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TESTIMONIALS

THOMAS GRAHAM, F.R.S., L., & C.

PROFESSOR OF CHEMISTRY IN THE
UNIVERSITY OF LONDON, AND FIRST MEMBER OF THE
ROYAL ACADEMY OF SCIENCES IN PARIS, &c.

THE VACANT CHAIR OF CHEMISTRY
IN UNIVERSITY COLLEGE, LONDON

GLASGOW:
PRINTED BY GEORGE SPENCER.



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THOMAS GRAHAM, F. R. SS. L. & E.

PROFESSOR OF CHEMISTRY IN THE
ANDERSONIAN UNIVERSITY, GLASGOW, CORR: MEMBER OF THE
ROYAL ACADEMY OF SCIENCES OF BERLIN, &c.

CANDIDATE FOR
THE VACANT CHAIR OF CHEMISTRY,
IN UNIVERSITY COLLEGE, LONDON.

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MDCCCXXXVII.

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LECTURER OF CHEMISTRY IN THE

UNIVERSITY OF GLASGOW, MEMBER OF THE

ROYAL SOCIETY OF EDINBURGH, &c.

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THE VACANT CHAIR OF CHEMISTRY,
IN UNIVERSITY COLLEGE, LONDON.

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1888

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TESTIMONIALS, &c.

I.

From WM. CHARLES HENRY, *M. D., F. R. S. and G. S.*

To the Honourable The COUNCIL of
University College, LONDON.

MANCHESTER, *March 28th, 1837.*

MY LORDS AND GENTLEMEN,

IN compliance with the request of Professor Graham, I venture very respectfully to express to you my sense of his strong claims to occupy the Chair in your College, so worthily filled by my lamented friend the late Dr Turner. These claims are founded on his experience and success as a Teacher, and on his numerous important contributions to the advancement of science. Mr Graham was first made favourably known to chemical philosophers by his discovery of the law of gaseous diffusion. He established, by well devised experiments, the conformity of gases, flowing through minute orifices, to the universal physical law that determines the issuing velocities of *non-elastic* fluids. The numerical results obtained experimentally, constitute, I apprehend, as close approximations to the calculated as are derivable from such difficult and delicate manipulations.

Mr Graham's memoir on Phosphuretted Hydrogen, may also be commended as a fine model of inductive research. He has succeeded in tracing to the presence of certain foreign matters, in extremely minute proportions the remarkable difference in chemical habitudes of the spontaneously accendible, and the non-

accendible gas. This paper, I was informed by Professor Liebig, had gone far to shake his confidence in the doctrine of isomerism, of which, he had himself, in conjunction with Wöhler previously furnished, in the two cyanic acids, what he then regarded as the most striking illustration.

Professor Graham has, during the last five years, been diligently engaged in elaborate inquiries into the constitution of the salts, with an especial reference to the functions of their watery element, and has already made known conclusions that materially affect the higher doctrines of chemical philosophy.

I have, therefore, no hesitation in expressing my conviction that Mr Graham is singularly entitled to the honourable station which he is now seeking; and I venture to give more decided expression to this feeling from having lately had opportunities of learning, that he is thus estimated by the most competent judges in Europe. Berzelius spoke to me in terms of the strongest commendation of his memoirs on the salts and on Phosphuretted Hydrogen; and did not conceal his persuasion, that Professor Graham was decidedly the first among the younger British chemists. I have frequently heard a similar judgment expressed by my friends Professor Henry Rose, Liebig, Mitscherlich, and Pelouze.

I have the honour to remain,

My Lords and Gentlemen,

With great respect, your obedt. servt.

WM. CHARLES HENRY.

II.

LETTER from BARON J. BERZELIUS, *Peer of Sweden, Perpetual Secretary of the Academy of Sciences of Stockholm, &c. &c.*

STOCKHOLM, le 10 Mars, 1837.

MONSIEUR,

J'AI été profondément affligé de la nouvelle que vous venez de me donner de la mort de mon excellent ami le Dr E. Turner, en même temps, j'ai été vivement touché tant par la confiance que vous me témoignez, que par la modestie avec laquelle vous me demandez, si je crois que vous soyez un digne successeur à M. Turner. Puisque vous avez consulté mon opinion là-dessus je prends la liberté de vous assurer, que je le crois, et j'ajoute même, qu'on trouvera difficilement une personne plus digne de remplacer le professeur décédé. Telle est l'opinion qui m'a été inspirée par vos excellents travaux, opinion que je me trouverais heureux de pouvoir porter même jusqu'à l'autorité dont il dépend de nommer le successeur du chimiste, que la science a beaucoup trop tôt perdu.

Vos travaux chimiques se distinguent par l'exactitude dans l'observation autant que par l'originalité et la justesse des idées. Votre mémoire sur les trois modifications de l'acide phosphorique est un ouvrage classique, celui de l'hydrogène phosphoré est d'un intérêt majeur. Vos recherches sur les sels hydratés ouvrent des vues nouvelles sur le rôle que joue l'eau dans les combinaisons inorganiques.

Je ne puis donc, Monsieur, que vous conseiller de vous mettre au rang des candidats à la place vacante par le décès de M. Turner, et je ne doute nullement que l'Université ne trouve par là un moyen de réparer la perte qu'elle vient de faire.

Agréez l'assurance de la considération distinguée avec laquelle j'ai l'honneur d'être,

Monsieur,

Votre très humble et obéissant serviteur,

J. BERZELIUS.

III.

LETTER from M. GAY LUSSAC, Member of the Institute of France, and Professor of Chemistry, Paris.

PARIS, le 28 Fevrier, 1837.

MONSIEUR,

J'AI reçu l'interessant Mémoire, *On Water as a Constituent of Salts*, que vous m'avez fait l'honneur de m'envoyer. Je me suis empressé de le faire traduire et d'en enrichir les Annales de chimie et de physique. Le point de vue sous lequel vous considerez l'eau en combinaison essentielle avec les sels et les acides, est très ingénieux et se rattache parfaitement à vos belles recherches sur l'acide phosphorique, qui, permettez moi de vous le dire, ont révélé au monde savant un nouveau chimiste philosophe. Aussi regrettons nous ici beaucoup que vos travaux industriels enlèvent à la science un tems qui serait si utilement consacré à ses progrès. La mort de M. Turner laisse vacante une place de professeur de chimie dans l'université de Londres, et il me semble qu'elle pourrait vous convenir. J'ajouterai qu'après M. Faraday vous conviendrez encore mieux à cette place que personne en Angleterre. Les établissemens scientifiques, si bien organisés qu'ils soient, n'ont définitivement d'utilité et n'acquièrent de prospérité que par le mérite et la renommée des professeurs qui leur sont attachés. Ce serait donc à la fois une excellente chose pour l'université de Londres et pour la science que vous fussiez nommé professeur de chimie dans cette université. C'est aussi l'opinion de M. Dulong et de M. Chevreul avec qui j'ai eu hier occasion de parler de la mort de M. Turner.

Pardon, Monsieur, si, en voulant vous remercier seulement des ouvrages que vous m'avez adressés, je vous ai parlé trop de vous même. J'ai cédé à mes impressions. Croyez au moins que je n'ai jamais sçu farder mes éloges et qu'ils sont pleins de sincérité.

Mon fils, qui est très heureux d'avoir fait votre connaissance, me prie de vous offrir ses sentimens de haute estime. Agréez, Monsieur, l'assurance de l'estime la mieux sentie et de mes sentimens les plus affectueux.

GAY LUSSAC.

IV.

*LETTER from M. J. DUMAS, Member of the Institute of France,
and Professor of Chemistry, Paris.*

PARIS, le 3 Mars, 1837.

CHER ET TRES HONORE CONFRERE,

JE vous remercie très affectueusement de la marque d'estime et j'oserais dire d'amitié que vous m'accordez, en me demandant une manifestation libre et franche de ma pensée sur vos travaux et sur vos droits à la chaire vacante à l'université de Londres.

Vous savez ce que je pense de vous; je ne vous l'ai pas caché; je n'en ai pas exagéré l'expression. Vous avez eu le bonheur de découvrir une nouvelle mine et une mine fertile dans l'histoire des sels. Vous exploitez cette mine avec le génie patient et ferme qui mène aux grandes découvertes. Vous avez fait déjà beaucoup et vous nous promettez davantage encore. Votre nom s'est déjà lié aux plus grands noms de la chimie, car quiconque touche à l'histoire générale des sels d'une manière utile, en acquiert une gloire singulière, et vous êtes dans ce cas, comme Berthollet, Berzelius et Mitscherlich.

Je ne connais personne en Angleterre, et bien peu sur le continent, que je voulusse vous préférer, si j'étais chargé de choisir le professeur destiné à remplacer M. Turner.

Vous appartenez à l'école nouvelle des chimistes; à cette école qui constate les faits avec un soin d'autant plus grand, qu'elle veut en découvrir la causalité, et je fais les vœux les plus vifs pour vous voir en mesure de travailler sur un grand théâtre à la propagation des vues de l'école nouvelle qui vous compte parmi ses membres les plus distingués.

Je suis tellement convaincu que tous mes témoignages de haute estime sont superflus que je me borne à ce peu de mots. Non, il n'est pas nécessaire que je vous donne une attestation de capacité, quand vos propres travaux jettent tant d'éclat sur votre nom; du reste, faites de ma lettre tel usage que vous voudrez, elle n'aura jamais pour votre bonheur, toute l'efficacité dont je voudrais la douer, car je vous regarde comme un des hommes qui en Europe ont le mieux mérité la reconnaissance des chimistes.

A cette occasion je me rappelle, très amicalement, à votre souvenir, et vous offre mes vœux les plus vifs pour l'accomplissement de vos désirs.

Veillez me croire, Monsieur et cher Collègue, avec les sentimens les plus affectueux,

Votre très dévoué,

J. DUMAS.

LETTER from M. CHEVREUL, Mem. Instit. France, and Professor of Chemistry applied to the arts, Paris.

PARIS, le 7 Mars, 1837.

MON CHER MONSIEUR,

J'APPRENDs que la place de professeur de chimie occupée par M. Turner est vacante et que vous vous presentez comme candidat pour la remplir: croyez que si j'avais quelque pouvoir dans le conseil qui doit nommer ou presenter à cette place, j'en userais pour vous; car vos travaux, particulièrement ceux qui se rapportent au rôle que joue l'eau dans les combinaisons avec les acides et les sels, ouvrent selon moi une carrière de recherches importantes que vous devez parcourir; car, je serais fâché qu'un autre que vous cueillît les lauriers qu'elle promet. J'exprime cette opinion avec d'autant plus d'assurance que j'ai beaucoup réfléchi depuis long temps sur ce sujet, et que plusieurs difficultés relatives à l'arrangement des atomes que l'on pouvait élever contre ma manière de voir, s'évanouissent par vos belles recherches.

Recevez, mon cher Monsieur, tous mes vœux pour l'accomplissement de vos désirs et croyez que j'aurai le plus vif plaisir à recevoir de vos nouvelles.

E. CHEVREUL.

VI.

LETTER from M. BERTHIER, Mem. Inst. France, and Professor of Chemistry in the Ecole de Mines, Paris.

PARIS, le 1 Mars, 1837.

MONSIEUR ET HONORE PROFESSEUR,

J'AI appris avec beaucoup de regret la mort de Monsieur Turner. C'était un savant aussi distingué par ses profondes connaissances que par ses qualités aimables.

La place que le Dr Turner occupait à Londres est importante, et il serait à désirer dans l'intérêt des sciences qu'elle fut remplie par un homme éminent, capable d'enseigner les saines doctrines, et de contribuer par ses recherches à étendre et à perfectionner la philosophie chimique. C'est assez vous dire, Monsieur, que personne n'est plus digne de l'occuper que vous même et je souhaite bien vivement que vous quittiez Glasgow pour aller faire profiter la grande université de Londres de vos talents. J'ose même vous dire que ce vœu est partagé ici par toutes les personnes éminentes qui cultivent la chimie. Vos travaux ont tout d'abord attiré leur attention parcequ'ils signalent tous dans leur auteur une sagacité et un esprit philosophique qui n'appartiennent qu'à l'homme supérieur; tels sont entr'autres vos mémoires sur l'acide phosphorique, sur l'hydrogène phosphoré, sur le rôle que l'eau joue dans les sels, sur les oxides d'étain; et lorsque ces personnes ont eu le plaisir de faire votre connaissance à Paris elles ont pu reconnaître que le savant était plein de droiture, modeste, et tout dévoué à l'étude; et voila pourquoi vous avez acquit leur estime et leur amitié.

Permettez moi donc, Monsieur, de me joindre à tous les chimistes de mon pays, pour souhaiter que vous soyez mis en possession de la chaire de chimie de l'université de Londres, et veuillez croire à la haute estime de

Votre tout dévoué serviteur,

P. BERTHIER.

DE L'ACADEMIE DES SCIENCES.

VII.

LETTER from M. PERSOZ, Professor of Chemistry in the Royal College of France, Strasburgh.

STRASBOURG, le 3 Mars, 1837.

MON CHER ET HONORABLE COLLEAGUE,

JE viens d'apprendre la mort de Monsieur le Dr Turner, professeur de l'université de Londres, et je vous écris à cette occasion, mon cher Monsieur, pour vous témoigner tout le plaisir que j'aurais à vous voir remplacer ce chimiste, puisque par votre caractère et vos talens, vous avez tous les droits possibles à la place honorable qui vient d'être vacante.

Permettez moi, mon cher Monsieur, de vous engager à profiter incessamment de toutes les chances de succès que vous donnent vos intéressants travaux. Presentez vous donc comme candidat à la chaire de chimie en question, et donnez ainsi à vos compatriots le moyen de vous rendre justice, et d'être en même tems utile à la science que vous professez.

Si, malgré tous les titres que vous avez pour que cette démarche soit couronnée de succès, la voix d'un étranger pouvait ajouter quelque chose à votre reputation, soyez persuadé que je me trouverais heureux de pouvoir vous donner publiquement toutes les marques d'estime et d'admiration que vous méritez.

Ecrivez moi bientôt, s'il vous plait, mon cher Monsieur, et veuillez croire à mon devouement.

Comme à tous mes sentiments les plus distingués,

J. PERSOZ.

VIII.

LETTER from M. LIEBIG, Professor of Chemistry in the University of Giessen.

GIESSEN, DEN 28 Februar, 1837.

MEIN THEURER FREUND,

ICH schreibe Ihnen heute in einer Angelegenheit welche ausschliesslich Sie betrifft. Ich wünsche nämlich dass Sie sich entschliessen möchten sich um die Stelle an der London Universität welche frei geworden ist zu bewerben, und ich weiss dass ich damit den Wunsch aller meiner Freunde in Paris und Berlin aus spreche. Durch die seltene Gediegenheit Ihrer Arbeiten haben Sie sich die Hochachtung aller Chemiker erworben, welche die Schwierigkeiten und den Werth derselben zu beurtheilen wissen. Wir alle wünschen nichts schnlicher, als dass Ihre Stellung im Leben Ihnen die Mittel und die Gelegenheit sichern möge diese Arbeiten mit Ruhe und Bequemlichkeit fortsetzen und vollenden zu können. Diese Stelle darf der eigenthümlichen Verhältnisse der London Universität wegen, nur ein Mann von anerkanntem Talent und Auszeichnung bekleiden; denn nur durch ausgezeichnete Lehrer, kann sie sich heben: die Grundpfeiler ihrer Existenz sind Intelligenz und eminentes Wissen. Dies giebt uns nun die Hoffnung dass Ihre Bewerbung mit grösserem Erfolg gekrönt seyn wird, als die irgend eines anderen Ihrer Collegen. Keiner von diesen wird sich Ihnen an die Seite stellen, sobald er weiss dass Sie sein Mitbewerber um diese Stelle sind. Fürchten Sie nicht, dass bei Besetzung dieser so wichtigen Stelle, die in Ihrem Lande aller wahren Wissenschaft oft so gefährliche Gunst und Protection entscheiden wird; die Beschützer der Londner Universität sind selbst zu erleuchtete Männer als dass dergleichen kleinliche Interesse die Oberhand behalten könnten, besonders in einen Institute welches als der einzige Organ der Naturwissenschaft, aus dem Geiste der Zeit entsprungen ist.

In England ist es freilich anders wie bei uns oder wie in Frankreich; lebten Sie in dem dunkelsten Winkel dieser Länder verborgen, man würde kommen, Sie zu holen, eine Bewerbung wäre bei Ihrer Stellung nicht nöthig.

Schreiben Sie mir zu was Sie sich entschlossen haben, und ob Sie überhaupt geneigt sind Ihr Glasgow zu verlassen.

Ich bin mit der herzlichsten Anhänglichkeit

Ganz der Ihrige,

LIEBIG.

[*Translation.*]

GIESSEN, 28th February, 1837.

MY DEAR FRIEND,

I WRITE at present on a business which peculiarly concerns yourself. I wish you to make up your mind to compete for the situation in the London University, which has become vacant by the death of my friend Dr Turner, and I know that in this I express the wish of all my friends in Paris and Berlin. By the rare solidity of your labours you have acquired the respect of every chemist able to appreciate their difficulty and their value. We all desire nothing more ardently than that your situation in life may secure to you the means and opportunity to pursue and to complete these labours in quiet and convenience. The peculiar relations of the London University, are such, that the vacant professorship can be bestowed only on a man of acknowledged talent and celebrity; for it is only by distinguished teachers that she can raise herself; the pillars of her existence are intelligence and eminent knowledge. This gives us the hope that your application will be crowned with more success than that of any of your fellow chemists, not one of whom will place himself by your side as a competitor for this situation. Do not fear that favouritism and patronage, which in your country prove so often dangerous to all true science, will decide this important election. The guardians of the London University are men too enlightened to permit any secondary interests to prevail, especially in an institution which has sprung up from the spirit of the age, as the pecu-

liar organ of natural science. In England it is indeed different from what it is with us, or in France; although you lived concealed in the darkest corner of these countries, they would come to seek you, and no application would be necessary.

Let me know what you resolve upon, and whether you are inclined to leave Glasgow.

I am, with the most hearty attachment,

Entirely yours,

LIEBIG.

IX.

LETTER from M. LE CHEVALIER DOEBEREINER, Professor of Chemistry in the University of Jena.

JENA d. 5 März, 1837.

HOCHVEREHRTER HERR,

ICH muss Gelegenheit nehmen, Ihnen nochmals meinen Dank auszusprechen, dafür, dass Sie mich bei der hiesigen Versammlung der Naturforscher Deutschlands mit Ihrem Besuche beehrt und mir die Freude gegönnt haben, die persönliche Bekanntschaft eines Mannes zu machen den ich seit langer Zeit als einen der gelehrtesten und thätigsten Chemiker Englands verehere und bewundere. Ich schmeichle *nie* und lobe nur selten; aber ich liebe die Wahrheit, und diese fordert mich auf, Ihnen für die vielen ausgezeichnet schönen und gründlichen Experimentalarbeiten, welche Sie nach und nach publicirt haben, meine aufrichtigste Huldigung darzubringen. Genehmigen Sie, Theurer Herr, diese Huldigung mit der Versicherung, dass Sie von allen deutschen Chemikern verehrt und bewundert werden. Fahren Sie fort, Ihren Geist und Ihre Thätigkeit der Wissenschaft zu widmen, der wir beide angehören und welche Ihnen schon so viele Entdeckungen und Berichtigungen verdankt. Der Isomerismus ist durch Ihre Arbeiten gewaltig erschüttert worden; möchten Sie geneigt seyn, denselben noch ferner zum Gegenstande Ihres Forschens zu machen.

Sie würden mich und alle Chemiker Europa's ausserordentlich verbinden, wenn Sie diesem Gegenstande Ihre Aufmerksamkeit schenken und ihn auf dem Wege des Experiments Ihrer genialen Prüfung unterwerfen wollten.

Mit der ausgezeichnetesten Hochachtung und Verehrung mich nennend,

Theurerster Herr Professor,

Ihren,

Ganz ergebenen,

J. W. DOEBEREINER.

[*Translation.*]

JENA, 1st March, 1837.

HONOURED SIR,

I TAKE the opportunity of once more expressing my thanks to you for having honoured me by your visit, during the assembly of the savans of Germany in Jena, and for having thus afforded me the pleasure of making the personal acquaintance of one whom for a long time I have honoured and admired as one of the most learned and active chemists of England. I never flatter, and praise but seldom, but truth requires me to render homage to the man whose experimental labours have been so beautiful, so numerous, and so profound. Accept, dear Sir, this homage, and with it the assurance that you are honoured and admired by all the chemists of Germany. Continue to devote your abilities and activity to the science which we both cultivate, and which owes you already so many discoveries and improvements. The doctrine of Isomerism has been powerfully shaken by the result of your researches, and I would that you were inclined to make it still farther the subject of your investigation. The chemists of all Europe would be served by an examination of this subject by one whose talents for observation, and for ingenious experiment are so distinguished.

With the highest respect I subscribe myself,

Dearest Professor,

Your entirely devoted,

J. W. DOEBEREINER.

X.

LETTER from M. HENRY ROSE, Professor of Analytical Chemistry in the University of Berlin.

BERLIN d. 3 März, 1837.

MEIN THEURER FREUND,

WIE sehr ich schon vor längerer Zeit von dem hohen Werthe Ihrer wissenschaftlichen chemischen Arbeiten überzeugt war, können Sie aus dem Umstande ersehen, dass ich mir vor länger als zwei Jahren die Freiheit nahm, Sie zum Correspondenten der mathematisch-physicalischen Klasse der Berliner Academie der Wissenschaften vorzuschlagen:—Die Wahl geschah am 19ten Februar, 1835, und Sie wurden mit der überwiegendsten Majorität [27 Stimmen gegen I.] erwählt. Dieses kann Ihnen ein Beweis seyn, wie sehr Ihre wissenschaftlichen Verdienste in Deutschland anerkannt werden.

Mit grösster Hochachtung,

Ihr ergebener,

HEINR. ROSE.

[*Translation.*]

BERLIN, 3d March, 1837.

MY DEAR FRIEND,

How much I was long since convinced of the high value of your scientific chemical labours, you may infer from the circumstance, that I took the liberty more than two years ago of proposing you to the Berlin Academy of Sciences, as a corresponding member of the mathematico-physical department. Upon this proposition, the election took place on the 19th February, 1835, when you were chosen by the overwhelming majority of twenty-seven voices against one. This occurrence may prove to you how much your scientific merits are acknowledged in Germany.

With the highest esteem,

Your devoted

HENRY ROSE.

XI.

LETTER from M. POGGENDORFF, Professor of Chemistry and Experimental Philosophy in the University of Berlin, Editor of the Annalen der Physik und Chemie.

BERLIN, 12th März, 1837.

VEREHRTER HERR,

WENN es wirklich Jemand geben sollte, welcher Ihren wissenschaftlichen Leistungen die gebührende Anerkennung versagte, so könnte diess—falls nicht bössliche Absicht dabei obwaltete—nur aus einer gänzlichen Unbekanntschaft mit dem entspringen, was heut zu Tage eigentlich Werth hat in der Chemie. Ich kann Ihnen versichern, unter den Chemikern in Deutschland, namentlich denen in Berlin, herrscht nur eine Stimme darüber, dass Ihre Arbeiten zu den wichtigsten und einflussreichsten gehören, die im Gebiete der Chemie in neuerer Zeit aus Gross Britannien hervorgegangen sind. Ich selbst theile diese Ansicht mit vollster Ueberzeugung, und glaube durch den Eifer mit dem ich mich bemüht, Ihre Abhandlungen dem deutschen Publicum bekannt zu machen, den genügendsten öffentlichen Beweis davon abgelegt zu haben. Ihre untersuchungen über die Diffusion der Gase, über die Modificationen der Phosphorsäure, und den Wassergehalt der Salze halte ich nicht allein wichtig wegen der That-sachen, die sie uns kennen gelehrt haben; sondern fast mehr noch wegen der Bahn, welche durch sie für künftige Forschungen gebrochen worden ist. Schon diese Arbeiten sind so rühmlich und verrathen ein so entschiedenes Talent zur Naturforschung dass, wenn Sie auch weiter nichts geleistet hätten, Ihnen dennoch ohne Widerrede eine der ersten Stellen unter den jetzt lebenden Chemikern Englands zuerkannt werden muss.

Ich schreibe Ihnen dieses, geehrter Herr, nicht um Ihnen etwas Augenehmes zu sagen, sondern weil es meine innigste Ueberzeugung ist. Von ganzem Herzen wünsche ich dass Sie recht bald eine Stellung erlangen mögen, die Ihrer Thätigkeit und Ihrem Talente einen angemessenen Wirkungskreis darbieten möge. Ich wünsche diess nicht allein in Ihrem Interesse, sondern im Interesse Englands, das, wenn es Männer von Ihren Verdien-

sten zu schätzen weiss, seinen frühern Ruhm in der Chemie auch für die Folgezeit bewahren und erhöhen wird.

In dem ich Ihnen erlaube von diesen Zeilen jeden beliebigen Gebrauch zu machen, bin ich mit ausgezeichnete Hochachtung ganz

Der Ihre,

J. C. POGGENDORFF.

[*Translation.*]

BERLIN, 12th March, 1837.

HONOURED SIR,

IF there were indeed any one who refused the due acknowledgment of your scientific labours, such a refusal could arise only from evil designs, or from a total ignorance of what in our days is of real value in Chemistry. I can assure you that among the chemists of Germany, particularly those of Berlin, there prevails but one opinion—that your labours belong to the most important and influential which in our times have arisen on the field of Chemistry in Great Britain. I entertain the same views with the fullest conviction; and I think that I have given the most satisfactory public proof of it by the zeal with which I exerted myself to make your Treatises known to the German public.

Your researches on the diffusion of gases, on the modifications of phosphoric acid, and on water as a constituent of salts, I consider important, not only on account of the facts with which they have made us acquainted, but more so as opening up a new and attractive road for future inquiries. These labours alone are so praiseworthy, and bespeak so decided a talent for philosophical inquiry, that, had you done nothing else, they must have already secured for you one of the first places amongst the living chemists of Britain.

I do not write this for the mere purpose of telling you agreeable things. In what I say, I express my sincere conviction; and with all my heart do I wish that you may soon be placed in a situation which offers an appropriate sphere for the display of

your talents and activity. I wish this not only out of respect to your private interest, but for the interest of England, who can only justify her early renown in Chemistry, or hope to extend it in future by knowing how to place a value upon merits such as yours.

I remain with the greatest esteem,

Entirely yours,

J. C. POGGENDORFF.

XII.

LETTER from M. GUSTAVE MAGNUS, Professor of Chemistry and Experimental Philosophy in the University of Berlin.

BERLIN, den 5ten März, 1837.

MEIN THEURER GRAHAM,

WIE hoch ich Ihre Leistungen in der Chemie schätze, ist Ihnen, glaube ich, hinreichend bekannt, und wenn diejenigen, welche die Stelle an der London Universität zu vergeben haben, sie eben so beurtheilen, so zweifle ich nicht, dass sie diese Stelle erhalten werden, allein auf meine Beurtheilung Ihrer Leistungen wird man schwerlich einigen Werth legen. Dahingegen weisz ich, dass sowohl Herr Alexander von Humboldt hier in Berlin, als auch Herr von Berzelius in Stockholm dieselbe ansicht von Ihren Talenten haben, und ich bin überzeugt dass diese Herren Ihnen gewiss jede Art von Zeugniß gern ertheilen werden. Auch er-biete ich mich wenn Sie es wünschen sollten, Ihnen dergleichen von beiden Herrn zu verschaffen. Sie brauchen mir nur zu schreiben dass Sie es wünschen. Auch zweifle ich nicht dass Herr von Humboldt einige von den Herren kennt, welche die Stelle zu vergeben haben, und dass derselbe, wenn Sie es wünschen, sich gewiss bei denselben für Sie verwenden wird.

Mit dem Wunsche eines glücklichen Erfolges,

Ihr ergebenster,

GUST. MAGNUS.

[*Translation.*]

BERLIN, 5th March, 1837.

MY DEAR GRAHAM,

How highly I value your services to Chemistry, is, I believe, sufficiently known to yourself; and if those who have the giving of the chair at the London University judge of you as I do, I doubt not the professorship will be awarded to you. To my appreciation of your labours there will, however, be scarcely any value attached; but I know that Baron Humboldt in Berlin, and Baron Berzelius in Stockholm, both hold your talents in the same light, and I am convinced that they will be glad to give you testimonials to that effect. Should you wish it, I shall be happy to procure them for you from both these gentlemen. You need only write to me what your wish is.

I have no doubt but M. von Humboldt is acquainted with some of the gentlemen who have the giving of this chair, and that he will, if you desire it, apply to them in your favour. With the wish of a successful result,

Your most faithful,

G. MAGNUS.

XIII.

LETTER from M. SCHOENBEIN, Professor of Chemistry in the University of Basle.

MY DEAR SIR,

BASLE, Febr. 3d. 1837.

WHEN Professor Meissner dispatched to you the Diploma of our Society, I was so much pressed for time that it was quite impossible for me to add even a few lines to it; but following up the French proverb, "*mieux tard que jamais*," I do now, what ought to have been done much sooner. I will not conceal from you, that I am much gratified to hear that your having been nominated as member of the Philosophical Society has proved to be agreeable to you; for I must candidly tell you, that it was

I who proposed you. I did so, because I was anxious that you should know, how much in Switzerland, and particularly in Bâsle, your scientific labours are valued. As to myself, I fully agree with the opinion expressed by the most distinguished chemists of the continent, upon the results of your late researches; that, in a scientific point of view, they belong to the most important obtained of late in the analytical branch of chemistry; a department of this science, which, according to the notions prevailing on this side of the water, is at the present moment rather too little cultivated in Great Britain. I hope, the great success with which you have followed up your scientific investigations, will induce you to continue them, for, by doing so, our beautiful and useful science cannot fail of being considerably enlarged.

I do not know, whether you have read some notices of mine on some nitrates of peroxide of iron, which were published the other day in the *Bibliothèque Universelle*, and in the *Annalen of Poggendorff*. I have taken the liberty of calling upon you to make the salts mentioned a subject of your researches, because I think no chemist is more able to undertake the task than you are, and because I hold the matter to be interesting enough, to be worthy of engaging your attention. I wish from all my heart to hear soon the news of your being appointed professor of Chemistry in the London University.

I am, my dear Sir,

Your most faithful servant,

C. F. SCHOENBEIN.

XIV.

From A. D. BACHE, ESQ., President of Gerard College, Philadelphia, and late Professor of Chemistry and Natural Philosophy in the University of Pennsylvania.

YORK, 9th March, 1837.

MY DEAR SIR,

YOUR letter of the 20th of February addressed to me at London, was forwarded to this place, and I hasten to reply to

it. It will give me great pleasure, indeed, if any thing which I can say may be of service to you in regard to the vacancy created by the decease of Dr Turner.

Your labours are not only well known to, but are highly appreciated by, chemists in the United States. Involving as they usually have done the development of some principle, they are regarded as tending to advance the philosophy of the science to which you are devoted.

From witnessing your instruction at Glasgow, I am happy to be able to add an opinion, that you are not less successful as a Lecturer, than as an Experimenter.

Very sincerely yours,

A. D. BACHE.

XV.

From THOMAS THOMSON, M. D., F. R. S., L. and E., Professor of Chemistry in the University of Glasgow.

GLASGOW, 3d April, 1837.

I HAVE been acquainted with Mr Thomas Graham for a good many years, and have had a full opportunity of knowing the ardour with which he has devoted himself to the cultivation of Chemistry. He is the author of numerous important papers on chemical subjects, published in the Philosophical Transactions of London and Edinburgh, and in other places—all of them stamped with the marks of genius, industry, and accuracy. His account of phosphoric acid has thrown a new light upon the nature of that most interesting compound. His investigation of the law which regulates the mobility of the gases is at once simple and convincing. His account of the part which water acts in the salts is new and exceedingly ingenious. If genius, and industry, and knowledge, enter into the views of the electors to the vacant chemical chair in University College, I am aware of no person who has a better claim than Mr Graham.

THOMAS THOMSON.

XVI.

*From EDMUND DAVY, Esq., F. R. S., &c., Professor of Chemistry
to the Royal Dublin Society.*

ROYAL DUBLIN SOCIETY, 28 March, 1837.

MY DEAR SIR,

I HAVE just had the satisfaction of receiving your letter of the 24th inst., announcing that you are a candidate for the vacant chair of chemistry in the London University. It affords me the most sincere pleasure to add my humble opinion of your professional character, to the high Testimonials you have already obtained from Foreign and British chemists of eminence. From different opportunities I have enjoyed of conversing with you on, and hearing you discuss chemical subjects, and from the clearness and facility with which you communicate information to others, I entertain a high opinion, not only of your chemical attainments, but of your ability as a teacher. I think you admirably qualified to do justice to the appointment at the London University, but I scarcely know whether I ought to wish you success, as I imagine the duties must be sufficiently arduous to interfere with the noble career of discovery you have already so happily commenced. Judging from the perusal of your interesting and valuable papers in the Transactions of the Royal Societies of London and Edinburgh, and in other scientific journals, I must take leave to express my opinion, that your talents for original investigation are such as to rank you among the first of British chemists.

I remain,

My dear Sir,

Yours very sincerely,

EDMUND DAVY.

XVII.

From R. CHRISTISON, M.D., F.R.S. EDIN., Professor of Materia Medica in the University of Edinburgh.

UNIVERSITY OF EDINBURGH, 29th March, 1837.

I CERTIFY that I have been for some time acquainted with Mr Thomas Graham, and as one of the secretaries of the Royal Society of this place, before which most of his papers on chemical subjects have been read, I have had frequent opportunities of learning the opinion currently entertained of him by scientific persons in Edinburgh. I am sure I express the sentiments of all competent judges here, when I state my own opinion, that he is one of the most ingenious, inventive, and accurate chemists now in Britain. His papers on the phosphates of soda, on the law of the diffusion of the gases, and on water as a constituent of salts, the second of which carried the Keith prize of the Royal Society of Edinburgh, have made his name known as a chemical philosopher in every part of Europe.

In common with all his friends, I long to see him placed in a situation where his talents may be better rewarded than at present, and more prominently called forth; for there are few in this country from whom so much is expected towards the advancement of chemical science. I am unfortunately unacquainted with his merits as a Lecturer, having had no opportunity of judging of them; but in every other respect I feel most confident that Mr Graham would be a great acquisition to any University.

R. CHRISTISON.

XVIII.

From R. W. KANE, M. D. Professor to the Royal Dublin Society, and to the Apothecaries' Hall of Dublin.

I HAVE great pleasure in bearing Testimony to the eminent abilities of Professor Graham. His excellence as a teacher, and the zeal by which he has shown himself to be animated in the prosecution of his chemical studies, are such as to qualify him in an unusual degree for communicating scientific information, whilst his European celebrity as a chemist, founded on the many and important additions he has made to science, would confer lustre on any institution to which he may become attached.

R. W. KANE.

XIX.

From JOHN ROBISON, Esq. Secretary to the Royal Society, Edinburgh.

ROYAL SOCIETY, EDINBURGH, 30th March, 1837.

DEAR SIR,

I HAVE just received your letter of the 28th inst., and have the pleasure of complying with the request which it conveys, by stating that the Bi-ennial Keith prize for the most important discovery in science, communicated to the Royal Society in the course of the preceding period, was awarded to you by the President and Council in April, 1833, for your paper on the law of the diffusion of the gases, and was presented to you from the Chair at a general meeting of the Society on the 2d December of the same year.

I am, Dear Sir,

Very faithfully yours,

JOHN ROBISON, Secy.

XX.

From JAMES SMITH, Esq. of *Jordanhill, F. R. S. L. and E., G. S., &c. President of Anderson's University.*

ANDERSON'S UNIVERSITY, GLASGOW, *March 30, 1837.*

As Mr Graham's reputation as a chemist and man of science can receive no addition from any testimony of mine, I will not have the presumption to offer one.

But as I have presided over this Institution, and taken an active share in its management during the whole period of his professorship, I can speak with the utmost confidence as to his success as a teacher both of theoretical and practical chemistry. His classes in the medical school have been enlarged beyond precedent, and his excellence as a popular Lecturer is well attested by the fact that his Lectures at our Monday evening meetings are the most numerous attended of the season.

I can also speak as to the perfect propriety of conduct and good sense, which have made him upon every occasion a favourite with his class, his brother professors, and the Council of Management. I can imagine no person better fitted in every respect to fill the chair of chemistry in the University College, London, than Mr Graham.

JAMES SMITH.

XXI.

From WM. MACKENZIE, M. D., *Waltonian Lecturer on the Eye in the University of Glasgow, Author of a Treatise on the Eye, &c.*

68 GEORGE SQUARE, *25th March, 1837.*

FROM the value and original character of his chemical researches, and his merited popularity and increasing success as a teacher, I should consider the removal of Mr Thomas Graham

from Glasgow as a serious loss to our medical school. I should rejoice, however, in any appointment he might obtain elsewhere, which could afford a better field for the display of his eminent talents; and would consider his election to the chair of chemistry, now vacant in the London University, a proof of discrimination on the part of the patrons, and of a real desire to promote the welfare of the Institution, and the cause of science.

W. MACKENZIE.

XXII.

From ROBERT HUNTER, M. D., *Professor of Anatomy and Physiology in the Andersonian University, Glasgow.*

GLASGOW, 27th March, 1837.

MY DEAR SIR,

ALTHOUGH it affords me much pleasure in assisting to promote your election to the chair of chemistry in University College, London, yet I cannot conceal from myself the great loss which your removal from us would inflict upon the Medical School of our University. To your great talents and extensive and increasing popularity, the success of our Medical School is mainly to be attributed, and were you removed from us, I do not know how your place could be supplied. The University College, by electing you to the chair of chemistry, would obtain an able, a popular, a diligent, and a most successful teacher, and permit me also to add, a gentleman not more renowned for eminence in scientific pursuits, than endeared to his friends by his genuine simplicity of manners, and every amiable disposition that can steal upon the heart. From what is already so well known of your merits, your success can hardly be doubted, but should it prove otherwise, your colleagues and the Andersonian University, would be much benefited by the result.

I have the honour to be,

My Dear Sir,

Yours most faithfully,

ROBERT HUNTER.

XXIII.

From SIR WM. J. HOOKER, G.K., F.L.S., &c., *Professor of Botany in the University of Glasgow.*

GLASGOW, 30th March, 1837.

MY DEAR SIR,

MY ignorance in your branch of science renders me, from personal knowledge, a most unfit individual to offer to the London University College any Testimonial in favour of your qualifications to fill the chair of chemistry, now vacant by the death of Dr Turner. But living as I have long done in the same city with yourself, and interested as I was in consequence of your early merits as a Lecturer, and of your moral worth, in your election to the chair you now fill in so distinguished a manner, and with so much honour to this place, it is not to be supposed that I can have been indifferent to the character you hold in public esteem, or that I can have been ignorant of the sentiments that others, and really competent judges, both natives and foreigners, have expressed of your abilities, and from their reports to me, so frequently called forth in private conversation, and in a manner that left no doubt of their sincerity, I have no hesitation in saying that few, if any chemists, have, in the same space of time, and occupied like yourself during a considerable portion of that time in teaching others, earned so honourable a name in the profession as you have done, and that few indeed have excelled you in laborious and successful research. Entertaining then, as I do, these views respecting your acquirements, you will not be surprised at my declaring that should the council of the London College think proper to elect you to their vacant chair, you will, I feel assured, occupy it with credit to yourself and to the University, and that you will not fail eminently to promote that science to which you have so zealously and already so successfully devoted yourself.

Believe me to be,

My Dear Sir,

With much regard and esteem,

Faithfully yours,

W. J. HOOKER.

XXIV.

From WM. CUMIN, M. D. Professor of Midwifery in the University of Glasgow.

MY DEAR SIR,

I AM very happy to learn that you have become a candidate for the vacant chair of chemistry in University College, London. Of your character and attainments as a Chemist it is not necessary for me to speak, after perusing the testimonials which you possess from men so eminent as M. M. Gay Lussac and Dumas, and the papers you have published on the diffusibility of the gases, and on the phosphatic salts.

But I can state, with confidence, that you have been a most successful and popular teacher of Chemistry, and have deservedly enjoyed an embellished and amiable character in all the relations of private life. You have my sincere good wishes for your success in this competition.

Believe me, My Dear Sir,

Yours faithfully,

WILLIAM CUMIN.

XXV.

From JAMES BROWN, M.D., Professor of Midwifery in the Andersonian University, Glasgow.

GLASGOW, 30th March, 1837.

MY DEAR SIR,

IN certifying that you are highly qualified to fill the chair in the London University, vacant by the death of Dr Turner, I state no more than what will be most amply confirmed by every one who has the honour of your acquaintance.

Those best qualified to judge have already borne testimony

to the extent of your chemical acquirements, and to the value of those additions which you have made to the science. These additions, I am well assured, give evidence of mental powers, and qualities of a high order, and by no means common.

But to speak of what is more within my own knowledge and capabilities of judging, I may say that, in common with all my colleagues, I shall regard your success in your application as a very serious loss to this University. You have always been very popular among the students, have always commanded a large class and a diligent attendance, have succeeded in greatly promoting a taste for chemical science in this place, and in every respect have been a most successful teacher.

Wishing you every success, I remain,

My Dear Sir,

Your most obedient servant,

JAMES BROWN.

XXVI.

From ALEXANDER J. HANNAY, M.D., *Professor of the Theory and Practice of Physic in the Andersonian University, Glasgow.*

ANDERSON'S UNIVERSITY, 29th March, 1837.

No testimonial from me could add to the lustre of a reputation for chemical science and philosophical investigation, so deserved and so generally recognised as that of Mr Thomas Graham, Professor of chemistry in Anderson's University. To all who are likely to have the selection of a successor to my late distinguished friend Dr Turner, Mr Graham's profound knowledge must be well known, from his ingenious and valuable contributions to the philosophy of chemistry. It were presumption in me to offer any other than a simple acquiescence in the judgment which the first men of the age entertain respecting his labours, and to express my conviction, that on all subjects I have

heard him discuss, Mr Graham appears to me to evince excellent natural abilities, and a highly cultivated understanding. I know that this is not a partial or single, but an universal opinion, with all who have the pleasure of meeting him. There are other valuable qualities possessed by Mr Graham, to which I feel myself more competent to bear testimony; such as the steady, untiring zeal, labour, and enthusiasm, with which he has continued for years to investigate experimentally the boundless field of chemical doctrines; the clearness with which he communicates his extensive attainments to others, showing how clear, accurate, and precise, his own knowledge is, and giving to the pupils that confidence and assurance in the teacher, which powerfully influences their studies and progress in improvement. The success which attends Mr Graham's labours in his popular classes, and in the conduct of courses of experimental chemistry; his kind, affable, and engaging manners, and above all, his most thorough knowledge of his subject and dexterity in manipulation, render his courses of Practical chemistry at once highly popular and truly instructive.

I have penned this hasty certificate with very mingled feelings; for whilst I am anxious to do justice to the high claims of my friend and colleague, and to whose instructions I confess my deep obligations, there is associated in my mind the fear of our Institution losing the name and usefulness of one who renders Anderson's University second to none in Europe, in the department over which he presides.

ALEX. J. HANNAY.

XXVII.

From ANDREW BUCHANAN, M.D., *Professor of Materia Medica,*
in the Andersonian University, Glasgow.

GLASGOW, 110, ST VINCENT STREET, 26th March, 1837.

MY DEAR SIR,

I HAVE much pleasure in sending you the Testimonial which you require. I abstain from saying a single word of your

merits as a chemist, conscious that no testimony of mine could add to a reputation which has already extended wherever the science of chemistry is known. I can, however, speak of qualifications not less essential to your success as a teacher in the London University. During the period that you have been attached to the Andersonian University of Glasgow, I have often had the pleasure of hearing you lecture, and I have had opportunities, as teacher of Materia Medica in the same seminary, of ascertaining the proficiency of many of the students who had been instructed by you. I may, therefore, be permitted to say, that your mode of teaching chemistry is exceedingly well adapted to convey a knowledge of the principles of the science. Still farther, the progressively increasing number of your pupils, both in the practical and public class, sufficiently attests how highly your qualifications as a lecturer are appreciated. Allow me to add, that the pleasure which I shall experience at hearing of your appointment to the London University, will be mingled with much regret for your leaving Glasgow, as that event will be a deep loss to the school with which you are now connected, and the colleagues who now enjoy your society and friendship, and will even, I feel assured, be regarded as a public loss to your native city.

I remain,

My dear Sir,

Yours very truly,

ANDREW BUCHANAN.

XXVIII.

*From GEORGE WATT, Esq., Professor of Medical Jurisprudence
and Police, in the Andersonian University, Glasgow, &c.*

ANDERSONIAN UNIVERSITY, 3d April, 1837.

I HAVE much pleasure in stating my opinion of Mr Graham's qualifications for the Chair of Chemistry in University College, London.

Of his high merits as a chemist, and the brilliant discoveries which have been the results of his industry, it is unnecessary for me to say one single word, but to his success and capacity as a teacher I conceive myself entitled to speak. As Secretary to the Medical Faculty of the Andersonian University, I have had regular returns made to me of the number of students attending Mr Graham's classes, and find that the number of students attending his lectures has nearly doubled since his connexion with our institution seven years ago, and is more than double that of his predecessor, while the number of students attending the Medical School of Glasgow has remained stationary. This success I conceive to be one of the best proofs that can be afforded of his abilities to teach.

I have had occasion, in consequence of the late indisposition of Mr Graham, to deliver the chemical lectures for a few weeks past, and I have no hesitation in stating my high opinion of the accurate and perspicuous manner in which his notes (which were furnished me on the occasion,) were drawn up, the aptness of the experiments which they indicated as illustrations, and of their fitness to inculcate a knowledge of the science of chemistry to the young student.

I may also mention, that from my communication with Mr Graham's students at this time, I have reason to know, that a portion of the zeal and enthusiasm of their teacher had been communicated to them, and that, as an effective Lecturer, and successful Experimenter, he was held in very high esteem.

GEORGE WATT.

XXIX.

From J. A. LAWRIE, M. D., Professor of Surgery in the Andersonian University, Glasgow.

80, NILE STREET, 7th April, 1837.

MY DEAR SIR,

I FEEL it to be a pleasure, and I cannot but deem it a compliment to be asked to give you a testimonial of your fitness

to fill the chair of chemistry in the University of London. Of your chemical acquirements I will not presume to speak ; nor is it necessary that I should. Your name is familiar to chemists in every quarter of the globe, and your discoveries will link it with that science to which you have devoted your energies, so long as the science exists. Your success as a teacher during the seven years you have been Professor in the Andersonian University, has been fully commensurate with your fame as a chemist. Of your powers of communicating information, I have had more than ordinary opportunities of judging ; for, besides a knowledge of the numbers who have attended your Lectures, and the very high terms in which your pupils uniformly speak of you, I had myself the pleasure of attending one of your courses of practical chemistry last summer, and I barely do you justice when I say that I never listened to any Lecturer, who, in the same space of time, conveyed more accurate or more extensive information in a more perspicuous or agreeable form. But it is not as a chemist and a teacher only that I could wish to speak of you ; will you excuse me, when I address you as a colleague and a friend. In common with your many friends in Glasgow, I most heartily wish you success, both because success will be agreeable and beneficial to yourself, and because it will contribute to the progress of that science, the advancement of which you have so much at heart. But in losing you, we part with the brightest ornament of our own University ; we lose a name that has given us an European fame. As a colleague, I cannot forget, that on no occasion has the slightest disagreeable feeling existed between you and your fellow professors, and that in you we have always possessed a friend whom we valued, and a colleague we admired and esteemed.

I am,

My dear Sir,

Most sincerely yours,

J. A. LAWRIE.

XXX.

From CHARLES TENNANT, Esq., *of St Rollox's Chemical Works, Glasgow.*

ST ROLLOX, GLASGOW, 25th Feb. 1837.

BEING informed by Mr Graham, Professor of chemistry in the Andersonian University here, that he intends becoming a candidate for the chemical chair in the London University, I have much pleasure in stating that I have been intimately acquainted with Mr Graham for many years, know that he possesses very superior natural abilities, and has made great acquirements in the science of chemistry, not in theory only, but, what I consider of much more importance, its practical application to the arts.

Mr Graham has already given proofs of his skill and success as a teacher, has wrote several papers of great merit on various subjects connected with the science, and is altogether in my estimation eminently qualified to fill the chair to which he aspires.

CHARLES TENNANT.

XXXI.

From WALTER CRUM, Esq. *of Thornliebank, Author of a Chemical Memoir on Indigo, &c., and one of the Trustees of Anderson's University.*

MY DEAR SIR,

In addressing you on this occasion, I shall not remark on your acquirements in chemical knowledge, or the value of your contributions to it—that is much more effectually done by others whose opinions have the greatest weight in the scientific world.

I have had opportunities, however, of observing more closely than many others, your exertions as a teacher of chemistry; and

I believe, the Council of the London University will value information on that point, not less than on the knowledge, the capacity for research, or the reputation of candidates for the vacant chair.

As a Lecturer, your language without being ostentatious, is pure, dignified, and expressive; and with those who have attended your regular course I know the feeling to be one of increasing relish for your style. In arrangement, comprehensiveness, and interesting illustration, your excellence is universally acknowledged, and is fully borne out by the numbers and the attainments of your pupils; these for the last three years have averaged one hundred and eighty, including a class for experimenting, which has usually exceeded your limits. Your mechanic's course of fifty lectures, chiefly to practical engineers, shopmen, and clerks, has been attended this winter by more than two hundred persons; of laboratory pupils your usual number is six, but they have sometimes exceeded ten, a large class, considering the expense and other circumstances attending the prosecution of their studies; several of these already promise celebrity in the duties on which they have since entered. I need scarcely say how much more remarkable your success will appear, when it is recollected that you have laboured in a field already occupied by the University of Glasgow, whose chemical chair is filled by a professor of such established merit as Dr Thomson, and whose classes are also so fully attended.

The desire that you should be placed in a sphere so befitting your well-earned reputation, is only alloyed by the sense of the irreparable loss which all in this neighbourhood will sustain, who are interested in the progress of chemistry.

Believe me, my dear Sir,

Yours most truly,

WALTER CRUM.

XXXII.

Resolution of the COMMITTEE of Management of the Mechanics' Class for Chemistry in Anderson's University.

AT a meeting of the Committee of the Mechanics' Class in Anderson's University, held in the Mechanics' Library, on the 31st of March, 1837, the following resolution was unanimously agreed to.

"That Professor Graham's Lectures on Chemistry to the Mechanics' Class, have given this committee unmixed satisfaction, and that there is reason to believe, that every member of the highly numerous and respectable class attending them concurs in the same opinion.

"That this Committee consider Professor Graham to be possessed of the very highest qualifications for a teacher of popular Chemistry,—his unassuming manners,—his elegant and perspicuous style of composition—his complete acquaintance with the subject—and his great zeal for communicating instruction—all combined with his amiable disposition, seldom failing to enable him both to enlighten the minds and win the hearts of all who hear him.

"That although, in case of Professor Graham's removal, this Committee would have to regret the loss of an instructor, whose place is not likely soon to be filled by one of equal eminence, yet they would rejoice at his being raised to a situation worthy of his rank as a Chemist and his merits as a man.

"JAMES REID,

"President of the Committee."

XXXIII.

Address presented to PROFESSOR GRAHAM by the students attending his present course of Lectures, in the Medical School of the Andersonian University, Glasgow.

GLASGOW, 29th March, 1837.

HONOURED SIR,

WE the undersigned Students attending your class in Andersons' University, having learned your intention of standing as a candidate for the Chemical Chair of the London University, beg most respectfully to tender our most sincere wishes for your success. From the personal experience we have had of your unwearied attention to our interests, from your simple and efficient mode of Lecturing, and from your acknowledged eminence as a scientific chemist, we feel assured that the Directors of the London University, by conferring upon you the Chair in question will have consulted the best interests of that noble Institution.

Think not, however, that while presenting this tribute of regard for your welfare, we are insensible to the loss we shall sustain in the event of your leaving us. The recollection of your valuable instructions and unostentatious kindness, is too vivid, not to check any exuberance of joy on our part. But permit us to assure you, that whatever regrets we may feel of being deprived of your presence, they will be more than compensated for by the reflection of your having attained to merited distinction.

We remain,

With every feeling of respect,

Your most obedient servants.

[*Here follow the signatures of eighty-nine students.*]

XXXIV.

From the late SIR JOHN LESLIE, formerly Professor of Natural Philosophy in the University of Edinburgh. Received prior to October, 1830.

I HAVE great satisfaction in testifying the high estimation I have formed of the uncommon merit of my young friend, Mr Graham, as a Philosophical Chemist. The specimens he has already produced in chemical analysis, not only mark accurate and patient investigation, but display ingenuity and inventive talents, which, when matured by experience, promise the happiest results.

Mr Graham possesses a decided advantage over most of his compeers, in being acquainted with the powers of mathematical investigation, which illuminate every part of physics; while the habits he has acquired in the art of teaching, qualify him to hold a distinguished place in a metropolitan seminary.

JOHN LESLIE.

XXXV.

From the late WM. HENRY, M.D., F. R. S., formerly Vice-President of the Philosophical and Literary Societies of Manchester. Received prior to 1830.

*To the Trustees of the Andersonian
University, Glasgow.*

MANCHESTER, Sept. 25, 1830.

GENTLEMEN,

HAVING been requested by Mr Thomas Graham to express to you my opinion of his qualifications for the office now vacant, of Professor to the Andersonian University, I beg leave to state that I entertain the highest respect for his knowledge of chemistry, and for his powers of advancing that science by original and ingenious researches; of these he has given most satisfactory proofs in several Essays which he has published in the Philo-

sophical Journals, and which I had reason to mention with approbation in my Elements of Chemistry, before I became personally acquainted with him. Subsequent opportunities of conversing with Mr Graham have fully confirmed the favourable estimate which I had derived from his writings, of his talents and acquirements, and I cannot doubt of his eminent fitness to extend the boundaries of chemical science, and to advance the objects and reputation of the Institution with which he seeks to be connected.

I have the honour to be,

Gentlemen,

Your most obedient servant.

WILLIAM HENRY.

XXXVI.

Petition drawn up by the late DR TURNER, on which Mr Graham was elected a Fellow of the Royal Society.

THOMAS GRAHAM Esq., M.A., F.R.S., Edin., Professor of Chemistry in the Andersonian University of Glasgow, corresponding member of the Royal Academy of Sciences of Berlin, and vice-president of the Philosophical Society of Glasgow, a gentleman devoted to science, especially to chemistry, and author of several chemical essays of distinguished merit in the Transactions of this Society, and of the Royal Society of Edinburgh, being desirous of becoming a Fellow of the Royal Society, we, the undersigned, beg leave to recommend him as a person highly deserving of that honour, and likely to become a useful and valuable member.

(Signed,) EDWARD TURNER.

M. FARADAY.

R. PHILLIPS.

J. F. DANIEL.

JOHN DALTON, D.C.L.

WM. HENRY, M.D.,

&c., &c., &c.

XXXVII.

From HARRY RAINY, M. D. Lecturer on the Institutes of Medicine, in the University of Glasgow, and author of several Chemical papers.

8th April, 1837.

Mr Thomas Graham has for several years been distinguished as an eminently successful teacher of Chemistry in this city.

His papers on the law of the diffusion of gases—on the constitution of the phosphoric salts,—and on the functions performed by water in its combinations with acids and with salts, may fairly rank among the most important contributions which have been made to chemical science, during the last twenty years. While his researches have brought to light, several new and interesting facts, he has displayed talent of the first order, in deducing from these facts, principles which admit of extensive application in the general theory of chemistry. His intimate acquaintance with mathematics, peculiarly qualifies him for investigating the intricate phenomena which form the connecting link between chemistry and general physics. His researches on the diffusion of the gases afford the clearest evidence of his talents in this department.

It is surely no small merit that in a subject which had previously occupied Dalton and Gay Lussac, he should have succeeded in tracing out a law which eluded their penetration.

HARRY RAINY.

XXXVIII.

*From C. DAUBENY, M. D. F. R. S., &c., Professor of Chemistry
in the University of Oxford.*

OXFORD, April 8th, 1837.

MY DEAR SIR,

MY absence from home till yesterday, must be my excuse for not having paid an earlier attention to your letter.

I am, however, consoled with thinking that if my Testimonial to your merits should arrive too late, your published papers have been long enough before the world to render the expression of an individual respecting them but little necessary. I can assure you, however, that I have ever entertained a very high opinion of the researches which they disclose, for, independently of the ingenuity and precision of the experiments themselves, there is usually some important general principle arrived at in them, and in many cases satisfactorily established by the results obtained. I allude particularly to the law of the diffusion of gases, which you have laid down, and which bears upon so many different branches of physics, and the very ingenious views with respect to the constitution of salts which you have illustrated by your memoir on the phosphates. I feel assured, therefore, that the appointment for which you are a candidate, could not probably be better bestowed than upon yourself, and that much as we all deplore the loss of Dr Turner, the Establishment will sustain no loss of reputation in their chemical department, if you are appointed his successor.

All this I might have been justified in stating from the mere perusal of your numerous publications, but I am now happy to add, that the interviews I had with you during my tour in Germany last autumn, have tended to confirm me in that opinion which I had previously entertained of your talents and attainments.

Believe me,

Dear Sir,

Yours truly,

C. DAUBENY.

List of Mr Graham's principal contributions to the Scientific Journals and Transactions of Learned Societies.

- On the absorption of gases by liquids. *Annals of Philosophy*, new series, vol. XII. p. 69, 1826.
- On the heat of Friction, do., p. 260.
- On the Panary Fermentation. Alcohol first derived from the baking of bread, do., p. 363.
- On the Limit of the earth's atmosphere. *Philosophical Mag. and Annals of Philosophy*, vol. I.
- On the theory of Nitrification, do.
- On the suspended Crystallization of saline solutions, *Edinburgh Transactions*, vol. XI. p. 114.
- Formation of Alcoates, or definite compounds of alcohol and salts, analogous to the hydrates, do., vol. XI. p. 175.
- Experimental researches on the miscibility of gases, and their separation from each other by mechanical means. *Brande's Journal of Science*, vol. II. p. 74, 1829.
- On the phenomena of the oxidation of phosphorus at low temperatures, do.
- Notice of the singular inflation of a closed bladder by the passage through its substance of gas from without, do.
(This notice was the basis of the researches on the permeability of animal membranes by gases, published afterwards by Drs Mitchell and Faust, and Dr Stevens.)
- On the action of animal charcoal upon saline and other solutions, do.
- On the interference of certain gases in the case of the oxidation of hydrogen, under the influence of spongy platinum, do.
- On the law of the diffusion of gases. *Edinburgh Transactions*, vol. XII. p. 222, or *Philosophical Magazine, and Journal of Science*, vol. IV. p. 321.

On the arseniates, phosphates, and modifications of phosphoric acid, Philosophical Transactions, 1833.

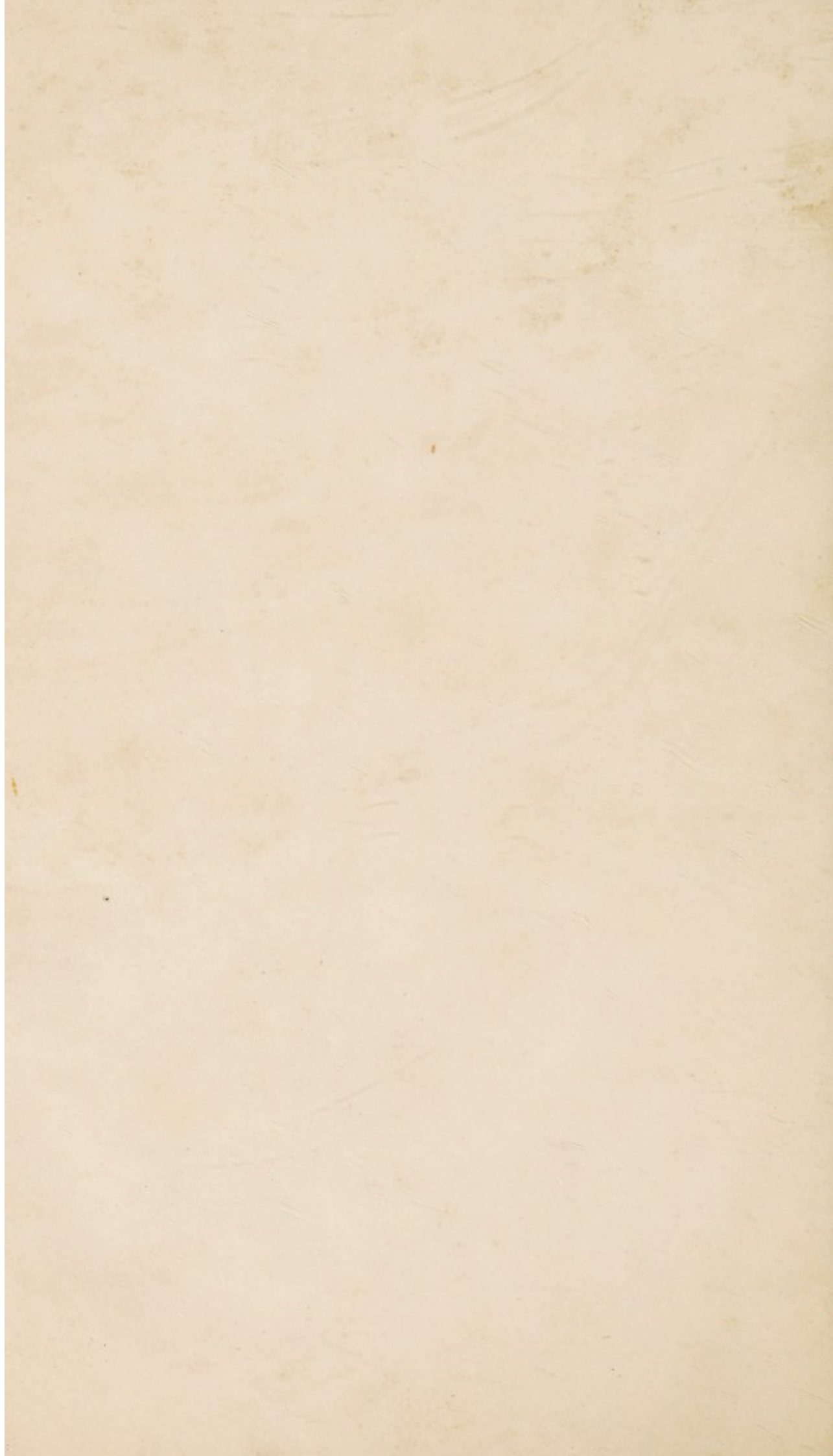
Discussion on the use of chemical symbols, Philosophical Magazine, and Journal of Science, vol. IV. p. 401.

On phosphuretted hydrogen gas, Edinburgh Transactions, vol. XIII. p. 88, or Philosophical Magazine, and Journal of Science, vol. V. p. 401.

On hydrated salts and metallic peroxides, and on the doctrine of Isomerism, Fourth Report of the British Association, p. 579, 1835.

On Water as a constituent of sulphates, Edinburgh Transactions, vol. XIII. p. 297, or Philosophical Magazine, and Journal of Science, 1835.

Inquiries respecting the constitution of salts. Of the oxalates, nitrates, phosphates, sulphates, and chlorides, read before the Royal Society, in Nov., 1836. Secretary's abstract. Philosophical Magazine, and Journal of Science, for March, 1837.



SUPPLEMENT TO TESTIMONIALS IN FAVOUR OF MR. GRAHAM.

From JOHN DALTON, *D.C.L., F.R.S., &c. &c.*

To the COUNCIL of UNIVERSITY COLLEGE, LONDON.

MANCHESTER, *April 11th*, 1837.

MY LORDS AND GENTLEMEN,

PROFESSOR Thomas Graham, of the Andersonian University, Glasgow, having become a candidate for the vacant Chair of Chemistry in University College, and requesting a testimonial from me, I may say that he is known to me personally and by his writings, and I think he is a gentleman of great promise. His Essays on the Diffusion of Gases, on the Arseniates and Phosphates, on Water as a Constituent of Salts, and on Phosphuretted Hydrogen, would do credit to any scientific chemist.

I do not, however, approve of his adopting and defending the chemical notation of Berzelius, which appears to me equally to perplex the adepts of the science and to discourage the learner, as well as to cloud the beauty and simplicity of the Atomic Theory.

I am, most respectfully,

Yours, &c.,

JOHN DALTON.

Letter from M. MITSCHERLICH, *Professor of Chemistry in the University of Berlin, to Mr. Graham.*

[*Translation from the German.*]

BERLIN, *March 30th*, 1837.

MY DEAR AND ESTEEMED FRIEND,

I should be much pleased if some articles in the new edition of my Chemistry, which I now send, would attract your attention. You would do me a great service by sending me such observations as would enable me to make the book more correct. It was with particular pleasure that I wrote the articles in which I

have described your labours, and though it was not in the plan of my text-book to dwell particularly upon the importance of a discovery, or the merit of a philosopher, I hope it will be evident from the way in which I have represented your discoveries, that I fully agree in the expression of Berzelius (*Jahresbericht*, article, "Graham on Phosphoric Acid and its Salts,") that among the discoveries of late years, this of yours is one of the most important. I believe that after a discovery of this kind we may expect every year something similar from you. Experience has always taught me that but *few* are born to be chemists; the highest talent, the most profound knowledge, are feeble pledges of future services, without that perseverance which men of talent generally neglect, because they find study to be easy, and without which the services of a chemist are invariably insignificant. While I was delighted with the eminent talent in your researches, I cannot deny that I was yet more so with the perseverance with which you so long prosecuted them till you arrived at determinate results. I shall consider your appointment in London to be an event of great good fortune to the chemists in Berlin; because the intercourse between this place and London affords so many opportunities for the interchange of intelligence. I reckon upon your appointment in London with the greater certainty, on account of the celebrity which you have acquired as a teacher; a celebrity independent of that attributable to your talents, perseverance, and merits as a man of science. Your countrymen and pupils I have always heard speak of your lectures with affection and interest, and I have been told by them how you transfer into your lectures that interest for the science, and that amiableness of public expression by which you attached us so much during your visit here. As the London University would gain in you a distinguished teacher and an eminent man, I believe that your appointment cannot be doubtful.

With the sincerest respect, I remain,

My most esteemed Friend,

Your devoted

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On the phenomena of the Oxidation of Phosphorus at low temperatures. Ditto.

Notice of the singular inflation of a closed bladder by the passage through its substance of gas from without. Ditto.

(This notice was the basis of the researches on the permeability of animal membranes by gases, published afterwards by Drs. Mitchell and Faust, and Dr. Stevens.)

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On Phosphuretted Hydrogen Gas. *Edinburgh Transactions*, vol. XIII. p. 88; or *Philosophical Magazine and Journal of Science*, vol. V. p. 401.

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