

excitability of the auriculo-ventricular node. We have thus an extraordinary opportunity of studying a series of vital processes, and the manner in which they can be affected by a variety of circumstances, including the influence of nerves, of the agents of disease, and of remedies.

There is something peculiar about the auriculo-ventricular node. As I have said, while it is under the dominance of the sino-auricular node its peculiarities are hidden. I remember that when first I read Tawara's account of this node I was reminded of Gaskell's description of the primitive cardiac tube.⁸ In the canalis auricularis of the tortoise there is a ring of muscular fibres of a peculiarly sensitive kind. Gaskell describes the manner of exploring this ring as follows:

"Slit up one auricle and the ventricle, and pin back so as to expose the septum; the two vagi nerves on the septum, with their terminations in Bidder's ganglia, are then most easily seen, as well as the muscular ring between auricles and ventricle, and the whole field can be explored, under a lens, with the point of a needle before and after removal of the septum and Bidder's ganglia. Now, cut away the sinus, the whole preparation remains quiescent; touch the outlying auricular or ventricular tissue with the needle point, each time a single contraction takes place, and no more; touch either of Bidder's ganglia, not a single contraction takes place; pierce it again and again, and put it about, no sign of contraction. Touch the auriculo-ventricular ring of muscle with the slightest stimulus, immediately a series of rhythmical contractions occurs. It is most striking to see, after removal of the septum, how every portion of auricular and ventricular tissue can be explored up to the very edge of the ring, without obtaining more than a single contraction, while immediately the needle touches the muscular ring a series of rapid contractions results. Conversely, the two Bidder's ganglia can be cut away, and yet stimulation of the ring will produce a rhythmical result."

I have assumed that this muscular ring is the progenitor of the auriculo-ventricular node, and I was reminded of this fact when I investigated the behaviour of the auriculo-ventricular node in auricular fibrillation. In this condition the auriculo-ventricular node becomes extraordinarily susceptible to stimulation. In some cases, on the onset of fibrillation of the auricle, the rate of the ventricle may reach a speed of 150 to 160 beats a minute. This rate may be kept up for days and weeks; usually it slows down, sometimes very considerably, but when it has slowed down, even below the normal rate, the slightest effort may cause an increase in rate from 50 to 160 a minute, an increase of rate far greater than that which occurs with the normal rhythm.

Striking as is this excitability, just as striking is the manner in which this excitability becomes diminished. Agents which have an effect in depressing or inhibiting this activity have far more effect than upon either the sino-auricular node or the auriculo-ventricular node with the normal rhythm. It has been shown that bodily effort, by setting up impulses which are conveyed to the heart by the sympathetic nerves, increase the rate, while the cessation of effort causes a fall in rate. This fall in rate may become greater in auricular fibrillation than in the normal rhythm, so that bodily rest may be accompanied by a remarkable slowing of the pulse. Digitalis, which usually has little or no effect in slowing the heart when the sino-auricular node is active, readily acts upon the auriculo-ventricular node in auricular fibrillation—to such an extent that the rate of the pulse may fall as low as 40 or 30 beats a minute.

This susceptibility to digitalis is brought strikingly out in those cases in which the normal rhythm is restored while the heart is under digitalis. During auricular fibrillation the ventricular rate may be 40 a minute, but as soon as the normal rhythm is established the rate may rise to 60 or 70 beats a minute, and although digitalis may be continued in large quantities no effect may be produced in the pulse rate.

THE LOSS OF CONTROL.

These results demonstrate that something more has happened to the heart than the onset of auricular fibrillation. The susceptibility of the node has become enormously increased, both in a positive and negative sense. The question arises, What is the reason for this curious alteration? It was the recognition of this which led me to suggest that

the higher levels of the regulating processes have an influence beyond merely conveying impulses which stimulate the cells into activity. There is some influence which keeps them from responding to other stimulation, and restrains and regulates their activity so that they all work harmoniously.

There are several instances in nature which suggest this influence. When the muscles of the body are removed from the influence of the cortex, as in the decerebrate animal, the muscles tend to pass into the state of rigidity. This is due to their having become much more sensitive to impulses which reach them from other parts of the body.

It was because of this increased susceptibility to stimulation that Sherrington employed the decerebrate animal for his investigations into muscle reflexes. With the brain intact he found the muscles so restrained that he could not get the same satisfactory results.

We have seen in the description of the experiments of the medusa that the sensitive bodies at the margin exercise a controlling influence which is lost when a ring of muscle is separated from the body.

It is to be noted in Gaskell's description that before he demonstrated the excitability of the auriculo-ventricular muscular ring he removed it from the influence of the sinus, which he cut away. This excitability of the auriculo-ventricular node is only shown when it is likewise removed from the influence of the sinus—that is, the sino-auricular node.

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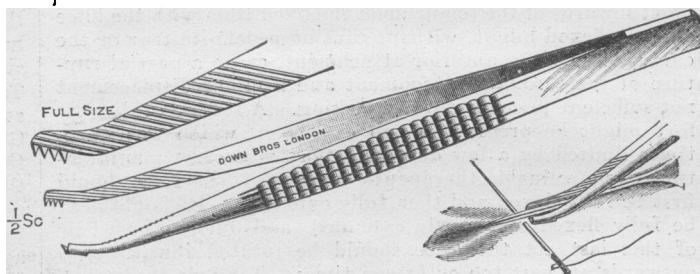
- ⁶ Withering, W.: *Account of the Foxglove*, 1785.
⁷ Mayer, A. G.: *Rhythmical Pulsation in Scyphomedusae*. Papers from the Tortugas Laboratory. Carnegie Institution of Washington, publication No. 102, vol. i.
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(To be continued.)

Memoranda : MEDICAL, SURGICAL, OBSTETRICAL.

A NEW SKIN FORCEPS.

I VENTURE to submit to surgeons a novel idea in forceps for skin suture, illustrated in the accompanying figures. The object is to secure full eversion of the edges of the skin in closing a wound. The forceps have strong blades, deeply serrated on the inner surface near the ends, to secure a firm hold on the skin and prevent slipping. The ends of the forceps, as shown in the figure, are bent at an angle to the blades, and on the under edge are three strong teeth. On applying the forceps fairly close to the edges of the



skin, one on each side, and pressing the blades firmly together, the edges themselves are evenly everted, and an assistant can run either a straight or curved needle through both lips of the wound, and tie the suture, while the surgeon holds them in the everted position; or the assistant can apply the forceps and the surgeon, if he prefers it, pass the needle. The second figure illustrates the forceps in operation. They have stood the test of experience, and furnish a very ready means of closing a wound without any inversion of its edges, and without having to pick up each edge separately.*

C. P. CHILDE, B.A., F.R.C.S.,
Senior Surgeon, Royal Portsmouth Hospital;
President of the British Medical
Association.

* The forceps have been made for me by Messrs. Down Bros.

office he was instrumental in securing a large advance in the general utility and administration of union hospitals and the dietary of patients and pauper inmates of workhouses. Dr. Smyth was the author of several small works on Poor Law nursing and dietaries.

Dr. ALBERT VICTOR CRAIG, M.C., who died recently at his residence in Colne, was the son of Mr. N. J. Craig of Belfast. He was educated at Queen's University, Belfast, and graduated M.B., B.Ch., B.A.O., R.U.I., in 1909. He obtained the M.D. of Queen's University, Belfast, in 1923, having previously taken the D.P.H.Camb. For a short time he was resident pupil at the Royal Victoria Hospital. After periods of service in London, Dublin, Huddersfield, and Brighton, and as surgeon on a Union Castle liner, he joined the R.A.M.C. with a temporary commission on the outbreak of war, and was awarded the Military Cross. He was promoted captain at the end of a year's service. On demobilization he went into practice at Colne and became a member of the Burnley Division of the British Medical Association.

Dr. VICTOR SCHEEL, chairman of the Danish Medical Association from 1913 to 1922, chairman of the Medical Society of Copenhagen from 1910 to 1913, and editor of *Ugeskrift for Læger*, has died at the age of 54. He was both a pathologist and a clinician, and among his principal works were publications on the pathology of cirrhosis of the liver and a monograph on nephritis. He held that cirrhosis of the liver depended on other factors than alcohol, and attached special importance to predisposition and infections. His capacity for bodily and mental work was extraordinary, but about two and a half years ago his health began to fail. He suffered from attacks of headache and hemianopsia. He was blind for about four months before his death.

Dr. GEORGE MOREWOOD LEFFERTS of New York, founder of the American Laryngological Society and of the *Archives of Laryngology*, has recently died at the age of 77.

Dr. DE BEURMANN, a well known Paris dermatologist, who has given his name to a form of sporotrichosis, has recently died.

Dr. P. CHASLIN, a well known Paris psychiatrist, has recently died at the age of 66.

Universities and Colleges.

UNIVERSITY OF LONDON.

A MEETING of the Senate was held on December 19th, 1923.

The following were recognized as teachers of the University in the subjects named at the institutions indicated:

King's College for Women (Household and Social Science Department): Dr. Cuthbert E. Dukes (hygiene). *St. Bartholomew's Hospital Medical College*: Dr. W. A. Cunningham (biology), Mr. S. W. F. Underhill (physiology). *Middlesex Hospital Medical School*: Mr. W. T. Warwick (surgery and pathology). *London School of Medicine for Women*: Dr. Dorothy C. Hare (clinical medicine). *University College Hospital Medical School*: Mr. E. K. Martin (surgery), Mr. H. Neame (ophthalmology). *Lister Institute of Preventive Medicine*: Dr. Harriette Chick (experimental pathology—physiology of nutrition).

Dr. Eleanor M. Scarborough was appointed to the recently instituted professorship in pharmacology tenable at the London School of Medicine for Women. Miss Scarborough has been admitted to the Faculty of Medicine.

The following courses of lectures are announced:

Three lectures, with lantern illustrations, at University College, on the influence of improved town planning and housing in public health by Professor J. Robertson, C.M.G., O.B.E., on January 18th, February 8th and 15th, at 5 p.m. At the London (Royal Free Hospital) School of Medicine for Women, three lectures by Dr. G. FitzGibbon on the treatment of contracted pelvis, on January 29th, 30th, and 31st, at 5 p.m.; four lectures by Miss W. C. Cullis, O.B.E., D.Sc., on respiratory changes, on January 24th and 31st and February 7th and 14th, at 5 p.m. Four lectures in the Governors' Hall, St. Thomas's Hospital, by Dr. J. A. Murray, on cancer, on February 21st and 28th and March 6th and 13th, at 5 p.m. Four lectures by Professor B. J. Collingwood, O.B.E., on blood, at St. Mary's Hospital Medical School, on February 21st, 28th, March 6th and 13th, at 5 p.m.

The Services.

TERRITORIAL DECORATION.

THE Territorial Decoration has been conferred upon the following medical officers:

TERRITORIAL ARMY.—ROYAL ARMY MEDICAL CORPS: *General List*—Lieut.-Colonels T. A. Barron, D.S.O., J. M. Gover, D.S.O., W. Lister, and D. G. Rice-Oxley, M.C.; Majors A. C. Goodwin, D. V. Haig, A. Ayre-Smith, and G. E. J. A. Robinson, M.C.; Captain (Brevet-Major) C. W. Wirgman. *General Hospitals*—Lieut.-Colonels G. S. A. Ranking, C.M.G. (ret.), and D. J. Graham, O.B.E.

TERRITORIAL ARMY RESERVE.—ROYAL ARMY MEDICAL CORPS: *General List*—Lieut.-Colonel P. Moxey.

GREENWICH HOSPITAL PENSION.

SURGEON CAPTAIN EDMUND CORCORAN, R.N. (ret.), has been awarded the Greenwich Hospital pension of £50 a year in the vacancy created by the death of Deputy Inspector-General of Hospitals and Fleets John Tyndhall, R.N. (ret.), on December 9th, 1923.

LEATHS IN THE SERVICES.

Lieut.-Colonel William Finlay, R.A.M.C. (retired), died in Jersey on December 16th, 1923, aged 77. He was the son of the late Mr. George W. Finlay, J.P., of county Dublin, and was educated in Dublin; he took the diplomas L.R.C.S.I. and L.K.Q.C.P. in 1870, and entered the army as assistant surgeon in 1871; he became surgeon lieutenant-colonel after twenty years' service, and retired on February 15th, 1893. After his retirement he was employed in Jersey for six years (1905-11).

Lieut.-Colonel John Adolphus Burton, Madras Medical Service (retired), died at Wallington on January 1st, aged 61. He was born at Rajamandri, in the Madras Presidency, the son of Mr. Benjamin Burton, writer, and educated at the Madras Medical College and at Edinburgh. He took the diplomas of L.R.C.P. and S.Edin. in 1879 and entered the I.M.S. in 1880; he became lieutenant-colonel after twenty years' service, and retired at the end of 1910. He served in the China war of 1900, receiving the medal, and rejoined for service during the late war, 1914-16.

Medical News.

THE Royal Anthropological Institute has founded a Rivers memorial medal, in memory of Dr. W. H. R. Rivers, who was its president at the time of his death. We learn from *Nature* that the medal will be awarded for specially meritorious anthropological work in the field and that two may be given in any year. All British subjects, and anthropologists of other nationalities who may be Fellows of the Institute, will be eligible.

THE seventy-fifth anniversary of *Le Scalpel*, the well known Belgian medical journal, was celebrated at Liège on November 25th, 1923, when Dr. Dejae, who has been editor for more than thirty years, was presented with his portrait.

A BRONZE bust of Dr. Gaetano Rummo, founder and editor of *Riforma Medica*, who died in 1917, is to be erected by public subscription at his native town, Benevento.

A DINNER of the Manchester Royal Infirmary Old Residents' Club will be held at the Midland Hotel, Manchester, on Tuesday, February 5th. Any old resident who has not received a notice is asked to communicate with the honorary secretaries, the Old Residents' Club, Royal Infirmary, Manchester.

THE Dental Board of the United Kingdom has arranged a course of four lectures which will deal with the jaws in health and disease; the lecturers will be Professor E. Fawcett, M.D., F.R.S., Professor James C. Brash, M.D., and Mr. G. Northcroft, L.D.S.R.C.S.Eng. The course, which is free, is intended primarily for dentists and medical practitioners, but dental students are invited to attend. The lectures will be repeated four times—at the Universities of Bristol, Liverpool, and Manchester, and at the offices of the Dental Board, 44, Hallam Street, London, W.1. They will be given during the first three months of the year, beginning at Bristol on January 25th. On April 29th, at 5.30 p.m., Sir Arthur Keith will give a lecture at the Royal College of Surgeons on changes now affecting the jaws and teeth of English people.

THE Sophie A. Nordhoff-Jung prize for the best work on the investigation of cancer has been awarded for the year 1923 to Dr. Johannes Fibiger, professor of morbid anatomy in the University of Copenhagen. The judges consisted of Professors Börst, Döderlein, von Romberg, and Sauerbruch of the University of Munich.

DR. ALEXANDER SIMPSON, C.B.E., on retiring from the position of medical superintendent of the County Mental Hospital, Winwick, Lancashire, which he had held for thirty-five years, has received a presentation of plate from his colleagues and the staff.

IN future the afternoon lectures at the Royal Institution will be given at 5.15 instead of 3, except on Saturdays. The first course will consist of two lectures on drug addiction, by Dr. W. E. Dixon, F.R.S. They will be delivered on Tuesdays, January 15th and 22nd, at 5.15, at 21, Albemarle Street, W.

ON Tuesday, January 22nd, at 8 o'clock, an evening concert will be given at the Wigmore Hall, Wigmore Street, W.1, in aid of the Royal Medical Benevolent Fund Guild, by the Stock Exchange Male Voice Choir, assisted by Miss Bessie Kerr, Mr. Alexander Price, and Mr. Ernest Busby. Tickets, price 12s., 8s. 6d., 5s. 9d., and 3s., may be obtained from Mr. C. Godwin, 25, Austin Friars, E.C.2.

THE sixth annual dinner of the London Neurological Clinic will be held at Princes' Restaurant, Piccadilly, W., on January 26th, at 7 for 7.30 p.m. Tickets 15s. each. The guest of the evening will be Lord Dawson of Penn. Past and present members who wish to be present should notify the Treasurer, Dr. E. F. Pratt, 15, Clarges Street, W.1, not later than January 19th.

THE Henry Saxon Snell prize, which was founded to encourage improvements in the construction or adaptation of sanitary appliances, and is awarded by the council of the Royal Sanitary Institute at intervals of three years, is offered in the year 1924 for an essay on improvements in the sanitary conditions of underground dwellings and small underground workshops. It will consist of 50 guineas and the medal of the Institute. The essay should consist of not more than 5,000 words, and be illustrated by drawings or sketches. It must be delivered on or before August 31st, 1924, to the Secretary of the Royal Sanitary Institute, 90, Buckingham Palace Road, S.W.1, from whom further details with regard to the conditions can be obtained.

MR. E. W. MORRIS, C.B.E., Ph.C., house governor of the London Hospital, will give a lecture to the Guild of Public Pharmacists on the future of voluntary municipal hospitals on Wednesday next, January 16th, at 7.30 p.m. The lecture will be given at the house of the Pharmaceutical Society, 17, Bloomsbury Square. The chair will be taken by Dr. H. L. Eason, C.B., superintendent and ophthalmic surgeon, Guy's Hospital.

THE Assistance publique of Paris has recently been left a legacy of one and a half million francs, a large part of which is to be employed for the supply of radium to the principal Paris hospitals.

A SPECIAL meeting of the Berlin Microbiological Society was held on December 11th, 1923, in commemoration of the eightieth anniversary of Koch's birth.

The Wellcome Foundation, Ltd., has recently been registered as a private limited company, with a capital of £1,000,000, to acquire from Mr. Henry S. Wellcome the business of Burroughs, Wellcome and Co. and the various scientific institutions founded and owned by Mr. Wellcome, who will be the governing director during his life. We are informed that the Foundation has been established entirely for private and family reasons, and that the business will be conducted on the same lines as heretofore. The scientific institutions will continue under separate scientific direction.

THE annual report for 1922 to 1923 of the Cicely Northcote Trust in connexion with St. Thomas's Hospital illustrates the value of the Trust, not only in the mere distribution of relief, but more particularly in the spheres of after-care and betterment of the home and employment conditions of the patients. Miss A. E. Cummins, the lady almoner of the hospital, describes the work done during the year, and, as in her annual report for the previous year, lays stress on housing difficulties as constituting the paramount obstacle to maintaining good results of in-patient treatment. The Butt Miller Fund for apprenticeship and training has again been of great service, and the after-care of cancer patients has been a special feature of the work. The Northcote Trust Hostel, opened in 1920, continues its valuable services as an educational and social agency in the treatment of venereal disease in women. Close co-operation has been maintained with the work of related charitable societies, county councils, and other bodies.

AT Wakefield, on December 21st, 1923, a West African negro, who claimed to be a herb doctor, or bush doctor, was sentenced to six months' hard labour for obtaining £15 by false pretences by pretending to cure a case of blindness due to shrapnel wounds. Further charges against him were that, being an alien, he had failed to register as such, and had entered the country without leave from the immigration officer.

A MEMORIAL tablet to the late Dr. Richard Cogswell Elsworth has been erected by his professional colleagues in the entrance hall of the Swansea Hospital in recognition of his twenty-three years' devoted services as honorary surgeon to the hospital.

A STREET in Arcachon has been named after the late Professor F. Jolyet, who had held the combined professorships of medicine and pharmacy at Bordeaux. He lived in Arcachon during his later years and directed the work of the laboratories there.

THE Danish Medical Association has recently been concerned with the problems arising out of an excess of doctors in Denmark. The suggestion that the final medical examination should be made more stringent has not met with general approval, and it has been urged that this procedure would be unfair to many who had already devoted several years to the study of medicine. The *Ugeskrift for Læger* states that one of the officials of the Danish Medical Association has put forward an alternative scheme, the object of which is to ease the present situation, not by curtailing the number of doctors, but by finding openings for Danish doctors abroad. Danish engineers have already established a bureau through which members of their organization can exchange information as to suitable openings abroad, and this bureau has already been found more helpful than official institutions such as consulates and embassies.

A COMMITTEE of medical men has been formed in Berne to organize an international congress on industrial health, to be held in Geneva next July. The subjects to be dealt with are industrial lighting and eye-strain, impure air in factories, and the value of fatigue tests. Further particulars can be obtained from the Institut d'Hygiène, the University, Geneva.

THE twentieth Dutch Congress of Natural Science and Medicine will be held at Groningen in the Easter week of 1925 under the presidency of Professor J. F. van Bemmelen of Groningen.

THE University of Lyons has conferred honorary degrees on Professors Maragliano of Geneva, Frédéricq of Liège, and Brachet of Brussels.

DR. TRICOT-ROYER, president of the International Society of the History of Medicine, has succeeded Dr. Loontgens as president of the Belgian Medical Federation.

PROFESSOR DANDOIS of Louvain has been elected president of the Belgian Royal Academy of Medicine, in succession to Professor Firket.

DR. WIKÉ has been appointed professor of therapeutics in the University of Geneva.

THE German Congress for Internal Medicine will be held at Wiesbaden or at some place in Central Germany in the week after Easter, when the following subjects will be discussed: (1) Mineral metabolism and ionization, introduced by Straub of Greifswald, Freudenberg of Marburg, and Wiechowski of Prague; (2) nervous diseases of the stomach, introduced by von Bergmann of Frankfurt and Magnus of Utrecht; (3) experiences of insulin treatment, introduced by Minkowski, president of the German insulin committee.

DR. MARTINEZ VARGAS, Dean of the Barcelona Faculty of Medicine and a well known pediatricist, has been nominated rector of the University of Barcelona, and is thus the fourth rector chosen from among the professors of the medical faculty.

THE fifty-seventh congress of the learned societies of Paris and the French Department's will be held at Dijon from April 22nd to 26th, 1924.

THE sixth French Congress of Orthopaedics will be held on October 11th, when the following subjects will be discussed: (1) Spina bifida occulta, introduced by Mutel of Brussels. (2) Treatment of dropped shoulder, introduced by Hallepeau of Paris. (3) Metatarsalgia (Morton's disease), introduced by Maffei of Brussels.

IN Prussia in 1920 543 cases of wounds inflicted by animals actually suffering, or supposed to be suffering, from rabies were officially notified. The corresponding figures for 1918 and 1919 were 194 and 402. Of the persons wounded, 340 were males and 203 were females. As in earlier years, most of the persons injured were young, 314 being between the ages of 6 and 30. The cases were most common in the hot summer months, 225 occurring from May to August. The districts adjoining Poland showed a comparatively high incidence, as did also the Rhine provinces. In addition to dogs certain other domestic animals were inculpated; they included 16 cattle, 42 cats, 6 horses, and 2 goats. Of the animals that had injured the 543 persons, 415 were found to be suffering from rabies, 44 were regarded as suspect, and 26 were found not to be suffering from rabies. Of the 543 persons, 520 were given specific treatment. There were 6 deaths from rabies, and of the 3 fatalities which occurred after specific treatment had been given, 2 occurred in persons to whom it had been given too late.