

Testimonials in favour of Thomas R. Fraser candidate for the chair of materia medica in the University of Edinburgh.

Contributors

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TESTIMONIALS

IN FAVOUR OF

THOMAS R. FRASER, M.D. (EDIN.), F.R.C.P.E.,

FELLOW OF THE ROYAL SOCIETIES OF LONDON AND EDINBURGH; CORRESPONDING MEMBER
OF THE THERAPEUTICAL SOCIETY OF PARIS, AND OF THE ACADEMY
OF NATURAL SCIENCES OF PHILADELPHIA:

FORMERLY ASSISTANT TO THE PROFESSOR OF MATERIA MEDICA IN THE UNIVERSITY OF
EDINBURGH; LECTURER ON MATERIA MEDICA IN THE EXTRA ACADEMICAL MEDICAL
SCHOOL OF EDINBURGH; ASSISTANT PHYSICIAN TO THE ROYAL
INFIRMARY OF EDINBURGH; AND EXAMINER IN MATERIA
MEDICA IN THE UNIVERSITY OF LONDON:

MEDICAL OFFICER OF HEALTH FOR MID-CHESHIRE; EXAMINER IN PUBLIC HEALTH IN THE
UNIVERSITY OF LONDON; AND EXAMINER IN MATERIA MEDICA IN
THE UNIVERSITY OF EDINBURGH:

CANDIDATE

FOR THE

CHAIR OF MATERIA MEDICA

IN THE

UNIVERSITY OF EDINBURGH.



MANCHESTER : PRINTED BY THOMAS SOWLER AND SONS.

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TO THE RIGHT HONOURABLE AND HONOURABLE THE
 CURATORS OF THE UNIVERSITY OF EDINBURGH.

MY LORDS AND GENTLEMEN,

I beg with much respect to offer myself as a Candidate for the Chair of Materia Medica in the University of Edinburgh, now vacant by the resignation of Sir Robert Christison.

I graduated in Medicine in the University of Edinburgh, in 1862. After holding the office of Resident Physician in the Royal Infirmary, I was appointed, in 1863, Assistant to the Professor of Materia Medica, and continued to act in that capacity until 1870, when I became a Lecturer on Materia Medica and Therapeutics in the Extra-Academical School of Medicine.

In 1869, I was appointed Examiner in Chemistry to the Royal College of Physicians of Edinburgh, and also Assistant Physician to the Royal Infirmary; and in 1870, Examiner in Materia Medica and Pharmaceutical Chemistry in the University of London. The two former offices I held until I left Edinburgh, in 1874, and the last until the termination of the five years to which its continuous tenure is limited.

In 1874, I was appointed Medical Officer of Health for Mid-Cheshire—a district extending over 266,429 acres, and including a population of upwards of 123,000 persons. This office I now hold, along with that of Examiner in Materia Medica in the University of Edinburgh, to which I was appointed in 1875.

On the invitation of the Senate of the University of London, I assumed, in 1876, the office of Examiner in Public Health in that University; and in the present year I have been engaged, at the request of the Lords' Commissioners of the Admiralty, as a Member of the Committee to inquire into, and report on, the causes of scurvy in the recent Arctic Expedition.

Having thus briefly adverted to the leading events in my professional life, I would refer, for further evidence of my qualifications for the high office to which I aspire to the testimony of distinguished members of the Medical Profession, including the most eminent Pharmacologists in this country and abroad. These Testimonials I now submit for your consideration, along with a list of my published papers.

I have the honour to be,

My Lords and Gentlemen,

Your obedient Servant,

THOMAS R. FRASER.

THE LODGE, Knutsford,
Cheshire, 26th May, 1877.

- LIST OF PUBLISHED PAPERS.

- 1.—ON THE CHARACTERS, ACTIONS, AND THERAPEUTIC USES OF THE ORDEAL BEAN OF CALABAR (*Physostigma venenosum*, Balfour). A Graduation Thesis for which a Gold Medal was awarded by the Medical Faculty of the University of Edinburgh. *The Edinburgh Medical Journal*, July, August, and September, 1863; and Pamphlet, pp. 44.
- 2.—ON THE MOTH OF THE ESERE, OR ORDEAL BEAN OF CALABAR. *The Annals and Magazine of Natural History*, May, 1864.
- 3.—ON THE PHYSIOLOGICAL ACTION OF THE CALABAR BEAN (*Physostigma venenosum*, Balf.). *Transactions of the Royal Society of Edinburgh*, vol. xxiv., part iii., 1866-67, pp. 715-787. (For the researches described in this and the first paper, the Barbier Prize of the Academy of Sciences of Paris was awarded.)
- 4.—A PRELIMINARY NOTICE OF THE AKAZGA ORDEAL OF WEST AFRICA AND OF ITS ACTIVE PRINCIPLE. *The British and Foreign Medico-Chirurgical Review*, July, 1867; and *Proceedings of the Royal Society of Edinburgh*, 1866-67.
- 5.—ON THE CHARACTERS OF THE AKAZGA PLANT, AND THE DIFFERENCE BETWEEN THE STRUCTURE OF ITS STEM AND THAT OF STRYCHNOS NUX-VOMICA. *Transactions of the Botanical Society of Edinburgh*, vol. ix., 1868.
- 6.—ELECTROLYSIS IN ANEURISM. *The Edinburgh Medical Journal*, August, 1867. (Conjointly with Dr. John Duncan.)
- 7.—ON THE CONNECTION BETWEEN CHEMICAL CONSTITUTION AND PHYSIOLOGICAL ACTION. Part i.—ON THE PHYSIOLOGICAL ACTION OF THE SALTS OF THE AMMONIUM BASES DERIVED FROM STRYCHNIA, BRUCIA, THEBAIA, CODEIA, MORPHIA, AND NICOTIA. (Conjointly with Professor A. Crum Brown.) *Transactions of the Royal Society of Edinburgh*, vol. xxv., part i., pp. 151-203. (The Makdougall Brisbane Prize for the biennial period 1866-68, was awarded to the Authors for this paper by the Royal Society of Edinburgh.)
- 8.—THE EFFECTS OF ROWING ON THE CIRCULATION. *The Journal of Anatomy and Physiology*, vol. iii. 1868.
- 9.—AN INVESTIGATION INTO SOME PREVIOUSLY UNDESCRIBED TETANIC SYMPTOMS PRODUCED BY ATROPIA IN COLD-BLOODED ANIMALS, WITH A COMPARISON OF THE ACTION OF ATROPIA ON COLD-BLOODED ANIMALS AND ON MAMMALS. *Transactions of the Royal Society of Edinburgh*, vol. xxv., part ii., 1868-69, pp. 449-489.
- 10.—ON THE CONNECTION BETWEEN CHEMICAL CONSTITUTION AND PHYSIOLOGICAL ACTION. Part ii.—ON THE PHYSIOLOGICAL ACTION OF THE AMMONIUM BASES DERIVED FROM ATROPIA AND CONIA. (Conjointly with Professor A. Crum Brown.) *Transactions of the Royal Society of Edinburgh*, vol. xxv., part ii., 1868-69, pp. 693-739.

- 11.—ON THE CONNECTION BETWEEN CHEMICAL CONSTITUTION AND PHYSIOLOGICAL ACTION. Part iii.—ON THE PHYSIOLOGICAL ACTION OF THE SALTS OF AMMONIA, OF TRI-METHYLAMINE, AND OF TETRA-METHYL-AMMONIUM; OF THE SALTS OF TROPIA AND OF THE AMMONIUM BASES DERIVED FROM IT; AND OF TROPIC, ATROPIC, AND ISATROPIC ACIDS AND THEIR SALTS. WITH FURTHER DETAILS ON THE PHYSIOLOGICAL ACTION OF THE SALTS OF METHYL-STRYCHNIUM AND OF ETHYL-STRYCHNIUM. (Conjointly with Professor A. Crum Brown.) *Proceedings of the Royal Society of Edinburgh*, 1868-69.
- 12.—PRELIMINARY NOTE ON THE ANTAGONISM BETWEEN THE ACTIONS OF PHYSOSTIGMA AND BELLADONNA. *Proceedings of the Royal Society of Edinburgh*, 1868-69.
- 13.—ON THE KOMBÉ ARROW POISON (*Strophanthus hispidus*, D.C.) of Africa. *The Journal of Anatomy and Physiology*, vol. vii., pp. 139—155; also *Proceedings of the Royal Society of Edinburgh*, 1869-70.
- 14.—ON ATROPIA AS A PHYSIOLOGICAL ANTIDOTE TO THE POISONOUS ACTION OF PHYSOSTIGMA. *The Practitioner*, February, 1870, pp. 65—72.
- 15.—AN EXPERIMENTAL RESEARCH ON THE ANTAGONISM BETWEEN THE ACTIONS OF PHYSOSTIGMA AND ATROPIA. *Transactions of the Royal Society of Edinburgh*, vol. xxiv., part iii., 1870—71, pp. 529—713.
- 16.—SKETCH OF THE PRESENT STATE OF OUR KNOWLEDGE RESPECTING THE ACTION OF MERCURY ON THE LIVER. *The Edinburgh Medical Journal*, April, 1871.
- 17.—REPORT ON THE ANTAGONISM BETWEEN THE ACTION OF ACTIVE SUBSTANCES OF A COMMITTEE OF THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, CONSISTING OF SIR ROBERT CHRISTISON, BART. (THE LATE), PROFESSOR LAYCOCK, AND DR. FRASER. Volume for 1872, p. 124.
- 18.—TWO LECTURES ON THE CONNECTION BETWEEN THE CHEMICAL PROPERTIES AND THE PHYSIOLOGICAL ACTION OF ACTIVE SUBSTANCES, AND ON THE ANTAGONISM BETWEEN THE ACTION OF ACTIVE SUBSTANCES. Delivered before the Royal College of Physicians of Edinburgh, at the request of the President and Council, on the 19th and 26th of March, 1872. *The British Medical Journal*, 1872.
- 19.—PAPER ON FOOD AND BEVERAGES. *Chambers's Information for the People*, 1873.
- 20.—REPORTS ON THE SANITARY CONDITION OF SEVERAL TOWNS AND DISTRICTS IN CHESHIRE, 1874-1877.
- 21.—PAPER ON SCURVY. (Conjointly with Inspector-General Donnet.) Incorporated in the "Report of the Committee appointed by the Lords Commissioners of the Admiralty to Inquire into the Causes of the Outbreak of Scurvy in the recent Arctic Expedition," &c. Presented to both Houses of Parliament by Command of Her Majesty, 1877 (C.—1722), pp. v.—xxix.
- 22.—REPORTS ON THE PHYSIOLOGICAL ACTION OF MEDICINAL SUBSTANCES. *Journal of Anatomy and Physiology*, vol. ii., 1866—vol. vii., 1873.
- 23.—PERISCOPE ON MATERIA MEDICA AND THERAPEUTICS. *The Edinburgh Medical Journal*, various dates.

[Several of the above Papers have been re-printed, and abstracts of all of them have appeared in many scientific journals, in this country and abroad; while the principal results described have been incorporated in nearly all the treatises recently published on *Materia Medica* and *Pharmacology*.]

TESTIMONIALS.

I.

*From DOUGLAS MACLAGAN, M.D., F.R.S.E., F.R.C.P.E.;
Professor of Medical Jurisprudence and of Clinical Medicine in the
University of Edinburgh; formerly Lecturer on Materia Medica and
Therapeutics in the Extra-Academical Medical School of Edinburgh.*

28, HERIOT ROW, EDINBURGH,

11th May, 1877.

DEAR DR. FRASER,

The circumstance of my having for about twenty years lectured on Materia Medica, and the liking which I still have for that department of Medical Science, naturally lead me to take a deep interest in the appointment to the University Chair, now vacant by the resignation of Sir Robert Christison.

I may say to you frankly that had the vacancy occurred, as I am happy it did not, some years ago, you would have found me in the list of candidates. I have on the present occasion been repeatedly asked whether I would not become a candidate for the chair, but my answer has been that I would not do so when you were in the field. In common with, I believe, the greater part of the profession here, I look upon you as the destined successor of Sir Robert Christison.

Your capacity for original research as indicated by your numerous papers, especially those on the Calabar Bean and on the Connection between Chemical Constitution and Physiological Action, and the reputation you have thereby gained both in Britain and on the Continent, form an abundant testimony to your power of enlightening the rising generation of medical men on the important subject of Therapeutics, the study of which will tend more than any other thing to draw the prescribing of drugs out of the slough of empiricism and place it on a firm rational basis. Your recent selection to be one of the Commission on the Arctic Scurvy Question shows the confidence that is placed in your capability of throwing light upon a somewhat difficult dietetic subject; and your thorough knowledge of the physical, chemical, and physiological properties of the numerous articles of the Materia Medica, is the guarantee for your being able to guide our students in the department of Pharmacology.

Lastly, let me say, from having heard you lecture, that I know your ability to convey scientific instruction clearly and distinctly.

On these grounds, therefore, I cordially express my conviction that you are well fitted to have the honour of succeeding Sir Robert Christison in the Chair of Materia Medica in our *Alma Mater*.

Believe me,

Yours very sincerely,

DOUGLAS MACLAGAN.

DR. T. R. FRASER.

II.

From WILLIAM R. SANDERS, M.D., F.R.C.P.E., F.R.S.E.;
Professor of Pathology and of Clinical Medicine in the University of Edinburgh.

11, WALKER STREET, EDINBURGH,

4th May, 1877.

Among the scientific cultivators of Therapeutics no one at home or on the continent holds a higher position than Dr. Thomas R. Fraser. His discoveries of the properties of the Calabar Bean form one of the most important additions to Therapeutics of recent times; and his subsequent researches on the connection between Chemical Constitution and Physiological Action, on the Antagonistic Action of certain Poisons, &c., confirmed and extended his reputation.

His recent appointment on the Commission of Inquiry in regard to Scurvy in the Arctic Expedition shows the value attached by government to his scientific opinion. The French Institute has also recognised his researches.

In addition to his high scientific qualifications, Dr. Fraser is an accomplished physician, an experienced teacher, and an able lecturer.

He would occupy worthily the chair so long adorned by Sir Robert Christison.

W. R. SANDERS.

III.

From J. MATTHEWS DUNCAN, M.A., M.D., F.R.C.P.E.,
F.R.S.E.; *Lecturer on Midwifery and Diseases of Women and
Children; Physician and Clinical Lecturer on Diseases of Women,
Royal Infirmary, Edinburgh.*

30, CHARLOTTE SQUARE, EDINBURGH,
April 26, 1877.

I have known Dr. T. R. Fraser intimately during his whole professional career, and it affords me great satisfaction to be informed that he offers himself as a Candidate for the Chair of Materia Medica in the University of Edinburgh, now vacant in consequence of the resignation of Sir Robert Christison.

It is quite unnecessary to say anything as to Dr. Fraser's general competency for the office which he desires to obtain. He has been always distinguished for gentlemanly conduct, great diligence, great learning, great ability. He acted for many years as assistant to Sir Robert Christison. He has lectured acceptably and successfully to classes in the extra-mural school of medicine here.

Dr. Fraser is a clear and fluent speaker, a point second in importance only to the thorough knowledge of Materia Medica and Therapeutics which he possesses.

Dr. Fraser has already made himself most favourably known wherever Medicine is studied, by his researches in the science which he wishes to teach. These researches (especially that which he conducted in conjunction with Dr. Crum Brown) cannot be too highly praised, being amongst the most important and successful ever made in this department.

Having regard to Dr. Fraser's special knowledge, power of teaching, and achieved work, and to his private and scientific character, I consider him better fitted to fill the vacant Chair than any one else.

J. MATTHEWS DUNCAN.

IV.

From WILLIAM RUTHERFORD, M.D., F.R.S.; *Professor of
the Institutes of Medicine in the University of Edinburgh.*

UNIVERSITY OF EDINBURGH,
10th May, 1877.

I believe that Dr. Thomas R. Fraser possesses qualifications of an altogether exceptional character for the Chair of Materia Medica in this University.

By his celebrated memoir on the "Physiological Action of the Calabar Bean," Dr. Fraser—when little more than a student—at once obtained a distinguished reputation. His elaborate research, in

conjunction with Professor Crum Brown, "On the Connection between Chemical Constitution and Physiological Action," is a contribution to science of very great value. His investigation of "The Tetanic Symptoms of Atropia in Cold-blooded Animals" showed how much light physiological pharmacology may, in the hands of a competent investigator, throw on anomalous phenomena in the actions of medicines in diseased conditions in man. His most remarkable research, however, is "On the Antagonism between the Actions of Physostigma and Atropia." If Dr. Fraser had carried out no other investigation than this one, he would still have abundantly proved himself to be an original investigator of the first rank. But, in addition to these, his greatest works, many other original papers testify to his genius and incessant activity.

Dr. Fraser had the advantage of being Assistant to Sir Robert Christison for a number of years, and of thus becoming intimately acquainted with all the requirements of the pharmacological department of the University.

He is experienced as a lecturer. At scientific meetings, I have been struck with the clearness and precision of his method of exposition.

Dr. Fraser is justly regarded—not only in this country, but also on the Continent and in America—as one of the very first of pharmacologists; and I have no doubt whatever that he would maintain and extend the reputation of the department of *Materia Medica* in this University, and prove as worthy a successor as he has proved himself a worthy pupil of Sir Robert Christison.

WILLIAM RUTHERFORD.

V.

From SIR C. WYVILLE THOMSON, K.C.B., M.D., F.R.S.;
Professor of Natural History in the University of Edinburgh.

BONSIDE, LINLITHGOW, N.B.,

May 14th, 1877.

MY DEAR DR. FRASER,

I most heartily wish you success in your Candidature for the Professorship of *Materia Medica*, which Sir Robert Christison has resigned.

Apart from the personal considerations which would make it specially pleasant to many of us to have you as a colleague, your pursuits and mine are sufficiently akin to warrant me in expressing my high appreciation of the value of your scientific work, and particularly of your extended and most important researches upon the more obscure actions of vegetable poisons.

With a full knowledge of the amount and character of your investigations, and of the confidence which they command within your own University and beyond it, I will go so far as to express my opinion that no one has a claim equal to yours to the appointment to which you aspire.

Believe me, very truly yours,

C. WYVILLE THOMSON.

VI.

From WILLIAM TURNER, M.B. (Lond.); Professor of Anatomy in the University of Edinburgh; Member of the General Medical Council.

GENERAL MEDICAL COUNCIL OFFICE,
315, OXFORD STREET, LONDON, W.,
May 19th, 1877.

The resignation by Sir Robert Christison of the Chair of Materia Medica in the University of Edinburgh having caused a vacancy in that Chair, I have much pleasure in stating that in my opinion Dr. T. R. Fraser is eminently qualified to perform its duties.

At a very early period of his professional career, Dr. Fraser distinguished himself by his researches into the Therapeutical Action of the Ordeal Bean of Calabar.

The publication of his researches on this subject at once gave him a European reputation, and gained for him prizes and other distinctions both at home and abroad. These researches were succeeded by a series of investigations into the physiological action and therapeutical uses of many other medicinal substances, which have added to his reputation and placed him in the front rank of successful enquirers into one of the most recondite departments of medical science, viz., the mode of action of medicinal substances.

So well recognised is Dr. Fraser's position in this branch of medicine that the Lords Commissioners of the Admiralty selected him as one of the Committee to enquire into and report on the outbreak of scurvy in the recent Arctic Expedition.

The great loss which the University has sustained by the resignation of Sir Robert Christison renders it especially necessary that his successor should be a man of established position and of high reputation in the branch of medical science, which has to be taught by the Professor of Materia Medica. These qualifications are possessed by Dr. Fraser, and I cordially recommend him to the favourable consideration of the Curators.

WM. TURNER.

 VII.

From ALEXANDER CRUM BROWN, M.A., M.D., D.Sc., F.R.S.E., F.R.C.P.E.; Professor of Chemistry and Chemical Pharmacy in the University of Edinburgh.

UNIVERSITY OF EDINBURGH,
May 22nd, 1877.

I have great pleasure in expressing my conviction that Dr. T. R. Fraser is in every respect exceptionally well fitted to occupy the Chair of Materia Medica, vacant by the resignation of Sir Robert Christison.

Dr. Fraser holds a foremost place among the small number of physicians who engage in the investigation of the chemical and physiological characters of drugs, with a view to the elucidation of their effects as remedies. His work in this direction is recognised in all parts of the world as most valuable, his discoveries being of the highest importance as to their matter, and his treatment of them being both thorough and complete. These discoveries are not only of great scientific interest, but they have already been of much use in medical and surgical practice.

Having been engaged in a long and laborious series of researches along with Dr. Fraser, I am able to give direct evidence as to his powers of original work, his accuracy and care as an observer, and his sagacity and caution in drawing conclusions from his observations.

His experience as a Medical Officer of Health in a large and important district will be of great use to him in throwing light upon the influence of diet, regimen, and other conditions on health.

It is indeed fortunate for the University that one so perfectly meeting all the requirements of the office, as an original inquirer, as a lecturer, and as a practical teacher, should be ready to take the place of our illustrious master.

ALEX. CRUM BROWN.

VIII.

From ALEXANDER KEILLER, M.D., F.R.S.E.; *President of the Royal College of Physicians of Edinburgh.*

21, QUEEN STREET, EDINBURGH,
May 17th, 1877.

I consider Dr. Thomas R. Fraser admirably qualified to succeed Sir Robert Christison in the Materia Medica Chair of the University of Edinburgh. The career of Dr. Fraser, as indicated by his special training and special work, has hitherto been a distinguished one; and from what I know of his character and power, I believe that his Election on the present occasion would prove highly successful in every respect.

ALEX. KEILLER.

IX.

From ALEXANDER HARVEY, M.D.; *Professor of Materia Medica in the University of Aberdeen, and Consulting Physician to the Aberdeen Royal Infirmary.*

UNIVERSITY OF ABERDEEN,
May 11, 1877.

DEAR SIR,

I have yours of yesterday, asking me, if so disposed, to give expression to my opinion of your fitness for the Chair of Materia Medica and Therapeutics in the University of Edinburgh, now vacant by the resignation of the venerable and much honoured Sir Robert Christison.

Let me say at once, that, since I learnt (only two days ago) that you are a Candidate for the Chair (for much to my surprise I had heard that you were not), I would ere now, but for the pressure of college work just begun, have anticipated your request by a spontaneous expression of my opinion, which in fact I was fully prepared to tender you.

Not that any testimonial from me is needed by you. You have already made a reputation for yourself,—a reputation you may well be proud of—and recognised by the profession all over Europe and North America. It was simply that I could not forego the pleasure of saying how highly I esteem you as a man of science, and how earnestly I desire to see you sitting in the chair heretofore filled by Christison, Andrew Duncan, jun., and William Cullen.

In truth, for several years I have looked on you as *the* successor of Sir Robert in that Chair. For eighteen years, I have taught the *Materia Medica* in this University, and this has given me special occasion to acquaint myself with the progress of it, and with the workers in it, and I can honestly, as I do now most conscientiously, say that among the many who have done good work in it, no one (that I know of) can put forth claims for the Chair in Edinburgh that will at all compare with yours.

It would be out of place here to go into details regarding the work done by you during the years that have elapsed since you graduated in 1863. Let it suffice to say, that multifarious as it is, and embracing as it does several different lines of enquiry, it is work of the best kind, much of it thoroughly fresh and original (a great matter in itself), and admitting of important applications in the science and the practice of Medicine.

As to your merits as a teacher, I can say nothing, having no data to go upon relative thereto. But as a man of science, as an inquirer after truth in science, and as a clear expounder with the pen of what you know, you stand in my humble opinion in the first rank.

You have already done much in the department of *Materia Medica* and *Therapeutics*,—more than anyone that can be named as now working in that field. What you have done gives the best promise possible of what you will hereafter do in it should you have time and opportunity afforded you; and this would be given you by your appointment to the chair you aspire to. For your own sake therefore,—for the sake of your own *Alma Mater* and mine,—and for the sake of science and humanity, I sincerely hope that the Patrons will confer it on you.

Believe me, dear sir, very sincerely yours,

ALEX. HARVEY.

X.

*From WILLIAM TENNANT GAIRDNER, M.D., F.R.C.P.E.;
Professor of the Practice of Physic in the University of Glasgow;
Physician to the Royal Infirmary, Glasgow.*

225, ST. VINCENT STREET, GLASGOW,
May 14th, 1877.

Dr. Thomas R. Fraser having informed me that he is a candidate for the Chair of Materia Medica in the University of Edinburgh, I can only wish him the success he so thoroughly deserves, while at the same time I am fully conscious that the elaborate and highly scientific researches which have, at an early period in his career, made his name illustrious, are such as can scarcely be adequately appreciated by any one not very specially engaged in like researches.

I may, however, say that having known Dr. Fraser from the period of his studentship, and having marked his rising reputation with a personal as well as a professional interest, I am not acquainted with anyone in this country whose claims to become the successor of Sir Robert Christison will be so generally approved in the Medical Profession.

W. T. GAIRDNER.

XI.

*From JOHN B. COWAN, M.D.; Professor of Materia Medica in the
University of Glasgow, and Member of the University Court.*

159, BATH STREET, GLASGOW,
22nd May, 1877.

Dr. Thomas R. Fraser has, in my opinion, the very strongest claims to the vacant Chair of Materia Medica in the University of Edinburgh.

He has had large experience of its duties as Assistant to Sir Robert Christison, as a Teacher of Materia Medica in the Extra-Academical School of Edinburgh, and as an Examiner on the same subject in the Universities of London and Edinburgh.

But in addition to these qualifications, no man has in recent years contributed more than Dr. Fraser has done to the Science of Therapeutics, by his original researches into the Physiological Actions of many medicinal substances of great activity and value—researches which are universally admitted to have been carried out with great care and exactitude.

If Dr. Fraser's candidature be successful, I am persuaded he will prove a worthy successor of the distinguished gentleman whose name has been so long an ornament and a strength to the Medical School of the University of Edinburgh.

JOHN B. COWAN.

XII.

*From WILLIAM BENJAMIN CARPENTER, C.B., M.D., L.L.D.,
F.R.S., Corresponding Member of the Institute of France; Registrar
of the University of London.*

UNIVERSITY OF LONDON, BURLINGTON GARDENS, W.,

April 30th, 1877.

DEAR DR. FRASER,

I feel quite sure that the Chair which has been so long and so worthily occupied by my old and highly valued friend Sir Robert Christison, could not now be better filled than by yourself. For at the time of your appointment to our Examinership in Materia Medica and Pharmaceutical Chemistry in 1870, the evidence you adduced was such as to satisfy our Medical Committee (including Dr. Sharpey, Sir Jas. Paget, Sir Wm. Gull, Sir Geo. Burrows, and Dr. Quain) of your pre-eminent qualifications; and I can myself bear the fullest testimony to the thoroughness with which you discharged for five years (to which term the continuous tenure is limited) the duties of that office.

So favourably impressed was the Senate with the value of your services, that when constituting their new Examination on the subjects relating to Public Health, they sought your co-operation with Mr. Simon, Dr. Farr, and Captain Douglas Galton, in bringing to bear on that Examination the experience of a Practical Health Officer of high scientific acquirements; and the result fully justified their anticipations,—the Examination having been felt on all hands to have been a *model* one.

With my best wishes for your services,

I remain, always yours faithfully,

WM. B. CARPENTER.

Dr. T. R. Fraser.

XIII.

*From WILLIAM A. GUY, M.B. (Cantab.), F.R.C.P., V.P.R.S.;
Professor of Hygiene, King's College; Consulting Physician, King's
College Hospital; Late Professor of Forensic Medicine, King's
College, London.*

KING'S COLLEGE, LONDON,

May 11th, 1877.

Though the inquiries and discoveries of Dr. Fraser, and the high estimation in which he is held at home and abroad, constitute in themselves his best and truest testimonial, I am glad to have the opportunity of stating how highly I esteem Dr. Fraser's work as bearing upon those subjects in which I am most interested. It would, I am convinced, be very difficult to find a more worthy successor to Sir Robert Christison than my friend Dr. Fraser, and I beg to recommend him accordingly.

WILLIAM A. GUY.

XIV.

From JOHN SIMON, C.B., F.R.C.S. (Hon.), F.R.S., D.C.L.;
*Senior Surgeon to St. Thomas's Hospital; Member of the General
 Medical Council; Late Medical Officer of the Privy Council and
 Local Government Board.*

LONDON, May 15th, 1877.

DEAR DR. FRASER,

It would, I think, be among the greatest opportunities (as well as among the highest honors) which a man in our profession could hope to have, that he should succeed to the Edinburgh position which Sir Robert Christison's teaching has, since forty years ago, made famous in the world; and it would give me especial pleasure to know that this very great opportunity would be yours. For neither among your great master's more immediate followers, nor among those who have worked under other instigation in this country, do I know any one who, so far as I can venture to judge, would better continue the spirit of Christison's teaching, or better represent what he was forty years ago, not only as regards learning in the various subject-matters and relations of Pharmacology, but, not less importantly, as regards scientific appreciation of its unsolved problems, and ambition and aptitude to extend the limits of its knowledge.

I could hardly pretend, even at your request, to write for you a formal testimonial in a matter where I am myself so far from being an expert; but if you think that this informal expression of my sincere wishes for your success and of my belief (*quantum valeat*) of your eminent qualifications for the vacant office can be of any use to you with any one, you are welcome to use it as you may desire.

Yours very faithfully,

JOHN SIMON.

Dr. Thomas R. Fraser.

 XV.

From WILLIAM SHARPEY, M.D., L.L.D., F.R.S.; *Emeritus Pro-
 fessor of Physiology in University College, London; Member of the
 Senate of the University of London.*

LONDON, May 15, 1877.

Dr. Thomas R. Fraser is well known as the author of important original investigations concerning the action of medicinal and poisonous

agents on the animal economy, and affecting questions which have a most influential bearing on the progress of rational medicine. As Assistant to Sir Robert Christison, and as independent Lecturer in the Edinburgh Medical School, he has enjoyed first-rate opportunities of acquiring a thorough acquaintance with *Materia Medica*, and of gaining insight as to suitable methods of teaching it. On account of the reputation thus acquired, Dr. Fraser was some years ago appointed Examiner in the University of London, and thoroughly justified the wisdom of the selection, and this, together with his subsequent experience as an Officer of Health, has led to his appointment as Examiner in the Department of Public Health in the same University.

So far as I am competent to judge, without special knowledge of the subjects to be taught, I believe that Dr. Fraser is singularly well prepared to occupy the Chair of *Materia Medica* in Edinburgh, and I feel assured that his great and growing reputation as an original inquirer would tend powerfully to maintain the high character of that distinguished school.

W. SHARPEY.

XVI.

From ALFRED BARING GARROD, M.D., F.R.S., F.R.C.P.;
Consulting Physician to King's College Hospital, London; late
Professor of Materia Medica and Therapeutics, King's College, and
Examiner in Materia Medica in the University of London. Author
of "The Essentials of Materia Medica and Therapeutics."

10, HARLEY STREET, W.,

May 16th, 1877.

I have known Dr. Fraser personally for some years, and have been his colleague as examiner in *Materia Medica* at the University of London. I have read Dr. Fraser's numerous and valuable contributions to the science of Therapeutics, and fully appreciate his many original observations and discoveries.

I can with confidence state, as my opinion, that Dr. Fraser is the man best fitted in the United Kingdom for the Chair of *Materia Medica* and Therapeutics in the University of Edinburgh.

A. B. GARROD.

XVII.

From JOHN BURDON SANDERSON, M.D., L.L.D., F.R.S.;
*Jodrell Professor of Physiology, University College; Examiner in
 Physiology in the Universities of London and Cambridge.*

UNIVERSITY COLLEGE, LONDON,
 May 16th, 1877.

Having been informed that Dr. Fraser intends to become a candidate for the office of Professor of Materia Medica in the University of Edinburgh, I have great pleasure in availing myself of the opportunity which he offers me of expressing the high opinion which I entertain of his qualifications. I feel, however, that it is unnecessary to write at any length. The universal recognition which has been accorded at home and abroad to Dr. Fraser's discoveries affords such good and sufficient reason for regarding him as the most fit man to occupy the Chair now vacated by the great Edinburgh Pharmacologist, that it appears to me superfluous to dwell upon his special claims. I will therefore content myself with drawing attention to the fact that Dr. Fraser was among the first to engage in those investigations by which, during the last ten years, we have learnt how intimate is the relation between the physiological action and the molecular structure of remedial substances.

There are few, if any, lines of scientific research which are more certain to bear fruit for the benefit of humanity than those to which I have referred, so that to every one who has at heart the promotion of the material welfare of mankind by the advancement of medicine, it must be a matter of anxiety that so important a post as that which is now vacant should be occupied by one who is capable of using the opportunities it offers for the highest ends.

J. BURDON SANDERSON.

XVIII.

From SYDNEY RINGER, M.D., F.R.C.P.; *Professor of Materia Medica in University College; Professor of Clinical Medicine, and Physician, University College Hospital; Examiner in Materia Medica in the University and College of Physicians of London. Author of "A Handbook of Therapeutics."*

15, CAVENDISH PLACE, CAVENDISH SQUARE,
 LONDON, May, 1877.

All those interested in Therapeutic research hear with most sincere pleasure that Dr. Fraser intends returning to those studies in which he has won a European name.

There is no one in England with whom I am acquainted that has a pretence to compete with Dr. Fraser in Pharmacological research.

His scientific papers are universally held to be models of good work; to which I frequently refer young men as examples of how they should work.

We all recognize how great an honour it is to hold a professorship in the Edinburgh University, but Dr. Fraser will confer honour on even such a University, and prove a worthy successor to the late distinguished professor of *Materia Medica*.

SYDNEY RINGER.

XIX.

From THOMAS LAUDER BRUNTON, M.D., D.Sc. (Edin.), F.R.S., F.R.C.P.; *Lecturer on Materia Medica at St. Bartholomew's Hospital; Examiner in Materia Medica in the University of London.*

23, SOMERSET STREET, PORTMAN SQUARE, W.,
18th May, 1877.

To those who have followed the progress of *Materia Medica*, and especially of its most important branch Pharmacology, during recent years the idea of my giving a testimonial to a man of world-wide fame like Dr. T. R. Fraser must seem almost ridiculous.

My excuse for writing one is that those who are engaged in their own pursuits find it difficult to know precisely what work is being done in the various departments of scientific research and to estimate the merits of each worker. An opinion regarding Dr. Fraser's merits from one who has been engaged for some years in similar work to his may therefore not be unacceptable to those who have the selection of a successor to Sir Robert Christison, and I venture to give it in the belief that if I can do anything to favour the election of Dr. Fraser I shall promote the best interests of my *Alma Mater*. I feel sure that I express the opinion of every one acquainted with that branch of science to which Dr. Fraser has devoted his attention when I say that he is one of the greatest Pharmacologists living, and that his researches on the connection between Chemical Constitution and Physiological Action and on Antagonism are amongst the most important ever made in Pharmacology.

For the sake of the University of Edinburgh, I earnestly hope that he will be selected to fill the Chair of *Materia Medica*, for he will, I feel assured, not only be an honour to the University, but will train up earnest and devoted workers who will advance our knowledge of the action of drugs, and thereby increase our power of healing disease.

T. LAUDER BRUNTON.

XX.

From ROBERT FARQUHARSON, M.D., F.R.C.P.; *Lecturer on Materia Medica at St. Mary's Hospital School, London. Author of "A Guide to Therapeutics."*

23, BROOK STREET, GROSVENOR SQUARE,
May 15th, 1877.

DEAR DR. FRASER,

On hearing of the resignation of our deeply-respected teacher, Sir Robert Christison, my mind at once turned to you as his legitimate successor. I am sure that this feeling will be shared, not only by your numerous personal friends, but by scientific men both at home and abroad, and that your election will be hailed by all as a necessity at this time. Your admirably original and suggestive investigations in Therapeutics are widely appreciated on the continent as well as at home, and constitute some of the most valuable modern contributions to the advancement of your own special branch of study. As a teacher of *Materia Medica*, I entertain feelings of personal gratitude for the light which you have thrown into many hitherto dark regions of study, and your researches on the Calabar Bean would alone place you in the first rank of scientific workers. A mere enumeration of your papers would occupy much space, and from all of them much is to be learnt, but I have said enough to add my testimony to that of others as to your peculiar fitness for this Chair.

The appointment of Professors to any large University should be regulated not only by their mere powers of teaching and exposition, but by their original work and stimulating influence on their pupils, and I well know that you will amply fulfil these indications, and prove a worthy successor to the great man who retires to enjoy his well-merited rest.

Believe me, yours most sincerely,

R. FARQUHARSON.

 XXI.

From SIR WILLIAM WITHEY GULL, Bart., M.D., D.C.L., F.R.S., F.R.C.P., *Physician-Extraordinary to H.M. the Queen; Physician in Ordinary to H.R.H. the Prince of Wales; Member of Senate of the University of London; Member of the General Medical Council.*

74, BROOK STREET, GROSVENOR SQUARE, W.,
May 26, 1877.

DEAR SIR,

I am informed you are a Candidate for the Chair of *Materia Medica* in the University of Edinburgh, vacated by Sir Robert Christison.

Although I have not the pleasure of knowing you personally, I am acquainted with some of your work and with the manner in which it has been performed. Besides these reasons, there are grounds of a public kind which lie in the interests of science and in the promotion of Medical Education which prompt me to express the hope that you may be appointed Christison's successor.

Since leaving my public duties at Guy's Hospital I have not ventured to write testimonials of a formal character, but I hope I may be permitted to give this expression of my conviction of your fitness for this very important post.

I am, dear Sir, yours truly,

WILLIAM W. GULL.

XXII.

From DANIEL JOHN LEECH, M.D. (Lond.), F.R.C.P.; *Co-Lecturer on Materia Medica and Therapeutics at the Owens College, Manchester.*

ELM HOUSE, WHALLEY RANGE,
May, 1877.

Dr. Fraser holds a most distinguished place amongst the physicians and physiologists who have during the past fifteen years been engaged in this country and elsewhere in ascertaining the action of medicinal agents.

The scientific precision with which he has planned and carried out his investigations, and the ability with which he has deduced results from them have been highly appreciated by all professional men, both here and on the continent. His discoveries are known and valued wherever the medical art is practised.

To fill worthily the Chair resigned by so renowned a professor as Sir Robert Christison must be an arduous task, but I am satisfied that the election of Dr. Fraser to the vacant post will everywhere be held as an indication that the high reputation which the University has acquired for therapeutic knowledge whilst Sir Robert Christison has held office will henceforth be most fully maintained.

D. J. LEECH.

XXIII.

From ARTHUR GAMGEE, M.D., F.R.S.; Brackenbury Professor of Physiology and Histology, and Dean of the Medical Faculty, Owens College, Manchester; Examiner in Forensic Medicine in the University of London.

THE OWENS COLLEGE, MANCHESTER,

May 21st, 1877.

MY DEAR FRASER,

It is now well-nigh fourteen years since, a graduate of less than a year's standing, you became Assistant to Professor, now Sir Robert, Christison. At that time you had already made yourself known to your teachers and friends by your most interesting researches on the Calabar Bean, which, pursued during your student days, had led you to discover the only agent then known capable, when applied locally to the eye, of producing contraction of the pupil. These your earliest researches possess, it appears to me, an interest quite apart from their scientific merit, and apart from the fact that they introduced into medicine, and specially into ophthalmic practice, a new and valuable remedy—for your researches marked the commencement of an epoch during which much and fine work in the department of Pharmacology has been executed in Great Britain. Naturally, at a time when experimental physiology was languishing in England, thorough investigations into the action of drugs, demanding an intimate acquaintance with, and a constant use of, the most accurate methods of physiological inquiry, found but few persons anxious to prosecute them, and fewer still able to prosecute them with advantage. It was your good fortune and your merit to be one of the first to do so, and you had the satisfaction of perceiving that your work awakened the greatest interest, not only in England, but, if possible, even more on the Continent. To my mind, your work not only preceded but actually encouraged much of the good work which has since been done by others.

If your researches on the Calabar Bean are important and interesting, no less can be said of many others with which your name is connected. To particularise them all would merely distract attention from those which the scientific world has recognised as of the first importance.

The investigations on the Connection between Chemical Constitution and Physiological Action, which you carried on jointly with Professor Crum Brown, afford the most striking proofs we yet possess of a definite modification of physiological properties by change in the chemical structure of bodies. You discovered, as it were, a physiological reaction, which represented a given change in chemical structure, and in doing so you ascended one step towards the discovery of the general connection between chemical constitution and physiological activity.

Your most beautiful research appears to me, however, to have been the one entitled "An Experimental Research on the Antagonism between the actions of Physostigma and Atropia." We were, it is true, through the beautiful researches of Schmiedeberg, already acquainted with the remarkable antagonism existing between the actions of Muscaria and Atropia on the cardiac nervous mechanism; but certainly there were no facts which proved absolutely that one drug may so counteract the specially lethal action of another as to be worthy of the name of a general physiological antidote. The beautiful research which you made settled the matter, and its methods will doubtless be followed by all who have in the future to pursue similar inquiries.

You have thus already done great and signal service to scientific medicine, and you have won for yourself on that account the respect and good wishes of all interested in its progress.

When Sir Robert Christison lately announced his intention of resigning his Chair, we—I mean your friends and all who have the prosperity of the University of Edinburgh at heart—reflected with some relief that this additional great loss which the University was about to sustain (and there have been so many of late) would, from one point of view, be less felt than many which have preceded it; not that the loss is less, for it is really very great, but because of the fitness of one man amongst us to follow Sir Robert Christison as a teacher. Need I say that we all have looked to you—for your scientific work has been eminently good, your learning as a pharmacologist is the result of many years of careful and loving labour, and your powers as a teacher have been well tried and thoroughly approved of.

Believe me, faithfully yours,

ARTHUR GAMGEE.

XXIV.

From WILLIAM FRAZER, M.D., F.R.C.S.I., M.R.I.A.; Member of Council of the Pharmaceutical Society of Ireland; late Examiner in Materia Medica to the Queen's University in Ireland, and Lecturer on Materia Medica to the Carmichael School of Medicine, Dublin. Author of "Elements of Materia Medica."

20, HARCOURT STREET, DUBLIN,
May 12th, 1877.

In appointing a successor to so distinguished a Professor of Materia Medica as Sir Robert Christison, it is most desirable that a physician of the highest attainments in the branches of knowledge included under that special department should be selected. I know no one in Great Britain who has more sedulously devoted his life to its study or obtained similar success in the pursuit as my friend, Dr. Thomas R. Fraser.

His investigations and published papers are so numerous and well known that I will not allude to them further than to say, that they have deservedly obtained for him the esteem and applause of all who are familiar with them. If the University of Edinburgh secure his services, they will add another distinguished name to the list of those who have conferred honour on its walls.

WILLIAM FRAZER.

XXV.

From WALTER G. SMITH, M.D. (Dubl.), F.K.Q.C.P.; *Assistant Physician to the Adelaide Hospital; Examiner in Materia Medica to the Pharmaceutical Society of Ireland; late Examiner in Materia Medica in Queen's University, Ireland. Author of "A Commentary on the British Pharmacopœia."*

34, LOWER BAGGOT STREET, DUBLIN,

May 14th, 1877.

Dr. Thomas R. Fraser is, I understand, a candidate for the Professorship of Materia Medica in the University of Edinburgh, and it would be difficult to find anyone with superior claims to succeed the distinguished gentleman who has recently resigned the Chair. No one, within the past fifteen years, has, in my opinion, contributed so materially to the advance of scientific Pharmacology and Therapeutics as Dr. Fraser. His work is essentially characterised by originality of conception, vigorous execution, and laborious and accurate investigations which have served as models to after inquirers. Further than this, he has opened up new and fruitful fields of inquiry of the highest scientific and practical importance.

I am convinced that the election of Dr. Fraser would be the surest way to strengthen the professoriate, and to add to the renown of the Edinburgh School of Medicine.

WALTER G. SMITH.

XXVI.

From ADOLPHE GUBLER, M.D., *Member of the Academy of Medicine of France; Professor of Therapeutics and Materia Medica in the Faculty of Medicine of Paris.*

18, RUE DU 4 SEPTEMBRE, PARIS,

Le 16 Mai, 1877.

TRÈS HONORÉ ET CHER COLLÈGUE.

Puisque la retraite de l'illustre Professeur Christison laisse vacante la Chaire de Thérapeutique à l'Université d'Edimbourg, je forme des

vœux pour que vous soyez appelé à l'honneur de lui succéder. Je le souhaite pour vous même et pour l'École célèbre à laquelle vous apparteniez déjà par des liens étroits. Nul n'est plus digne que vous d'occuper la place que vous ambitionnez, car votre vie scientifique tout entière a été consacrée à la Science Thérapeutique que vous enseignerez avec autorité ; et, de plus, vos travaux originaux en pharmacologie, en physiologie expérimentale et en thérapeutique, notamment sur la Fève du Calabar et sur l'antagonisme entre la Belladone et la Physostigmine vous ont acquis une réputation justement méritée dans tout le monde savant. Pour ma part, je serai heureux de voir votre carrière déjà si bien remplie couronnée par la plus haute faveur à laquelle il soit donné à un savant de prétendre : celle de former les jeunes esprits et de répandre la vérité.

Recevez, cher et très honoré Collègue, avec mes meilleurs souhaits l'expression de tous mes sentiments de haute et affectueuse estime.

Votre bien dévoué,

A. GUBLER.

À Monsieur le Docteur Thomas R. Fraser.

[TRANSLATION.]

HONOURED AND DEAR COLLEAGUE,

Since the resignation of the illustrious Professor Christison leaves vacant the Chair of Therapeutics in the University of Edinburgh, I entertain the desire that you may receive the honour of succeeding him. I wish it for your sake and for that of the University to which you are already closely connected. No one is more worthy than you to occupy the position to which you aspire, for your whole scientific life has been devoted to the science of therapeutics, which you would teach with authority ; and, besides, you have acquired a justly merited reputation in the scientific world by your original works on pharmacology and experimental physiology, and notably on the Calabar Bean and on the Antagonism between Belladonna and Physostigma. For my part, I shall be happy to see your career, already so well fulfilled, crowned by the highest favour to which a *savant* is permitted to aim : that of educating youthful minds and extending knowledge.

With my best wishes,

Yours, &c.,

DR. THOMAS R. FRASER.

A. GUBLER.

XXVII.

From DUJARDIN-BEAUMETZ, M.D.; *Physician to the Hospitals of Paris; Author of numerous papers on Therapeutics.*

66, RUE DE RENNES, PARIS,
le 17 Mai, 1877.

Les travaux de M. Thomas R. Fraser ont une importance considérable et j'en connais peu qui aient eu une influence aussi prépondérante sur le progrès de Thérapeutique dans ces dernières années.

La connaissance des propriétés physiologiques et toxiques des composés méthyliques et éthyliques des différents alcaloïdes (méthylnicotium, méthylmorphium, méthylbrucium, méthylstrychnium, etc.) que l'on doit à cet auteur, a ouvert à la thérapeutique des horizons nouveaux. Cette découverte, nous a permis de trouver le lien qui réunissait les deux points extrêmes de l'action des strychnées, la strychnine et le curare, par l'étude des composés éthyliques et méthyliques de la strychnine; elle nous a montré aussi que la liste des corps toxiques agissant comme le curare devait être considérablement augmentée et qu'aux composés précédents, il fallait joindre la conicine et ses combinaisons.

Le mémoire de M. Fraser sur l'atropine et l'esérine est un modèle d'exposition; c'est le type le plus complet que je puisse citer de l'application scientifique de la méthode expérimentale à la thérapeutique.

Enfin, l'étude de l'antagonisme des différents alcaloïdes a fixé définitivement la science sur cette importante question.

Ces quelques citations suffisent à montrer que M. Thomas R. Fraser est un des maîtres qui par ses recherches physiologiques et expérimentales a su imprimer à la thérapeutique moderne la plus heureuse et la plus importante impulsion.

DUJARDIN BEAUMETZ.

[TRANSLATION.]

The works of Thomas R. Fraser possess a high importance, and I know of few which have had so preponderating an influence on the progress of Therapeutics within recent times.

The knowledge of the physiological and toxic properties of the methyl and ethyl compounds of different alkaloids (methylnicotium, methylmorphium, methylbrucium, methylstrychnium, etc.) which we owe to this author, has opened for therapeutics new horizons. This discovery has enabled us to find the tie which unites the two extreme points in the action of the strychnias, strychnia and curare, by the investigation of the ethylic and methyllic compounds of strychnia; it has likewise shown that the list of toxic agents acting like curare must be considerably enlarged, and that besides the previous compounds, it includes conia and its combinations.

The memoir of Fraser on atropia and eseria is a model composition; it is the most complete example that I am able to cite of the scientific application of the experimental method to therapeutics.

Finally, the study of the antagonism between different alcaloids has definitely settled our knowledge on this important question.

- These instances suffice to show that Thomas R. Fraser is one of the masters who, by his physiological and experimental researches, has known how to impress the most advantageous and important impulse upon modern therapeutics.

DUJARDIN BEAUMETZ.

XXVIII.

From CONSTANTIN PAUL, M.D.; *Adjunct Professor to the Faculty of Medicine; Physician to the Hospital of St. Antoine; General Secretary of the Therapeutical Society of Paris.*

PARIS, le 21 Mai, 1877.

MONSIEUR ET TRÈS HONORÉ CONFRÈRE,

J'accepte avec plaisir la mission que vous me demandez et que consiste à faire connaître aux électeurs de l'Université d'Edimbourg le mérite que nous attachons à vos travaux. Il m'est d'autant plus facile de la faire aujourd'hui que vous pourrez montrer à ces messieurs que j'ai cité ces travaux avec éloge dans la 8^e édition de "Traité de Thérapeutique" auquel je collabore pour continuer l'œuvre de MM. Trousseau et Pidoux. Je l'ai fait plus encore dans la 9^e édition qui a paru dans l'année dernière. J'ajouterai que la Société de Thérapeutique, dont je suis le secrétaire général, a été très flattée de vous donner le titre de membre correspondant et se voir si dignement représentée dans la ville d'Edimbourg.

La Société de Thérapeutique a remarqué surtout dans vos recherches une science consommée, une habileté expérimentale éprouvée, et en même temps une grande loyauté dans les résultats de vos expériences.

Je ne puis pas faire ici un résumé de chacun de ces travaux qui sont connus à Edimbourg mieux encore qu'à Paris. Je me bornerai à dire que nous avons surtout remarqué vos recherches sur l'action physiologique de la Fève de Calabar, et le principe que cette fève contient. J'ai analysé avec le plus grand soin le travail dans lequel vous examinez le rapport qui peut exister entre la composition chimique des agents de la Matière Médicale et leur action physiologique. J'en ai donné un extrait dans la 9^e édition du "Traité de Thérapeutique" aux articles strychnine et morphine. Vous trouverez également citée l'action du mercure sur le foie, &c. Enfin nous avons étudié avec plaisir vos recherches très précises et très sensées sur l'antagonisme entre les différents poisons : atropine et physostigmine, &c.

Je puis donc affirmer en toute conscience que l'Université d'Edimbourg en vous nommant Professeur de Matière Médicale ferait un choix des plus justifiés, et je serais très heureux que la haute estime que nous avons à Paris, à la Société de Thérapeutique, pour vos travaux que nous suivons avec intérêt put contribuer à décider cette nomination.

Veillez agréer, Monsieur et très honoré Confrère, avec mes vœux les plus sincères pour votre succès, l'assurance de ma considération la plus distinguée.

DR. CONSTANTIN PAUL.

[TRANSLATION.]

HONOURED COLLEAGUE,

I accept with pleasure the task which you give me to state to the electors of the University of Edinburgh the value which we attach to your works. It is to me all the more easy to do this now as you may show these gentlemen that I have mentioned those works with commendation in the eighth edition of the "Traité de Thérapeutique," in which I engaged in continuation of the work of MM. Trousseau and Pidoux. I have also done so in the ninth edition, which was published last year. I would add, that the Therapeutical Society, of which I am general secretary, has been happy to give you the title of Corresponding Member, and to find itself so worthily represented in the city of Edinburgh.

The Therapeutical Society has always remarked in your researches great knowledge, experienced skill, and, at the same time, trustworthiness in the results of your experiments.

I cannot, on this occasion, make a summary of each of your works, which are known in Edinburgh even better than in Paris. I content myself with saying that we have especially remarked your researches on the physiological action of the Calabar bean, and the active principle which it contains. I have analysed with the greatest care the work in which you examine the connection that exists between the chemical composition of articles of the *Materia Medica* and their physiological action. I have given an abstract of it in the ninth edition of the "Traité de Thérapeutique," under the articles strychnia and morphia. You will also find a reference to the paper on the action of mercury on the liver, &c. Finally, we have studied with pleasure your very precise and intelligent researches on the antagonism between different poisons: atropia and physostigma, &c.

I can, therefore, conscientiously affirm that in nominating you as Professor of *Materia Medica*, the University of Edinburgh would make a highly justifiable choice, and I shall be much pleased if the high esteem which we have in Paris, at the Therapeutical Society, for your works, which we follow with interest, should aid in bringing about this nomination.

With most sincere wishes for your success,

Yours, &c.,

CONSTANTIN PAUL.

XXIX.

From PAUL BERT, M.D.; Professor of Physiology in the Faculty of Sciences of Paris.

CHAMBRE DES DÉPUTÉS, VERSAILLES,
Le 23 Mai, 1877.

- Les travaux du Dr. Fraser sont fort connus et fort estimés des savants Français. Je considère, pour ma part, comme ayant une importance de premier ordre, ses recherches sur la Fève de Calabar, sur l'Atropine, sur certains poisons antagonistes, et avant tout, sur la connexion entre la constitution chimique et l'action physiologique des substances toxiques. Ces dernières découvertes ont ouvert à la thérapeutique des horizons nouveaux.

J'apprends que M. Fraser est candidat à la chaire de Thérapeutique et de Matière Médicale de l'Université d'Edimbourg. Il est, à coup sûr, tant-à-fait à la hauteur de la situation qu'il sollicite, et je pense qu'il serait bien difficile, pour ne pas dire impossible, de faire un choix meilleur.

PAUL BERT.

[TRANSLATION.]

Dr. Fraser's works are well known and highly esteemed by scientific men in France. In my opinion, those having the first importance are his researches on the Calabar bean, on Atropia, on certain antagonistic poisons, and, above all, on the connection between chemical constitution and physiological action. These last discoveries have opened up a new horizon to therapeutics.

I understand that Dr. Fraser is a candidate for the Chair of Therapeutics and Materia Medica in the University of Edinburgh. He is unquestionably qualified for the position he solicits, and I think it would be very difficult, not to say impossible, to make a better choice.

PAUL BERT.

XXX.

From A. VULPIAN, M.D., Member of the Academy of Sciences; Professor of Comparative and Experimental Pathology in, and Dean of, the Medical Faculty of Paris.

PARIS, 29 Mai, 1877.

MONSIEUR ET TRÈS SAVANT CONFRÈRE,

J'apprends que vous êtes candidat à la place laissée vacante par la retraite de Sir Robert Christison. Il s'agit d'une Chaire de Matière Médicale et de Thérapeutique. Nul ne peut apporter à l'appui de sa candidature des titres plus sérieux que les vôtres. Vos travaux sur différentes parties de la physiologie et, en particulier, sur la théra-

peutique expérimentale, sont tenus en haute estime en France comme partout ailleurs. Vos recherches sur *l'inée*, sur le *m'boundou*, sur l'atropine, sur la Fève de Calabar, sur les connexions entre la constitution chimique des substances et leur action physiologique, présentent un caractère très remarquable d'originalité, et témoignent d'un esprit scientifique des plus élevés et des plus pénétrants. Ils sont du reste cités partout, dans tous les traités de thérapeutiques et dans une foule de mémoires consacrées à l'étude expérimentale des agents toxiques et médicamenteux.

Je ne doute donc pas du succès de votre candidature, pour la réussite de laquelle je fais les vœux les plus sincères.

Veillez agréer, je vous prie, l'assurance de ma haute considération.

A. VULPIAN.

[TRANSLATION.]

SIR,

I understand that you are a candidate for the office rendered vacant by the resignation of Sir Robert Christison, and that this office is a Chair of Materia Medica and Therapeutics. No one can produce in support of his candidature more weighty claims than yours. Your works in various departments of physiology, and, in particular, in experimental therapeutics, are held in high esteem in France as everywhere else. Your researches on the Kombé and Akazga poisons, on atropia, on the Calabar bean, on the connection between the chemical constitution and physiological action of substances are very remarkably characterised by originality, and give evidence of a scientific spirit the most elevated and sagacious. They are besides quoted in all treatises on therapeutics and in a host of memoirs devoted to the experimental study of poisonous and medicinal agents.

I therefore entertain no doubt regarding the success of your candidature, for the result of which I express my most sincere wishes.

Yours, &c.,

A. VULPIAN.

XXXI.

From OSCAR LIEBREICH, M.D.; Professor of Materia Medica in the University of Berlin, and Director of the Pharmacological Institute.

BERLIN, d. 14 Mai, 1877.

Noch niemals habe ich bis jetzt Gelegenheit gehabt das Zeugniß über einen so ausgezeichneten Fachgenossen anstellen zu können wie über Dr. Thomas R. Fraser.

Ich muss in Bescheidenheit bekennen, dass ich mir es zu einer besonderen Ehre anrechne, über einen Mann urtheilen zu dürfen, dessen Leistungen ich mit so grosser Bewunderung betrachtet habe und dessen Einfluss für die Entwicklung der neuen Richtung in der Pharmakologie als Epochenmachend zu bezeichnen ist.

Die Untersuchung "On the Connection between Chemical Constitution and Physiological Action, Parts I., II., and III.," gehört zu den bedeutendsten Leistungen der Neuzeit, in dem Gebiete der *Materia Medica*, zu jenen Arbeiten auf welche die Forscher aller Zeiten mit Stolz zurück blicken werden, als die Grundlage einer neuen Entwicklung, dieser jetzt immer mehr zur Bedeutung gelangenden Wissenschaft.

Die grosse Reihe anderer Untersuchungen zeigen von einer glücklichen Wahl der aufgesuchten Themata und die Behandlung von jener gründlichen Kenntniss, welche zur Verfolgung grosser Ideen erforderlich ist.

Aus vollster Ueberzeugung glaube ich demjenigen Lehrkörper meinen Glückwunsch entgegen bringen zu können, welche einen so bedeutenden Pharmakologen zu den seinen zählen darf.

DR. OSCAR LIEBREICH.

[TRANSLATION.]

As yet I have never had the opportunity of giving a testimonial to so distinguished a fellow-worker as Dr. Thomas R. Fraser. I confess in all humility that I consider it a peculiar honour to attempt to express my opinion upon a man whose attainments I have contemplated with such great admiration, and whose influence on the development of modern pharmacology may be said to have formed a new epoch in that science.

One of the most important discoveries in modern *Materia Medica* is his research "On the Connection between Chemical Constitution and Physiological Action, Parts I., II., III.," which will be regarded by the scientific men of all times with great pride, as laying the foundation of a new development of this science, which is attaining more and more importance.

The large number of other researches shows how happily his selection of subjects has been made, and that he possesses the skill of treating these fundamentally, which gift is necessary in the pursuit of noble ideas.

In the deepest sincerity I can offer my congratulations to that academic body which can add to the number of its members so celebrated a Pharmacologist.

DR. OSCAR LIEBREICH.

XXXII.

From RUDOLF BOEHM, M.D; *Professor of Pharmacology, and Member of the Medical Faculty in the University of Dorpat.*

DORPAT, 18 Mai, 1877.

Die Arbeiten des Herrn Dr. Fraser auf dem Gebiete der Pharmakologie, Materia Medica und Therapeutik, können keinen unbekannt bleiben, der sich mit diesem medicinischen Wissenszweige hingehend beschäftigt. Sie erstrecken sich auf Gegenstände von hohem spezialfachlichen Interesse und sind nicht blos klar und lichtvoll geschrieben, sondern enthalten auch zahlreiche Resultate eigener experimenteller Forschungen.

Dr. Fraser ist aber den deutschen Pharmakologen ganz besonders rühmlich bekannt durch seine Abhandlungen "On the Connection between Chemical Constitution and Physiological Action, Parts I., II., III., 1866-69." Diese Arbeiten haben in der That der pharmakologischen Forschung einen wesentlichen neuen Gesichtspunkt eröffnet und sind bereits zur Grundlage zahlreicher Untersuchungen anderer Autoren geworden.

Aber nicht nur in diesen umfangreichen Publicationen, sondern auch in verschiedenen andern Abhandlungen, ("Report on the Antagonism between the Action of Active Substances, etc., 1872; Two Lectures on the Connection between the Chemical Properties and the Physiological Action of Active Substances," etc., etc.) hat T. R. Fraser Gegenstände von allgemein pharmakologischem Interesse behandelt. Seine Schriften über den Antagonismus der Gifte haben unsere Kenntnisse in einem wichtigen Kapitel der wissenschaftlichen Pharmakologie erweitert. Hat Dr. Fraser hierdurch so wie durch zahlreiche Spezialforschungen über die Calabarbohne, Nux-vomica, Atropia, Kombé-Gift u. s. w. sich als einen äusserst thätigen Vertreter der neuen Richtung in der Materia Medica bewährt, so ist er auch den praktischen Aufgaben dieser Disciplin nicht fern geblieben und hat sich endlich durch verschiedene Berichte über die Fortschritte auf dem Gebiete seiner Wissenschaft als gründlichen Kenner der in—und ausländischen Literatur seines Faches gezeigt.

Die Pharmakologie kann nur gewinnen, wenn ein so vielseitig unterrichteter und erfahrener Mann wie Dr. Fraser durch einen Lehrstuhl dauernd an sie gefesselt wird.

RUDOLF BOEHM, M.D.

[TRANSLATION.]

Dr. Fraser's writings in the departments of Pharmacology, Materia Medica and Therapeutics can be unknown to no one who in any way occupies himself with this branch of medical knowledge. They extend to subjects of highly special interest, and are not only written in a clear and lucid manner, but they contain many results obtained from his own experimental investigations.

Dr. Fraser is perhaps best known to the German pharmacologist through his treatises "On the Connection between Chemical Constitution and Physiological Action, Parts I., II., and III., 1866-69." These works opened up an essentially new point of view in pharmacological investigation, and have already been the means of many researches by other authors. Not only in these comprehensive publications, but in several other treatises, as "Report on the Antagonism between the Action of Active Substances, 1872;" and "Two Lectures on the Connection between the Chemical Properties and the Physiological Action of Active Substances, 1872," etc., etc., etc., Dr. Fraser has written on subjects of universal pharmacological interest. His writings on the antagonism of poisons have enlarged our knowledge in another important field of scientific pharmacology. Through these, as also through many special researches on the Calabar Bean, on Nux-vomica, on Atropia, on Kombi Arrow poison, and others, Dr. Fraser has proved himself an extraordinarily active worker in the modern direction of *Materia Medica*. He has also not avoided the practical application of this study, and finally, through various reports on the progress of this department of science, he has shown that he is thoroughly acquainted with the literature, both English and foreign, of his subject.

It will be to the great gain of pharmacology if one who is on all sides so learned and experienced a man as Dr. Fraser can be connected in a permanent manner to the science by a professorship.

RUDOLF BOEHM, M.D.

XXXIII.

From RUDOLF BUCHHEIM, M.D.; *Professor of Pharmacology in the University of Giessen.*

GIESSEN, 15th May, 1877.

Thomas R. Fraser, M.D., is very well known in Germany by his researches on topics of Toxicology and *Materia Medica*. From his publications one may clearly see that he is working quite corresponding to the strict method which the science of now-a-days is requiring. Only some few men, even among foreigners, may stand with him on the same level. As to my own judgment, there is no one so worthy to become successor of the famous Sir Robert Christison as Dr. Thomas R. Fraser.

PROFESSOR DR. RUDOLF BUCHHEIM.

XXXIV.

From THEOD. HUSEMANN, M.D.; *Professor of Materia Medica in the University of Göttingen; Member of the Svenska Läkare Sällskap and of the Upsala Läkare Förening; Corresponding Member of the Imperial Society of Physicians of Vienna.*

GÖTTINGEN, den 16 Mai, 1877.

Herr Thomas R. Fraser, M.D., F.R.C.P.E., F.R.S.E., etc. etc., hat sich durch seine vorzüglichen Arbeiten auf pharmakologischem Gebiete nicht allein die höchste Anerkennung seitens der Fachgenossen des Continents, sondern auch bleibende Verdienste um die Wissenschaft einerseits und die leidende Menschheit anderseits erworben. Die wahrhaftig ausgezeichnete Schrift über die Calabarbohne und ihre Wirkung, mit welcher Fraser seine wissenschaftliche Laufbahn eröffnete und durch welche er der Heilkunde eine Substanz überlieferte, welche oft am Krankenbette segensreich gewirkt hat, ist durch die ihr zu Theil gewordenen Preise ausgezeichneten Laporationen ihrem Verdienste entsprechend beurtheilt worden. Den grossen Eindruck den dieselbe in allen wissenschaftlichen Kreisen machte, habe ich zur Zeit ihres Erscheinens nicht allein in Deutschland, sondern auch während eines Aufenthaltes in Italien kennen gelernt und Fraser's Abhandlung ist der Ausgangspunkt einer langen Reihe von Abhandlungen geworden, welche zwar in manchen Punkten unsere Kenntnisse erweiterten, aber alle das stehen lassen mussten, was Fraser zuerst gefunden.

Die grossen Erwartungen, welche die Pharmakologie des Continents nach der erwähnten Arbeit an den Namen des Schuelers des berühmten Sir Robert Christison knuepften, dass er ähnlich wie Pereira's Schueler Hanbury dem Meister sich würdig zur Seite stellen werde, hat Fraser in vollem Maasse erfüllt. Es gibt unter den ausgezeichneten jüngeren Pharmakologen Grossbritaniens keinen Einzigen, dessen Namen so viel auf dem Continent genannt wäre, wie der seinige. Die Arbeit über Akazga, welche sich der zeit und dem Gegenstande nach am nächsten an diejenige über die Calabarbohne schliesst und die Toxikologie mit einem neuen tetanisirenden Gifte, die Chemie mit einem neuen Strychnosalkoloide bereicherte, hat in Uebersetzung ihren Weg in viele deutsche Zeitungen z. B. in das Neue Jahrbuch für Pharmacie gefunden. Die dritte Arbeit Fraser's, welche ein africanisches Gift, das als Iné oder Kombi bezeichnete Pfeilgift zum Gegenstande hat, ist von nicht geringerers Bedeutung, indem sie die bisher unbekannte Abstammung und die chemischen Verhältnisse des betreffenden Harzgiftes aufklärt. Beide Arbeiten sind abschliessend und was die später von französischen Schriftstellern theils mit oder ohne Kenntniss der Fraserschen Arbeiten über Akazga und Strophantus hispidus publicirt ist, gibt im Wesentlichen mir eine Bestätigung der von Fräser eruirten Thatsache.

Ich bin als Referent der Pharmakologie und Toxikologie in dem früher von Eisenmann, jetzt von Virchow und Hirsch herausgegebenen Jahresbericht der Medicin genöthigt, *alle* erscheinenden Arbeiten auf

dem gedachten Gebiete gründlich zu studiren. Ich muss bekennen, dass mir kaum je Publicationen begegnet sind, welche mir solche Freude und Bewunderung verursacht haben, wie diejenigen von Thos. R. Fraser. Ich wusste von vornherein, dass sie neue, bisher unbekannte Thatsachen bringen würden, aber wirkliche, gut beobachtete Thatsachen an denen spätere Nachprüfungen nicht zu rütteln vermochten. Ich wusste, wenn ich eine neue Arbeit in die Hand nahm, dass ich ueber den Namen gründliche Durcharbeitung früherer Arbeiten, soweit solche vorhanden, finden würde, dass die naturhistorischen, chemischen, physiologischen und therapeutischen Verhältnisse des Gegenstandes mit gleicher Gründlichkeit und Genauigkeit untersucht waren, ich wusste, dass die aus den Daten gezogenen Schlüsse und Folgerungen logisch richtige waren und dass der Autor nicht mehr und nicht weniger folgerte, als er durfte, dass er keine Hypothesen aufbaute, die er nicht genügend zu begründen vermochte. Diese letzten Eigenschaften verdienen um so mehr betont zu werden, als die hauptsächlichsten weiteren Arbeiten des Verfassers sich auf dem Gebiete der allgemeinen Pharmakologie bewegen, auf welchem so leicht die Speculation die Thatsache der Forschung überwuchert. In das Gebiet der allgemeinen Pharmakologie fällt zunächst jene im prägnantesten Sinne des Wortes Epoche machende Arbeit Fraser's über den Zusammenhang der physiologischen Wirkung und der chemischen Constitution die Entdeckung, dass sämmtliche durch Substitution der Alkoholradicale aus Pflanzenbasen erhaltenen Basen eine gleichartige Wirkung nach Art des Curarins besitzen, ist in wissenschaftlicher Beziehung gleich ebenbürtig mit der Entdeckung der eigenthümlichen Action der Calabarbohne. Wie Fraser's erste Arbeit preisgekrönt, hat diese Studie im Kreise der Pharmakologen enthusiastische Bewunderung hervorgerufen; die grosse Zahl der Beobachtungen, die Fülle interessanter Thatsachen, die klare Auffassung und Darstellung musste Jedem auffallen; die grosse Mühe, die vollendete Umsicht, welche dabei angewendet war, kann mir der genügend beurteilen, welcher ähnliche Arbeiten ausführte. Die Arbeit selbst hat auf dem Continent Anstoss zu zahlreichen ähnlichen gegeben; manches wurde in Paris nachentdeckt, was zuerst in Edinburgh das Tageslicht erblickte; im Grossen und Ganzen, gab es auch hier eine Bestätigung des Gesetzes welches Fraser und sein Genosse Crum Brown gefunden. In das nämliche Gebiet gehören Fraser's Studien über die Action der Spaltungsproducte des Atropins. Auch sie haben auf dem Continente Anklang und Nachalt gefunden und die Versuche, welche Hellmann mit den Spaltungsproducten des Hyoscyamins und Balmanja auf meine Veranlassung mit Solanidin anstellte, wären vielleicht ohne Fraser's Vorgang nicht unternommen.

In gleicher Art sind auch die übrigen an das Atropin sich knüpfenden Untersuchungen Fraser's, in denen derselbe einerseits seine Entdeckung einer spät eintretenden tetanisirenden Wirkung des Alkaloids auf Kaltblüter andererseits diejenigen des Antagonismus von Atropin und Physostigmin publicirte, der Ausgangspunkt vieler experimenteller Studien auf dem Europaeischen und dem Nordamericanischen Festlande

geworden. Auf die neuesten Studien Buchheim's über die Action von Belladonnin und Hyoscyamin ist die Studie Fraser's über den durch Atropin bei Fröschen hervorgerufenen Tetanus von massgebendem Einflusse gewesen; auf Fraser's Schultern ruht so zu sagen ein Heer von experimentellen Untersuchungen über Antagonismus. Er hat zuerst die Methode vorgezeichnet, nach welcher man arbeiten muss, um sichere Resultate über den sogenannten Antagonismus giftiger Substanzen zu erlangen, eine Methode von welcher weder die ausgedehnten Studien von Bennett noch die kritischen von Rossbach eine Abweichung zeigen. Die in vielen Punkten wohlbeabsichtigte Kritik gegen die neuesten Uebertreibungen der Lehre vom mutuellen Antagonismus richtet sich nicht gegen die wissenschaftlichen Errungenschaften, welche wir Fraser's Fleisse verdanken selbst Rossbach hat das von Fraser über den Antagonismus von Physostigmin und Stropin gefundene in seinem ganzen Umfange bestehen lassen müssen.

So verdankt denn die pharmakologische Wissenschaft Fraser innerhalb der letzten zwölf Jahre Leistungen, wie sie kaum ein Anderer zu Stande gebracht, Thatsachen in Hülle und Fülle, wie sie kaum ein Anderer gespendet und welche als Samenkörner auf fruchtbaren Boden gefallen neues Leben hervorrufen! Die eminente Arbeitskraft, welche der Reichthum von Fraser's pharmakologischen Arbeiten bekundet, tritt noch prägnanter hervor, wenn man hinzunimmt, dass Fraser besonders in den letzten Jahren eine Anzahl wichtiger Arbeiten aus dem Gebiete der praktischen Medicin und Hygienie publicirte, welche von kompetenter Seite die günstigste Beurtheilung gefunden haben.

Alles zusammen genommen drängt mir die feste Ueberzeugung auf, dass Herr Thomas R. Fraser in sich alle Eigenschaften im vollsten Masse vereinigt, um als Professor der Arzneimittellehre in ausgezeichnete Weise wirken zu können, den Schülern ein leuchtendes Vorbild zu sein, der Wissenschaft mit Eifer und Nutzen zu dienen und das Ansehen der Universität nach innen und aussen zu mehren und zu fördern.

PROFESSOR DR. THEOD. HUSEMANN.

[TRANSLATION.]

Thomas R. Fraser, M.D., &c., has by his excellent works in the pharmacological department of science, not only gained the highest esteem of his fellow-workers but has also acquired the lasting gratitude of science and suffering humanity. The really excellent work on the Calabar Bean and its effects, with which Fraser opened his scientific career, and by which he introduced into the art of healing a substance which has often acted as a blessing to the sick bed, has been correctly judged by prizes awarded for its merits by different learned bodies. The great impression which this work produced in scientific circles was made known to me not only in Germany but in Italy also, where I stayed for some time. Fraser's treatise has been the opening of a long series of similar works, which have in some points enlarged our knowledge but have allowed everything to stand which Fraser had been the first to discover.

The great expectations which continental Pharmacology coupled with the name of the pupil of the celebrated Sir Robert Christison, that he would, like Pereira's pupil, Hanbury, show himself worthy of his master, Fraser has fulfilled in every respect. There is none among the younger distinguished Pharmacologists of Great Britain whose name is as often mentioned as Fraser's.

His work on Akazga which, according to time and subject is nearest related to that on the Calabar Bean, and which has enriched Toxicology with a new tetanic poison and Chemistry with a new Strychnos alcaloid, has by translation found its way into many German periodicals, as for instance the "Neue Jahrbuch für Pharmacie." The third work of Fraser's which treats of an African poison called "Iné" or "Kombé," used by the natives for poisoning their arrows, is no less important, clearing up as it does the hitherto unknown origin and the chemical properties of this resinous poison. Both works are conclusive, and all that has been published afterwards by French writers, partly with and partly without the knowledge of Fraser's works on Akazga and *Strophanthus hispidus*, only confirm in the main points the facts stated by Fraser.

In my position as reviewer of the "Jahresbericht der Medizin," formerly published by Eisenmann, and now by Virchow & Hirsch, it is my duty to study thoroughly all works appearing on this subject. I must confess that I have hardly ever met with publications which have caused me as much joy and admiration as those of Thos. R. Fraser. I knew beforehand that they would deal with new, hitherto unknown facts, but valuable and thoroughly well studied facts, which would not be shaken by any later examination. On taking up a new work, I knew that I would find, besides what is new, a thorough revision of former works—in fact, works where the botanical, chemical, physiological, and therapeutical relations of the subjects had been thoroughly and accurately examined. I knew that the conclusions which he had drawn from certain facts were logically correct, and that the author concluded from them neither more nor less than he was allowed to do; that he did not build up hypotheses for which he had not sufficient foundation. These latter qualities deserve all the more praise because the further and most important works of the author belong to the field of general Pharmacology, in which speculation easily overgrows actual research.

The next work of Fraser's, which must be classed under the head of general Pharmacology, and which in every sense of the word inaugurated an epoch, is that on the connection between physiological action and chemical constitution; and in it the discovery is announced that all bases obtained by the addition of alcohol radicals to vegetable alkaloids possess an action similar to that of curare.

This discovery is in scientific respects equal to that of the peculiar action of the Calabar Bean. Like Fraser's first work, which had been crowned with laurels, so has his latter one called forth enthusiastic admiration in the circle of Pharmacologists. Everyone must have been

struck with the great number of experiments, the abundance of interesting facts, and the clear comprehension and description of the same. The great pains which had been taken with this work can only be appreciated by those who have ever produced similar ones. The work itself has been the impulse for the production of numerous and similar works. Some facts were afterwards discovered in Paris which had first seen the light of day in Edinburgh; on the whole, however, these discoveries only confirmed the laws discovered by Fraser and his colleague Crum Brown. To the same class belong Fraser's studies on the action of the decomposition products of Atropia. These also have been acknowledged on the Continent as being of great merit and standard value. It is very probable that the experiments which Hellmann undertook at my suggestion with the decomposition products of Hyoscyamia and Balmanja would not have taken place without Fraser's antecedent investigations. Other experiments of Fraser's which followed those on Atropia, and in which he made known his discoveries on the protracted tetanic action of that alkaloid on cold-blooded animals, and on the antagonism between Atropia and Physostigma, have become the starting-point for many experimental studies in Europe as well as in North America. The latest researches of Buchheim on the action of Belladonin and Hyosc-yamin have been materially influenced by Fraser's experiments on the tetanus produced in frogs by the action of Atropia. We may say that on Fraser's shoulders rests a host of experimental studies on Antagonism. He was the first to show the method to be followed in order to gain sure results in the study of the so-called antagonism of poisonous substances, and his method has been adopted by Bennett in his extensive researches, as well as in the critical works of Rossbach. The well-meant criticism on several points of modern exaggeration of the doctrine of mutual antagonism is not directed against the scientific results which we owe to Fraser's industry, and even Rossbach could not in any way shake Fraser's discoveries on the antagonism of Physostigma and Atropia.

Pharmacological science owes to Fraser's labours during the last twelve years results which another could hardly have achieved. He produced facts in abundance, which another could hardly have produced, and which, like seeds sown on fertile soil, have brought forth new life. The eminent labour which is shown by the riches contained in Fraser's works, is all the more prominent as he has lately published a number of important works in the department of practical medicine and Hygiene, which have been very favourably received by competent persons. All the above-mentioned facts force upon me the firm conviction that Thos. R. Fraser fully unites in his person all the necessary qualities to act in a distinguished manner as Professor of Materia Medica, to be a shining light to his pupils, to serve science with zeal and advantage, and to increase the reputation of any University at home and abroad.

PROFESSOR DR. THEOD. HUSEMANN

XXXV.

From H. KÖHLER, M.D.; Professor of Materia Medica and Therapeutics in the University of Halle.

HALLE, May 24th, 1877.

MY-DEAR DR. FRASER,

Having heard that you are a candidate for the Chair of Materia Medica and Therapeutics at the University of Edinburgh, I am quite sure that the electors would scarcely find a candidate better fitted for this appointment. Your researches on the "Physiological Action of the Calabar Bean" as well as those on the "Antagonism between the Actions of Physostigma and Atropia," have been most favourably received in Germany, and your Lectures on the "Connection between the Chemical Properties and the Physiological Action of Active Substances" have traced a new line in the further investigation of these interesting subjects.

The same may be said of those experiments on the action of mercury on the liver, which you have undertaken with several other *savants* of Edinburgh, in the report of which your impartial and unbiased criticism, and the manner in which you do justice to the labours of other workers, will be acknowledged by everyone.

Trusting that you will be elected as successor to the most famous authority on Materia Medica, Sir Robert Christison,

I remain, Dear Sir,

Very truly yours,

H. KÖHLER, M.D.

XXXVI.

From H. NOTHNAGEL, M.D.; Professor of Pathology and Therapeutics; Director of the Medical Clinique and Polyclinic.

JENA, d. 16 Mai, 1877.

Mit dem groessten Vergnuegen bezeuge ich, das Herr Dr. Thomas R. Fraser in Deutschland in einem hohen wissenschaftlichen Ansehen steht. Meine persönliche ueberzeugung ist, dass dieser Ansehen ein durchaus wohlverdientes und berechtigtes ist; ich wenigstens schaetze Herrn Fraser als einen der besten unter den jetzigen Pharmakologen Englands.

Zweifellos sind seine Untersuchungen ueber die Calabar Bohne es gewesen, welche hauptsachlich die Einführung dieses wichtigen Mittels in den Arzneischatz veranlassten, weil sie eine wissenschaftliche Basis für die Anwendung desselben schafen.

Machten diese ersten Arbeiten seinen Namen bei uns bekannt, so sind doch seine folgenden vielleicht noch von grösserer Bedeutung, ich meine seine Untersuchungen ueber chemische Constitution und physiologische Wirkung, und ueber den Antagonismus wirksamer Substanzen, Untersuchungen welche erst neuerdings in dieser Weise bisher wenig bebaute Gebiete bearbeiten.

Wäre Herr Fraser bei uns, so würde ich keinen Augenblick anstehen, ihn im gegebenen Falle zu einem Lehrstuhle für Materia Medica zu berufen.

Dr. NOTHNAGEL.

[TRANSLATION.]

It gives me the greatest pleasure to certify that Dr. Thomas R. Fraser enjoys a high reputation in Germany as a man of science; and it is my personal conviction that this reputation has been well earned, and is thoroughly justified. I consider Mr. Fraser to be one of the best English Pharmacologists of the present time. There is no doubt that his experiments with the Calabar Bean have been the principal means of introducing this important remedy into the treasury of medicines, as these experiments form a scientific basis for their application.

His first works made for him a name among us; and there is no doubt that his later works have been of even greater importance—I refer to his researches on chemical constitution and physiological action, and on the antagonism of active substances, researches which have only recently entered upon regions little known hitherto.

If Mr. Fraser were dwelling among us, I would not hesitate for a moment in calling him to a chair of Materia Medica.

DR. NOTHNAGEL.

XXXVII.

From W. PREYER, M.D.; Professor of Physiology in the University of Jena.

JENA, May 15th, 1877.

Dr. Thomas R. Fraser's researches on the physiological action of several most important substances, as Physostigma and Atropia, as well as his investigations into the Connection between the Chemical Properties and the Physiological Action of Active Substances and their Antagonism are so well known to scientific men in Germany, and so highly appreciated by Pharmacologists, Toxicologists and Physiologists in this country, that it is quite unnecessary to enter into details, and to explain wherein consist the great merits of his published papers. His methods and experiments and their results, of unquestionable value throughout, are in more than one respect of very great theoretical and practical interest.

According to my opinion, which is based on the principal published works of Mr. Fraser, a Professorship of Materia Medica could not be placed in better hands than his.

W. PREYER, M.D.

XXXVIII.

From CARL LUDWIG, M.D.; *Professor of Physiology in the University of Leipzig.*

LEIPZIG, 22 Mai, 1877.

Jedem der sich mit der Geschichte der Arzneimittellehre beschäftigt hat, sind die grossen Verdienste bekannt, welche sich Herr Thomas R. Fraser, M.D., aus Edinburgh, um diese Wissenschaft erworben hat.

Mein Widerstreben Allbekanntes noch einmal schriftlich zu bezeugen ist nur durch die Dankbarkeit überwunden worden, welche ich wegen vielfältiger Belehrung den Schriften des Herrn Dr. Th. R. Fraser schulde.

PROFESSOR C. LUDWIG.

[TRANSLATION.]

To those who have occupied themselves with the history of *Materia Medica*, the great claims which Dr. Thomas R. Fraser has won for himself are well known.

My reluctance to repeat in writing what is so well known to all, has been overcome by the gratitude which I owe to Dr. Fraser on account of much information derived from his writings.

PROFESSOR C. LUDWIG.

XXXIX.

From O. SCHMIEDEBERG, M.D.; *Professor of Pharmacology in the University of Strassburg.*

STRASSBURG, d. 18 Mai, 1877.

HERRN THOMAS R. FRASER.

VEREHRTESTER HERR COLLEGE,

Es gereicht mir zu besonderem Vergnügen, Ihrem Wunsche nachzukommen und meine Meinung über Ihre Candidatur für die Professur der *Materia Medica* an der Universität zu Edinburgh auszudrücken.

Es ist gewiss eine wichtige und bedeutungsvolle Besetzung eines Lehrstuhls, um die es sich in diesem Falle handelt. Sir Robert Christison kann mit vollem Recht als einer der bedeutendsten Begründer der wissenschaftlichen Toxikologie bezeichnet werden. Er hat zuerst das zerstreute und ungeordnete umfangreiche Material, welches bis dahin namentlich in England von zahlreichen trefflichen Beobachtern

aufgehäuft worden war, in zusammenfassender Weise zu einem einheitlichen Ganzen verarbeitet und dadurch das Muster für alle späteren Bearbeitungen der Toxikologie geschaffen; nicht weinger aber auch durch eigene Beobachtungen das toxikologische Gebiet wesentlich erweitert.

Seinem erfolgreichen Wirken ist es zuzuschreiben, dass in England auch heute das Interesse für die Erforschung der Wirkungen der Gift- und Arzneistoffe ein so lebendiges, wie kaum in einem anderen Lande, ist, und dass in Folge dieses regen Strebens unsere Wissenschaft von dort her fortwährend mit neuen und wichtigen Thatsachen bereichert wird.

Allen aber, welche auf diesem Gebiete thätig sind, ist es bekannt, welchen bedeutenden Antheil Sie, geehrter Herr College, an diesem eifrigen Forschen haben, und wie werthvolle Errungenschaften Ihnen die Wissenschaft zu verdanken hat. Sie haben uns zuerst die so interessanten und für die Praxis wichtigen Wirkungen die Calabar bohne, sowie die des Akazga Giftes kennen gelehrt. Sie haben an zahlreichen Ammoniumverbindungen der Natürlichen und an mehreren künstlichen Alkaloiden die eigenthümlichen, für die wissenschaftliche Pharmakologie wichtigen Curarewirkungen festgestellt. Diesen Arbeiten reihen sich Ihre schönen Untersuchungen über das Kombé-Gift, das Tropin, den Antagonismus zwischen Atropin und Physostigmin, ferner die Entdeckung der merkwürdigen Krämpfe nach Atropin, welche an Kaltblütern die bereits eingetretene Lähmung in so überraschender Weise unterbrechen, so wie endlich zahlreiche andere Untersuchungen an, die nicht nur auf das von Ihnen vertretene spezielle Gebiet beschränkt blieben, sondern sich auch auf andere Gebiete der medicinischen Wissenschaft erstrecken und darthun, dass sie sich den zum Gedeihen jeder speziellen Disciplin nothwendigen Zusammenhang mit anderen Gebieten des Wissens gewahrt haben. Doch es ist überflüssig noch weiter an Einseln auf Ihre erfolgreiche wissenschaftliche Thätigkeit einzugehen. Sie ist jedem Fachmanne nicht nur sondern auch in weiteren Kreisen hinlänglich bekannt und wird von jedem gewürdigt und geschätzt.

Ich bin daher immer der Meinung gewesen, dass keiner der Ehre würdiger sei, der Nachfolger Sir Robert Christison's zu werden, als Sie, geehrter Herr College, der Sie bereits seine geistige Nachfolge aufgetreten haben. Es ist im Interesse der Wissenschaft welche auch ich zu vetreten die Ehre habe, mein aufrichtiger Wunsch, dass es Ihnen gelingen möge, diese Professur zu erhalten, und dass Sie dadurch in den Stand gesetzt werden mögen die Materia Medica und Toxikologie in der bisherigen Weise mit neuen Beobachtungen und Entdeckungen zu bereichern.

In collegialischer Hochachtung,

Ihr,

SCHMIEDEBERG.

[TRANSLATION.]

MOST HONOURED COLLEAGUE,

It is a peculiar pleasure to me to comply with your wish, and to express my opinion on the occasion of your being a candidate for the Chair of Materia Medica in the University of Edinburgh.

The appointment to this Chair is certainly one of the most important. Sir Robert Christison has every right to be acknowledged as one of the chief founders of scientific toxicology. In the first place, he worked up in a comprehensive manner the scattered and disorderly, though valuable, material which had up to that time, especially in England, been accumulated by various excellent observers, and in doing so he set the example for all later treatises on toxicology. Not the less, however, did he through his own observations materially widen the province of toxicology. To his successful work is to be ascribed the interest, which exists in England even now, and which is perhaps greater there than in any other country, in the discovery of the different actions of poisons and drugs, and in consequence of which our science has been enriched continually with new and important facts from that country.

All those, however, who are actively engaged in this department, know well what an important part you, honoured colleague, have taken in these ardent investigations, and how much we are indebted to you for your invaluable acquisitions to science. Firstly, you have made known to us the very interesting, and, for those in practice, very important actions of the Calabar Bean, also that of the Akazga poison. You have determined the peculiar and, for the scientific pharmacologist, the important curare-like action of many ammonium compounds of the natural, and of several artificial alkaloids. With these works may be ranked your beautiful researches on the Kombé Arrow Poison, on Tropin, on the antagonism between Atropia and Physostigma; further, your discovery of the remarkable tetanic symptoms which are produced by Atropia, and which in Cold-blooded Animals, intervene in so remarkable a manner after paralysis has already set in; and so in like manner many other researches may be noticed which do not confine themselves to your own special department, but which extend to other departments in the science of medicine, and prove that you have observed how, for the success of any special study, the knowledge of connecting branches of science is necessary.

But it would be superfluous for me to enter into further details concerning your successful scientific career, not only in our own department, but in still wider circles it is sufficiently known, and it is valued and esteemed by all.

I have, therefore, always been of the opinion that no one is so worthy of the honour of being Sir Robert Christison's successor as you, most honoured colleague, for you are already his intellectual successor.

In the interest of that science which I also have the honour to represent, it is my sincere wish that you may be successful in obtaining this Chair, so that you may be in a position to enrich, as heretofore, the sciences of *Materia Medica* and *Toxicology* by new observations and discoveries.

Yours,

SCHMIEDEBERG.

XL.

From FRIEDR. A. FLÜCKIGER, M.D.; *Professor of Pharmacy in the University of Strassburg; Honorary Member of the British Pharmaceutical Society and Pharmaceutical Congress.*

STRASSBURG, May 25th, 1877.

DEAR SIR,

Having been informed that Sir Robert Christison has resigned, I think I am fully entitled, in anticipation, to congratulate you as the successor of your eminent friend. No one in my appreciation can be better qualified than the author of the admirable paper on the ordeal bean of Calabar, which certainly will remain one of the most prominent in this department of *Materia Medica*, the exactness and importance of your discovery not being subject to be altered by any progress of science.

In writing our "*Pharmacographia*" we have been happy, my late friend Daniel Hanbury and myself, to express the high opinion which we entertained on the merit of your investigation. Yet the character of our book did not permit us to state, at the same time, how much we appreciated not only the mere results of your experiments, but also the way in which they had been planned and the skill you displayed in performing them.

In the papers for which science is indebted to you since, I am pleased with the same originality of research and the same accuracy in carrying out the practical investigation, although the list of subjects which you submitted to careful examination exhibits a considerable number of substances which are either artificially prepared chemical compounds or natural principles of the vegetable kingdom.

I scarcely need to point out that in reviewing your labours I restrict myself to that portion of them which is connected with that part of science I am more exactly acquainted with. But besides this, I am well aware how favourably the Professors of strictly medical branches in our and other Universities are impressed by other papers of yours.

Allow me to say, therefore, that science may with certainty expect that you will sustain and increase the great reputation attached to the Chair so successfully filled by Sir Robert Christison. Many secrets of Nature will be further unveiled by your sagacity, both for the relief of sufferers and for the advancement of science.

Believe me to remain,

Yours very sincerely,

DR. FRIEDR. A. FLÜCKIGER.

XLI.

From LUDIMAR HERMANN, M.D.; *Professor of Physiology in the University of Zurich.*

ZÜRICH, den 14 Mai, 1877.

Obgleich ich überzeugt bin, dass die grossen Verdienste des Herrn Dr. Thomas R. Fraser um die Pharmakologie and Toxikologie in der ganzen medicinischen Welt allgemein anerkannt sind, bezeuge ich doch mit Vergnügen dass ich Herrn Dr. Fraser's Arbeiten, namentlich diejenigen über die Calabarbohne und über die von den krampfmachenden Alkaloiden abgeleiteten Ammoniumbasen, zu den besten Arbeiten und den schönsten Entdeckungen der neueren Pharmakologie zähle, und der Ansicht bin, dass ein Lehrstuhl der Pharmakologie nicht besser als durch Herrn Dr. Fraser besetzt werden kann.

DR. LUDIMAR HERMANN.

[TRANSLATION.]

Although I am well aware that the great merits of Dr. Thomas R. Fraser as a Pharmacologist and a Toxicologist are universally acknowledged by the whole medical world, it is, nevertheless, a pleasure for me to state, in reference to Dr. Fraser's works, especially those on the Calabar Bean and on the ammonium bases derived from the convulsant alkaloids, that I count them amongst the best work and the most beautiful discoveries made in recent pharmacology; and I am of opinion that a Chair of Pharmacology would be filled by no one better than by Dr. Fraser.

DR. LUDIMAR HERMANN.

XLII.

From EDWARD H. CLARKE, M.D.; *Late Professor of Materia Medica in the Harvard University, Boston, Massachusetts, United States of America.*

18, ARLINGTON ST., BOSTON, MASS., U.S.A.,
May 21st, 1877.

TO THE ELECTORS OF THE UNIVERSITY OF EDINBURGH.

Gentlemen,—I understand that Thomas R. Fraser, Esq., M.D., is a candidate for the Chair of Materia Medica in the University of Edinburgh, now become vacant by the resignation of Sir Robert Christison.

If any testimony from this side of the Atlantic as to the fitness of Dr. Fraser for the position would be acceptable to the Electors, I should be glad to be permitted to contribute mine.

I am familiar with Dr. Fraser's investigations in the department of Materia Medica and Pharmacy, and regard them as among the most complete, important, and satisfactory of any which have been made in that department of scientific research. His labors in the direction of the physiological action of drugs, a direction in which modern Materia Medica is moving, are of the highest value; they have enriched the resources of Therapeutics, and added to the sum of human knowledge. Judged by these labors, Dr. Fraser is eminently qualified to fill the position for which he is a candidate. I am sure that all members of the medical profession in this country, who are qualified to judge in such matters, would rejoice to learn that Dr. Fraser had been selected by the Electors of the University of Edinburgh to fill the important post of Professor of Materia Medica in that University, and would feel assured that the Science of Medicine, as well as the University of Edinburgh, would gain by such a selection.

I am, with great respect,

Very truly yours,

EDWARD H. CLARKE, M.D.

XLIII.

From HORATIO C. WOOD, M.D.; *Professor of Materia Medica and Therapeutics in the University of Pennsylvania. Author of "A Treatise on Therapeutics."*

UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA,
May 21st, 1877.

TO THE CURATORS OF THE UNIVERSITY OF EDINBURGH.

Gentlemen,—I am informed that Dr. Thomas R. Fraser is an applicant for the Chair vacated by the resignation of Sir Robert Christison. Never having had the good fortune to meet Dr. Fraser, I cannot give any testimony as to the possession by him of the peculiar personal qualities necessary to a great teacher. I do feel, however, the right to express my warm admiration of his abilities as an author and investigator. In my opinion, some of his papers, in originality, thoroughness and logical completeness have scarcely been equalled by any student of kindred subjects in Great Britain. I look upon him as *facile princeps* upon your island as an investigator of physiological therapeutics, and should think his election would go far to fill the gap left by the resignation of Sir Robert Christison.

With profound respect,

I remain, Yours, &c.,

H. C. WOOD.

XLIV.

From ALFRED STILLÉ, M.D., L.L.D.; *Professor of the Theory and Practice of Medicine in the University of Pennsylvania; Author of a treatise on Therapeutics and Materia Medica.*

UNIVERSITY OF PENNSYLVANIA, MEDICAL DEPARTMENT,
PHILADELPHIA, May 23rd, 1877.

TO THE CURATORS OF THE UNIVERSITY OF EDINBURGH,

Gentlemen.—Having learned that Dr. Thomas R. Fraser is a candidate for the vacant Chair of Materia Medica and Therapeutics in the University of Edinburgh, I feel it a duty as well as a pleasure to add my testimony to that which will be laid before you in his behalf.

The distinction he has worthily gained in Europe is equally recognised in America; and the value of his contributions to medical Science and Art are everywhere regarded as unsurpassed by those of anyone who has cultivated the same branches of medicine. They are universally recognised as not only of great intrinsic value on account of the practical results to which they have led, but as exhibiting rare examples of the true spirit of scientific inquiry.

As the author of a work upon Materia Medica and Therapeutics, I have had occasion to become critically acquainted with Dr. Fraser's writings, and I therefore venture to express my judgment emphatically.

It is, moreover, peculiarly agreeable to me, a Professor in an Institution which more than a century ago was modelled upon the University of Edinburgh, to offer my good wishes for the success of a candidate, who, in my judgment, will enhance the reputation and prosperity of the parent school.

I have the honour to be, Gentlemen,

Your very obedient Servant,

ALFRED STILLÉ, M.D., L.L.D.

