinion that washing would probably have removed nine-tenths of the objectionable elements. It was the business of his department, in the interests of public health, to ensure a supply of clean and wholesome bedding. It was clear that the trade were not unanimous on this matter; one section were in favour of washing, and the other of sterilization, and he advised both sections to come to some agreement as to what, from their point of view, would be practicable, and would, at the same time, meet all the requirements.

ASSOCIATION OF MEDICAL OFFICERS OF HEALTH.

A COUNCIL meeting of the Association of Medical Officers of Health was held at the Holborn Restaurant on January 13th, with Dr. Crookshank in the chair. There was a good attendance.

Mr. D. A. Belilios (the secretary) read replies to the letter of the association to societies and associations which represent the various interests of practitioners who hold public appointments under central and local authorities. The council noted with satisfaction that at least four other associations would be represented at the meeting proposed to be held in London on Thursday, March 23rd, to discuss methods by which some joint action could be organized.

The council discussed the Order of the Local Government Board, 1910, relative to medical officers of health and sanitary inspectors and the following resolution was unanimously carried:

> We welcome the measure of security of tenure to the medical officers of health by the Order, and recognize with satisfaction that the Board does not differentiate therein with respect to conditions of tenure between whole and part time medical officers of health, but regret the Board has not so far seen its way to assimilate the security of tenure of medical officers of health to that enjoyed by Poor Law medical officers, and to make provision for superannuation in suitable cases.

The council also discussed the accompanying memorandum, and it was resolved:

> That this council notes with extreme regret that the Local Government Board specially express an opinion that in the case of medical officers of health engaging in private practice, their private interests are apt to conflict with their public duties. For, even if this opinion be correct, it is obvious that any argument deducible therefrom applies with even greater force to medical officers of health who are entirely dependent upon their official salaries.

MILK FAT AND THE HOURS OF MILKING.

ON January 16th Sheriff-Substitute Orr, in the Edinburgh Sheriff's Court, gave a decision of no small importance to the public, as well as to dairy-keepers. Sheriff Orr said this was a complaint brought by the Public Prosecutor in respect of an alleged contravention of Section 6 of the Sale of Food and Drugs Act, 1875. The offence alleged was that the respondent, being under contract to sell and deliver daily a quantity of sweet milk to a certain retailer of milk, and a sample of said milk having been taken on June 17th, 1910, as it was being delivered by respondent's servant, it was found not to be genuine sweet milk, but milk which contained less than 3 per cent. of milk fat. In other words, it was charged that the respondent, being asked for and professing to sell sweet milk, sold, in the language of Section 6, an article which was not quite of the nature, substance, and quality of the article demanded by the purchaser. The sample when analysed showed 2.32 per cent. of milk fat. The statutory regulations framed by the Board of Agriculture provided that where a sample of milk (not being milk sold as skimmed, separated, or condensed milk) contained less than 3 per cent. of milk fat it should be presumed for the purposes of the Act, until the contrary was proved, that the milk was not genuine by reason of the abstraction therefrom of milk fat, or the addition thereto of water. In the present case, however, the prosecutor did not allege that the milk was adulterated either by the abstraction of milk fat or by the addition of water; on the contrary, he admitted that nothing was done to the milk, but he said that it was not genuine sweet milk within the meaning of the Act and of the regulations. Now, the phrase "sweet milk" or "genuine sweet milk" which appeared in the complaint did not occur in the Act. What was meant was that the article here supplied was not what the purchaser expected or was entitled to expect when he asked for "sweet milk." The milk supplied was strikingly deficient in milk fat, but that alone did not prove the prosecutor's case. The regulations did not set up any standard; they merely said that if a sample contained less than 3 per cent., it lay on the respondent to prove—which meant that it was open to him to prove — that the milk was nevertheless genuine. The abnormal condition of the milk might be due to the abnormal and improper way in which the cows had been treated or fed. Sheriff Orr found no suggestion in the evidence that the respondent's cows were ill. On the contrary, they were shorthorns of a good quality, for which an average market price had been paid, and they were in good condition at the time. They were kept in good byres, and their feeding was good and satisfactory. The prosecutor placed stress upon the number of milkings as explaining, or going a long way to explain, the deficiency in milk fat. That was the matter which, perhaps more than any other, had invested the present case with an aspect of general importance to the dairy trade in the Edinburgh district, and probably beyond it. That arose from the fact that the system of milking followed by the respondent was the same as that followed by the other members of the trade in the district in question, and a decision in the present case adverse to the respondent on that ground might have serious effects far beyond the individual concerned. His hours of milking were 3 a.m., then 8.30 a.m., and then 2 p.m. That left an interval of thirteen hours between the afternoon and the morning milkings. Practically the whole trouble, from the point of view of the authorities, was with the morning milk; prosecutions were scarcely known in connexion with forenoon or afternoon milk. Two samples of respondent's forenoon milk were analysed in February and March, 1910, and these showed the milk fat at 4.00 and 4.30 respectively. He found nothing in the evidence to show that the system of milking as conducted by the respondent was an abnormal treatment of his cows or brought them into an abnormal condition in any respect, or that it explained the exceptional and abnormal deficiency in milk fat on the occasion libelled. The prosecutor, however, maintained that the respondent did not do his duty to the public, and did not sufficiently comply with the statute, even although he supplied milk as it actually came from cows kept in a healthy condition and well fed, and followed in the conduct of his trade the system of milking customary in the district, if the result be, as it was here, that he was supplying milk so poor as to contain only 2.32 per cent. of milk fat. He maintained that the respondent, with the regulations before his eyes indicating 3 per cent. as the normal standard, must make further efforts to reach that standard. He maintained that if the respondent could not attain the 3 per cent. standard by his present system of milking it was his duty to change his system, as by adopting the twice a day system at equal, or nearly equal, intervals; that, if necessary, it was his duty to keep records of the milk of each cow and also of his herd, with the age of cows and date of calving, so that by grading his herd according to the period of lactation the weaker milk of one cow might be counteracted by the richer milk of another, and the 3 per cent. standard maintained. The respondent ought to have samples of milk analysed at reasonably frequent intervals. The Edinburgh public demanded milk three times a day, and to milk only twice a day would be to blot them out of the business. The Sheriff-Substitute confessed he had very considerable sympathy with the prosecutor's view. A great deal more vigilance might be exercised in grading his herd according to the period of lactation, and in ascertaining the quality of the milk of the herd, and even of individual cows. He thought that if dairy keepers had a little more scientific knowledge there might be improvements in their method. To a great extent technical education had not yet reached the dairy trade. It was possible enlightened self-interest might ere long supply the needed spur. Dairy-keepers who were content with the traditional methods no longer had the field to themselves. Milk-supply companies were entering into competition, and apparently carrying off a considerable part of the trade. They were fully alive to the necessity of keeping up to the 3 per cent. standard; they refused to buy milk that fell below it, and they had their milk systematically analysed. While he hoped the facts brought to light would serve a useful purpose, he thought it had not been proved that a contravention of the statute had in this case been committed.

Two other cases hanging on this decision were withdrawn.

Medical News.

MR. A. HARDEN, F.R.S., head of the Biochemical Department of the Lister Institute, will give a course of six lectures on milk, followed by practical work, at the South-Western Polytechnic Institute, Chelsea, on Thursday evenings, at 7.30, beginning on February 2nd.

THE first of a course of lectures arranged by the Child Study Society of London will be given at 90, Buckingham Palace Road, S.W., on January 26th, by Mrs. Scharlieb, M.D., M.S., the subject being recreation activities of girls during adolescence.

A NEW society for the study of skin diseases, called the London Dermatological Society, has lately been formed. The following have been elected officers for the ensuing year: President, Dr. Phineas S. Abraham; Hon. Treasurer, Dr. William Griffith; Hon. Secretaries, Dr. G. Norman Meachen and Dr. David Walsh.

AT the conference on January 10th, when the Chancellor of the Exchequer received a deputation representing the deposit friendly societies (BRITISH MEDICAL JOURNAL, January 14th, p. 101), the Holloway friendly societies were represented by Mr. H. G. King and Mr. Walter H. Madge. Mr. T. Barnes, Grand Master of the Independent Order of Oddfellows (Manchester Unity), who was a member of the deputation, was incorrectly described as Grand Master of the Ancient Order of Foresters.