Correspondence C

Publication/Creation

1873-1911

Persistent URL

https://wellcomecollection.org/works/d5djfj35

License and attribution

Conditions of use: it is possible this item is protected by copyright and/or related rights. You are free to use this item in any way that is permitted by the copyright and related rights legislation that applies to your use. For other uses you need to obtain permission from the rights-holder(s).

Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
https://wellcomecollection.org

f. 1r

Montauban 16 X bre 1910.

Monsieur,

M'occupant depuis une dizaine d'années, des questions dont vous vous occupez vous même : " La Conservation et l'amélioration de la race humaine ", j'ai fait divers voyages à Paris, pour m'y mettre en Communication avec les personnalités, qui me paraissaient les plus susceptibles de s'intéresser à ces questions.

C'est ainsi que j'ai vu tout dernièrement M. Y. & March et J. Bertillon, statisticiens et puériculteurs de Cœur et d'âme

Malheureusement l'amour-propre dans les sciences, joue en France, un rôle considérable, et la routine également -

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/1

Je me permets de vous le prouver, en vous adressant un très court entrefilet, relatif à une lacune fort préjudiciable, au point de vue hygiénique, qui ne doit plus sans doute subsister en Angleterre.

C'est celle de l'absence de Water-closets dans les immeubles des vieux quartiers, dont on ne se préoccupe pas assez.

L'absence de Water Closets en tant d'endroits, s'explique cependant, en ce qui concerne le passé, par la raison que se nourrissant d'aliments naturels, nos ancêtres n'étaient pas incommodés comme nous le sommes, depuis la création d'éléments chimiques, par des fécalités et urines plus

adorantes, et par suite plus nocives, pour les adultes, les enfants, les vieillards, et les impotents -

En raison du genre de mes études, je désirerais si possible, entrer en rapports avec la société, et l'organe créés par vous, car je crois pouvoir vous adresser d'ici quelque temps, un certain nombre d'observations, ayant leur valeur pour vous et pour mes propres compatriotes, au point de vue de la préservation, et de la conservation de la race.

Veuillez accepter en attendant Monsieur, l'assurance de mes sentiments les plus distingués -

F. Cadrès, publiciste,
21 rue Lafiac Montauban
Tarn et Garonne

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/1

F. 4

F. Cadiès.

Sir Francis Galton,

et à son défaut,

Monsieur le Directeur

de "The eugenics Review."

– London –

UNE LETTRE. — Nous recevons la communication suivante, avec prière d'insérer :

« Monsieur le Rédacteur du *Télégrame*, à Montauban,

« Je vous serais très reconnaissant, de porter à la connaissance des Montalbanais, la façon, *que je qualifierai de cocasse*, si elle n'était en elle-même des plus dommageables, employée par nos édiles, pour annihiler toute initiative, de la part du docteur chargé du bureau d'hygiène municipale.

« Ayant à souffrir, comme souffrent principalement nos enfants, de l'absence de cabinets d'aisances, dans bon nombre d'immeubles de mon quartier, je pris l'initiative, *dès la nomination du docteur précité*, de lui faire saisir, *sur place*, l'urgence qui s'imposait, de la création d'édicules *affectés aux ouvriers*, privés dans des logements peu spacieux, des commodités existant partout ailleurs.

« Le préjudice que je subissais personnellement, en raison du dépotoir créé autour de mon immeuble, n'étant pas discutable, un dossier (le premier en date, dressé par notre nouvel hygiéniste), fut dûment établi, numéroté, et transmis, avec avis très favorable, aux bureaux compétents, qui l'enfouirent dans quelque carton (vert, peut-être) à oubliettes, d'où il n'a plus revu le jour.

« Toutes mes démarches ultérieures, tentées auprès de nos divers édiles, du maire, de l'architecte, du bureau d'hygiène, etc..., ainsi qu'une pétition signée par 160 électeurs du quartier, n'eurent pas le don *pratiquement* d'émouvoir personne.

« Et rien n'a encore été fait à ce jour, pour supprimer ce dépotoir, et combien d'autres !

« On attend sans doute, que les fièvres malignes, l'influenza, et autres maladies plus ou moins infectieuses, aient décimé quelques douzaines d'enfants. (En avons-nous donc trop ?) pour penser à ce dossier, *classé avec le numéro* 1, qui dort d'un sommeil jamais troublé, sous quelques amoncellement de paperasses déjà jaunies.

« Allons, Monsieur le maire ! Un bon mouvement ! Songez donc, *pratiquement*, aux ouvriers et *à leurs enfants !*

« Un peu plus d'assainissement, et moins d'embellissement, en attendant les jours prochains, où nos finances verront refleurir des excédents suffisants, pour faciliter à nouveau ces derniers.

« F. Cadrès, *publiciste*,
« 21, rue Sapiac, Montauban ».

ASSISTANCE AUX VIEILLARDS. — Con-

ECHOS ET NOUVELLE

Les déportés russes

Saint-Pétersbourg, 13 décembre.

Le *Retch* publie une dépêche annonçant mort, à la prison de Zarantui (Sibérie), Sazonoff, assassin de M. de Plehwe.

Un député sibérien à la Douma a reçu u dépêche disant qu'à la suite des châtimen corporels qui leur sont infligés, de nombre déportés se sont suicidés.

Une réception au Bardo

Tuñis, 13 décembr

A l'occasion de la fête d'Aïd-el-Kébir, bey de Tunis a donné au palais du Ba une splendide réception.

M. Alapetite, résident général, a été re au palais avec le cérémonial accoutumé.

Le bey, entouré des membres de sa famil et des hauts dignitaires, attendait dans salle du trône le résident, qui lui a adres des vœux de circonstance.

Devant le résident et le bey a eu lieu défilé des corps constitués et de la divisio d'occupation.

Incendie à bord d'un vapeu

Odessa, 13 décembre.

Dimanche, un incendie a éclaté à bord vapeur *Bulgaria*, qui venait de quitter port. L'incendie a duré huit heures. Le na re est rentré aujourd'hui à demi brûlé, sa gouvernail et sans boussole. Un homme l'équipage a été noyé et trois ont été gr vement brûlés.

UNIVERSITÉ LAVAL GALTON 3/3/3/1

Informations Résumees

13 décembre.

Non identifiée

Des jeunes gens, en jouant, hier après midi, dans la mine d'argent de Tremusso près Saint-Brieuc, ont découvert, à deux cen mètres de profondeur, le corps d'une fem âgée d'une quarantaine d'années, en com état de décomposition et dont la mort s blait remonter à plus d'un mois. On n'a encore établir l'identité de la victime.

Une Condamnation à Mort en Saxe

F.1

Two Grand Prizes, St. Louis Exhibition, 1904.

THE CAMBRIDGE SCIENTIFIC INSTRUMENT COMPANY LIMITED.

WORKS AND OFFICE: CARLYLE ROAD, CAMBRIDGE.

DIRECTORS: HORACE DARWIN, F.R.S.
H. F. NEWALL, F.R.S.
F. F. BLACKMAN, D.Sc.
E. DARWIN.

~~MANAGER & SECRETARY~~: ROBERT S. WHIPPLE.

Gold Medal Inventions Exhibition, London, 1885.
Grand Prix, Paris Exhibition, 1900.

Telegrams: "Instrument, Cambridge."
A B C Code used. 5th Edition.
Telephone No 6, Cambridge.
Address all letters:
Instrument Company, Cambridge.

Enclosures:

Subject of letter:

5th.March 1906

Dictated
by

to

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS
333/3/2

Francis Galton Esq.,
Hôtel d'Angleterre,
BIARRITZ, BASSES PYRÉNÉES.
FRANCE.

Dear Sir,

We are in receipt of your Card of the 2nd.inst.and very much regret to hear of your misadventure. The Isoscope was despatched from here on the 1st.inst.addressed to you at the Hôtel Terminus,St. Jean de Luz and we hope has by this time arrived safely.

Yours faithfully,
THE CAMBRIDGE SCIENTIFIC INSTRUMENT COMPANY LTD.

Robert S Whipple

Managing Director.

Camera Club

F.1

TELEPHONE No. 3703 G.
TELEGRAPHIC ADDRESS
MONOCHROME, LONDON.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS
3/3/3/3

CAMERA CLUB.
CHARING CROSS ROAD.
W.C.

25. 11. 95

Dear Sir

I must apologise for leaving your most Kind note of 20th ult so long unanswered but I have been Kept away from the Club by illness —

Now let me hasten to say that we should welcome a Paper from you on any portion of the subject — which you have made so peculiarly your own.

F.11

We number amongst us,
men who are interested in
all branches of Science and
Art-, and are therefore very
Catholic in our tastes —
We have just had a Paper
on Mechanical Carriages
with one of the largest attendances this Season — next
week we have one on Explosives
by one of H. M. Inspectors of
Explosives - which will be attended
by many of the Home Office,
& Woolwich officials - and
if you will only Kindly
Consent to honour us

I can promise you a large and appreciative audience. Our Papers begin at 8-15. Sharp & last- anytime from 45 minutes to an hour and a quarter - and the subsequent discussion occupies sometimes 10 minutes - sometimes an hour - The friendly discussion following a paper is one of the pleasantest features of our rather Bohemian, but very friendly little Club —

We publish the Papers and discussions - with the Speakers'

TELEPHONE No. 3600
TELEGRAPHIC ADDRESS
"HOMOCHROME, LONDON"
CAMERA CLUB,
CHARING CROSS ROAD,
W.C.

permission in the Journal
of the Camera Club - a
Monthly (Copyright) Journal.
Finally I would suggest that
you should do us all the
pleasure of visiting us on
one of our evenings - and
enclose you a Card for
this purpose - Should you
be engaged on that evening
& will let me know which

other Monday or Thursday
would suit you – We have
~~the~~ something on always
on these days – I will gladly
send another.

Believe me
Dear Sir
Yours very Faithfully
R. Kerr
Hy Sec[y]

Francis Galton Esq[r]

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS
3/3/3/3

F.G.

P.S. - I have Thursday Jany 16th
vacant - if you would honour
us - on that date. -

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Sir George Campbell F.6r

LLEGE LONDON
ON
ERS

Southwell House,
Southwell Gardens. S.W. Dec 16/70

Dear Mr Galton

I am sorry that
I cannot find any
details Account of your
Royal Expenses - only
find the short balance in
the Exchequer. Here I have
turned down the figures at
the very end of the Short
Int 87/2 & here 48 of 1872/3 -

How do I know the Enlargement
history of the Sacrament.
Should that enumeration
Should have been often alluded
to my Physical Powers
I think it has made
it much.

I think Mr Woodward
should be remembered
when the declared
Educational Grants

F.7

Enclosure of

J Cavendish

to the India Office

Imphal Steel Gun 20 inches

J C

COLLEGE LONDON
ALTON
APERS
3/3/14

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS
3/3/3/5

F.lr Genève 2 Janvier 1873.

Monsieur et honoré collègue

Le volume que j'ai publié vous a causé un mélange d'impressions agréables et désagréables. Je puis en dire autant de votre lettre du 27 Décembre, mais avant de discuter certains points je désire vous faire une déclaration générale. S'il m'a échappé, dans les 482 pages de mon livre, une phrase, un mot pouvant faire douter de mon respect pour votre impartialité, votre caractère et votre talent d'investigation, ce ne peut être absolument que par erreur et contrairement à mes intentions. Vous avez toujours cherché la vérité. J'ai apprécié beaucoup votre travail et s'il n'était pas inutile de transcrire de nombreux articles d'un auteur je vous aurais cité encore plus souvent.

L'idée de consulter les nominations par les Académies m'est venue il y a 40 ans! J'avais prié un de mes amis de prendre au secrétariat de l'Institut les listes des Associés étrangers et correspondants de 1750 en 1789. Les noms modernes sont aisés à trouver ailleurs. J'avais rédigé en 1833 un mémoire sur ces listes de Paris et sur celle de la Société royale. Si je ne l'ai pas publié alors c'est qu'il me semblait un peu présomptueux chez un jeune homme de mesurer ainsi la valeur de savants illustres, parmi les quels se trouvait son père et non quelques hommes distingués à côté de lui. Une fois moi-même sur certaines listes il me répugnait d'en parler. Enfin, à 66 ans, après une série de travaux spéciaux propres à justifier ma position, le courage m'est venu et j'ai pensé pouvoir m'élever au dessus des considérations personnelles de toute nature.

Ma rédaction était fort avancée quand j'ai connu votre ouvrage. Je l'ai lu avec infiniment de plaisir, comme je viens d'en relire les chapitres les plus importants.

Nous sommes admirablement d'accord sur les faits.

Nous avons les mêmes idées sur les races. Vous avez envisagé un plus grand nombre de catégories d'hommes, mais celle des savants que j'ai étudiée d'une manière plus spéciale, avec une méthode différente, m'a donné des résultats extrêmement semblables aux vôtres quant aux faits.

Je persiste à croire qu'il y a, non pas une opposition, mais une différence assez sensible dans l'appréciation des causes qui ont influé sur les faits.

Vous faites habituellement ressortir, comme cause principale l'hérédité. Quand vous parlez des autres causes elles sont indiquées accessoirement et sans chercher à démêler ce qui tient plus particulièrement à elles ou à chacune d'entre elles. De loin en loin vous mentionnez ces autres causes. Ainsi on peut lire bien des pages où vous démontrez l'influence de l'hérédité avant de rencontrer une ligne comme au haut de la p. 88 sur les social influences. Le titre même de l'ouvrage implique l'idée de rechercher uniquement sur l'hérédité, ses lois et ses conséquences, autrement vous auriez dit: On the effect of heredity and other circumstances as to genius. Assurément vous avez rendu un vrai service à la science, mais votre point de vue était essentiellement l'hérédité.

Quant à moi j'ai eu l'avantage de venir après vous. Il ne m'a pas été difficile de confirmer par de nouveaux faits l'influence de l'hérédité, mais je n'ai jamais perdu de vue les autres causes, et la suite de mes recherches m'a convaincu qu'elles ont en général plus d'importance que l'hérédité, du moins parmi les hommes de même race. Si l'on compare des nègres avec des blancs, ou même des blancs asiatiques avec des blancs européens, l'effet de la race est prédominant, mais parmi les hommes de nos pays civilisés l'effet des traditions, exemples et conseils dans l'intérieur des familles m'a paru exercer plus d'influence que l'hérédité proprement dite. Vient ensuite l'éducation extérieure, l'opinion publique, les institutions, etc. Je me suis appliqué à distinguer la part d'influence de toutes ces causes, part qui varie suivant les pays et les époques et qui favorise ou contrarie les effets de l'hérédité. Le but de mes recherches était donc différent du vôtre et les résultats en ont été différents sans être opposés. C'est ce que j'ai dit à la p. 93.

UNIV. PAPERS LONDON

J'en viens aux observations de détail.

Au bas de la p. 273 vous parlez de faits et d'une certaine opinion courante défavorables aux enfants de personnes religieuses (religieuses). Dans mon idée l'immense majorité des clergymen est religieuse, et comme j'ai remarqué cependant moi-même des cas dans les quels leurs enfants avaient mal tourné, j'ai examiné les faits, et j'ai trouvé (à ma grande surprise) qu'une forte proportion de savants célèbres avaient été fils de pasteurs ou ministres. J'en ai tiré un argument en faveur de l'importance d'une éducation simple et morale.

Je n'ai pas compris votre observation sur une erreur de chiffre à la p. 40. En comptant de nouveau sur la dernière colonne des p. 36-40, je trouve 13 fils de pasteurs ou ministres, comme je l'avais dit. Par parenthèse j'ai soupçonné quelquefois que sir David Brewster était un 14ième. Il était fils d'un Rector of the grammar school of Jedburgh, ce qui d'après le pays peut faire croire qu'il était peut-être ministre. Une notice dans un journal religieux m'a appris que sir David avait été élevé dans une atmosphère très pieuse.

Je n'ai pas pu savoir l'origine de famille de Mr Owen, la même que j'ignore celle Mr Airy, que l'Académie de Paris a nommé, depuis 1869, associé étranger. Agassiz nommé également depuis mon tableau est fils d'un pasteur suisse (de famille indigène).

Si l'on retranchait du nombre les savants suisses issus qui descendent de familles étrangères, il resterait encore un nombre assez respectable qui placerait notre petit pays à côté des Etats scandinaves et de la Hollande, selon les époques. Ce ne serait pas juste en soi, parce que nos savants d'origine étrangère étaient tous nés en Suisse, et même petits-fils ou arrière-petits-fils de réfugiés nés en Suisse. Pour eux l'influence d'hérédité avait déjà été atténuée énormément par la loi géométrique des degrés.

Assurément l'arbre que Calvin et ses amis avaient planté à Genève, avec ses rameaux de Hollande, d'Ecosse, des puritains anglais et d'Amérique était doué d'une grande vigueur. Notre Eglise à Genève s'est modifiée dans un sens libéral en 1720 (pag. (2) et 205), comme plus tard à Boston et même un peu en Hollande et en Ecosse, mais il est resté dans tous ces pays un esprit d'indépendance et une persistance de volonté qui ont été favorables aux sciences lorsque l'on a convenu aux individus de s'en occuper. Je n'ai pas voulu m'étendre davantage sur un aussi petit pays que Genève, mais vous ai quelques faits qui peuvent vous intéresser. A l'époque de la Réformation beaucoup de familles nobles quittèrent Genève pour demeurer catholiques.

Il vint à la place une foule de gentilshommes et bourgeois instruits de France et d'Italie, qui étaient zélés pour la nouvelle religion. Grâce à leurs antécédents et leur éducation ils entrèrent dans la classe des familles notables du pays, qu'ils dominèrent et ils devinrent le fond d'une aristocratie locale qui a subsisté de fait, sans titre ni privilège légal, jusqu'en 1841. Cette sorte de patriciat ne visait pas seulement aux places du gouvernement et des Conseils; elle occupait à l'origine les charges de pasteurs et dans le XVIII^e^ et jusqu'en 1841 celles de professeurs de l'Académie (avec ou sans enseignement) qui donnait la surveillance de l'instruction publique et un rang honorable dans l'opinion. Grâce à ces mœurs un jeune homme studieux d'une famille notable, ~~pouvait~~ se contenter d'une fortune médiocre. Il avait d'ailleurs une bonne chance pour se marier richement. Vous voyez quels encouragements existaient en faveur des sciences, précisément dans les familles d'anciens réfugiés.

J'aurais pu donner plus d'informations sur les mères et autres ascendantes des savants suisses, surtout genevois, mais vous avez démontré que passé les premiers degrés l'hérédité influe fort peu. Aussi dira toutes nos familles un peu anciennes à Genève ont du sang de huguenot (si l'on doit employer cette vieille locution après votre curieux travail sur la transfusion), seulement ce sang est tout-à-fait dilué. Ce sont les institutions et les mœurs implantées par nos ancêtres réfugiés qui ont pesé bien plus longtemps que l'hérédité. Maintenant une affluence d'ouvriers catholiques des pays voisins et une série de révolutions nous ont donné un nouvel état social. Nous devenons américains. Désormais la distinction presque unique entre les familles sera la fortune. Ce ne sera pas au profit de la science. D'autres cantons de la Suisse (Zurich, Vaud, Neuchâtel) se préparent à nous succéder, les bonnes conditions étant mieux réunies chez eux.

Dans les proportions de savants à l'égard des populations des pays il aurait mieux valu pouvoir calculer sur les hommes d'un certain âge, soit celui auquel on est ordinairement élu aux Académies, soit celui auquel on commence à travailler utilement. Malheureusement cela était impossible pour les années 1750 et 1789, dont je me suis occupé, et fort difficile pour 1829 et même 1869. La Suède est le seul pays qui ait eu un dénombrement par âges dans le siècle dernier. Pour le reste de l'Europe j'ai été forcé de recourir à des estimations, même pour la population totale. On ne pourrait pas avoir la division par âges, en 1829 et 1869, dans les pays comme l'Allemagne et l'Italie où chaque État faisait ses recensements sur la base qu'il imaginait, à des époques différentes et souvent n'en paraissait pas ou ne publiait pas les détails. Remarquez d'ailleurs que la proportion des décès d'enfants est d'autant plus forte qu'il y a plus

d'enfants à soigner, d'où il résulte un nombre d'adultes majeurs différent qu'on ne croirait d'un pays à l'autre.

Il y aurait une correction importante à faire : celle de défalquer de chaque pays les individus nés à l'étranger et d'ajouter les nationaux qui se sont établis ailleurs. On obtiendrait de cette manière aux États-Unis, en 1869, environ 5½ millions qu'il faudrait répartir sur les Royaumes britanniques et l'Allemagne principalement. La correction serait équitable, car s'il y avait en dans les étrangers établis en Amérique des titulaires d'Académie je les aurais imputés à leurs pays de naissance. Cela ne sortirait pourtant pas les États-Unis de la région inférieure de mes tableaux. Et comment savoir la quantité de sujets britanniques établis sur le Continent ou ailleurs qu'en Amérique ? celle des allemands établis en Russie, en France etc ? Le sujet heureusement n'exige pas une si grande précision. Je l'ai dit plusieurs fois, les chiffres de population ne sont pas en corrélation avec les groupes exceptionnels d'hommes s'occupant de science. On est forcé d'englober dans chaque pays des parties considérables de population qui jouent un rôle scientifique insignifiant, comme l'Autriche en Allemagne, le royaume des Deux-Siciles en Italie, l'Irlande dans le royaume uni, les cantons catholiques en Suisse. Les calculs sur les populations ne peuvent donc pas avoir une véritable valeur statistique, mais ils sont utiles pour pouvoir apprécier les causes qui ont influé en divers pays, à diverses époques, en tenant compte des détails accessoires propres à modifier l'impression déterminée par les chiffres.

Sur la fécondation, destinée à la copulation, je ne vois pas bien la valeur des objections. Il y a dans ce que j'ai dit 1° des faits, 2° des conjectures. Les faits sont que des hommes en état d'ivresse (affection temporaire du cerveau) ont engendré souvent des idiots, épileptiques, etc., et qu'une chienne fortement blessée sur l'arrière partie du dos pendant l'accouplement a donné naissance à des petits défectueux du train de derrière (Lucas 2 p. 502). Donc chez l'homme les spermatozoaires peuvent être modifiés par l'état momentané maladif du système nerveux, et chez l'espèce canine les ovules peuvent être modifiés par un accident survenu au moment même de la copulation. Voilà des faits. Maintenant il ne me paraît pas hasardé de croire que d'autres affections temporaires pourraient aussi influer comme l'alcoolisme ou comme une blessure. Dans l'espèce humaine une terreur, une idée dominante ou exclusive

(espèce de monomanie) peuvent durer plusieurs jours et influeraient non seulement sur les spermatozoaires mais aussi sur les ovules au moment où ils vont se détacher. Je me souviens qu'à l'époque du siège de Sebastopol il y avait des personnes qui avaient perdu le sommeil de l'effroi et de la commisération des souffrances racontées par les journaux. Les événements de 1870-71 ont causé beaucoup d'aliénations mentales et sûrement ont troublé à un moindre degré beaucoup d'esprits. Je ne serais pas étonné que ce n'ait été une cause d'augmentation de folie ou d'idiotisme chez les enfants nés en 1871 dans une partie de l'Europe. Dans les pays où les fortunes doivent être partagées également entre les enfants vous ne pouvez pas vous figurer la terreur plus ou moins secrète de plusieurs femmes à l'idée d'une nouvelle grossesse. Représentez vous aussi l'état nerveux de certaines femmes quand elles ont été infidèles à leur mari et celui d'un mari qui déteste sa femme sans vouloir le lui montrer, du duc de Praslin, par exemple, qui maintenait ses rapports conjugaux avec l'intention arrêtée d'assassiner la duchesse.

Je ne connais rien de fait ou à faire ici sur les enfants trouvés. Ces enfants proviennent de parents inconnus et très variés. Je ne sais ce qu'on pourrait conclure de leurs aptitudes. Rousseau avait mis ses enfants à l'hôpital. On s'est demandé s'ils étaient devenus quelque chose. Je crois qu'ils sont morts jeunes vu les conditions détestables des anciens hospices de Paris.

Je vous serai fort obligé de m'envoyer l'article de Fraser's Magazine dont vous me parlez de même que de toute rédaction avec ou sans critique de mon travail que vous auriez la bonté de publier. En attendant je vous prie de me croire, Monsieur, votre très dévoué collègue

Alph. de Candolle

P.S. J'ai fait acheter par la librairie un exemplaire de mon livre à la Société royale. J'espère qu'il est parvenu.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Genève 16 juin 1873.

2

F.4r

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/5

Mon Cher Monsieur

Vous me faites espérer une visite dans le courant de l'automne et comme je serais bien fâché de vous manquer, permettez moi de vous dire que je serai sans doute à Genève depuis le milieu ~~de~~ ou au plus tard la fin de septembre. J'ai l'intention de m'absenter pendant le mois d'août, mais il est bien douteux que mon excursion se prolonge au delà de 5 ou 6 semaines.

Si vous passez dans notre ville vous n'avez qu'à me demander Cour St Pierre 3 (au 2e étage). C'est là qu'est mon herbier et aussi ma bibliothèque. J'y viens tous les jours de 11 à 2 h., excepté le dimanche.

Dans la soirée et les dimanches vous me trouveriez au Vallon, près Chêne, à 2 milles anglais de la ville. Un tramway existe entre Genève et Chêne et de Chêne à ma maison de campagne il y a 8 minutes.

Votre idée d'expériences sur les souris serait excellente à suivre. Il faudrait voir d'abord quelle substance toxique ces animaux

mangent volontiers et quelle dose on peut leur en donner sans leur faire trop de mal et en produisant cependant des effets sensibles. Le Cannabis a moins de matière inébriante dans la graine que dans les feuilles, mais il doit pourtant y en avoir. Une pâte alcoolisée serait peut-être plus commode parce qu'on saurait bien la dose d'alcool administrée.

Des pigeons qui s'accompleraient sous l'empire de l'alcool donneraient peut être des petits tremblers? M^r Darwin pourrait l'essayer mieux que personne. Mais il serait peut-être que la fécondation des œufs dans les oiseaux est entourée de trop d'incertitude: On ne saurait peut-être pas exactement quels œufs auraient été fécondés à tel moment par le mâle alcoolisé.

Recevez, mon cher Monsieur, l'assurance de mes salutations empressées

Alph. de Candolle

UNIVERSITY COLLEGE LONDON
GALTON PAPERS


50 HELVETIA 50
FRANCO
1873
Voie de France
PD
Monsieur Francis Salton
V. R. R. S.
Rutland Gate 42
Londres
De Can Ille


UNIVERSITY COLLEGE LONDON
GALTON
PAPERS
3/3/3/5

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/5

3

Genève 11 Sept. 1874
F. 6r

Mon cher Monsieur

Plusieurs absences et une indisposition de quelques semaines m'ont empêché de vous écrire au sujet de votre séance de la Royal Institution : On men of science, etc. J'ai pourtant lu deux fois votre opuscule avec beaucoup de plaisir. La base sur la quelle vous vous appuyez est originale. Je doute qu'on puisse obtenir ailleurs qu'en Angleterre un aussi grand nombre de réponses faites franchement et consciencieusement. En partant de la liste de la Société royale je crains un peu que le nombre des Ecossais n'ait pas été assez élevé. Comme leur éducation était naguère très différente de celle des Anglais ce serait regrettable. Sans doute vous parlerez de cette différence dans votre ouvrage que je me réjouis beaucoup de lire.

Plusieurs des conditions réputées favorables par vos correspondants se retrouveraient certainement hors des pays anglo-saxons, mais à des degrés ... autres et quelques unes ne se retrouveraient probablement pas du tout.

F. Energie — Ce doit être général, entendez la persévérance en tout bien quelque soit.

Santé — J'ai connu bien des savants d'une mauvaise santé. Lorsqu'il en résulte, chez nous, la dispense du service militaire, et que néanmoins la tête est bonne, la mauvaise santé est une chance de succès. Quand j'étudiais le droit mon meilleur professeur, un très habile jurisconsulte, était estropié des jambes et des bras. Dans ce moment, à Genève, un des hommes les plus habiles, comme horticulteur et naturaliste, est un ancien portefaix chez le quel la vie s'est retirée peu à peu des extrémités à la tête depuis 25 ans. Il ne peut plus porter sa nourriture à la bouche, mais il continue à lire des ouvrages scientifiques en 3 langues et dicte des traductions. Il fait porter son stromon supérieur (le seul vivant) dans son jardin, pour vérifier la suite d'expériences qu'il a ordonnées. Le premier de ces deux estropiés remarquables avait une grosse tête et ressemblait à Napoléon 1er, le second, également énergique, en a une petite. J'ai vu souvent les exercices de corps détourner des études ou détruire l'habitude d'observer soigneusement. Sans doute il faudrait être proportionné au degré de force de chacun, mais pas au delà.

Practical business — Ceci est bien anglais! Sur le Continent vous trouverez une foule de savants qui n'entendent rien aux affaires, qui s'en moquent,

et dont la fortune diminua plutôt que d'augmenter. La négligence des affaires est plus commune encore chez les hommes de lettres. Je crois bien qu'un savant réussit rarement s'il n'a pas de l'ordre dans ses papiers, ses travaux et même dans les habitudes ordinaires de la vie; mais ce n'est pas ce que vous appelez pratical [sic] (aptitude aux affaires commerciales, industrielles etc.)

Vos reflexions p. 6 ... Au fond de ... divines sont extrêmement justes, surtout la caractère anti-féminin! Je ne dirai pas pourquoi, ce serait offenser la plus belle moitié de notre espèce.

J'en dirai autant de l'avantage d'une instruction variée. Contrairement à l'opinion des pédants de collèges, j'estime avec vous que c'est une grande source de supériorité et d'autres avantages qui se retournent ensuite dans la spécialité d'une carrière. Seulement il ne faut pas continuer son éducation variée indéfiniment. Il faut savoir devenir spécial.

Dans l'espoir de lire bientôt le volume projeté de vos recherches intéressantes, je suis toujours, mon cher Monsieur,

votre très devoué collègue

Alph. de Candolle

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Genève 11 Janvier 1875.

F. 8r

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS
3/3/3/5

Mon cher Monsieur

Si j'ai tardé à vous remercier de l'envoi de votre volume English men of science, ce n'est pas que je l'ai négligé! Au contraire je l'ai lu deux fois avec beaucoup d'intérêt et me propose de le citer souvent si j'ai fait une seconde édition de mon ouvrage sur l'Histoire des Sciences. Pour le moment je prépare une autre seconde édition, celle de ma Géographie botanique raisonnée, mais j'espère revenir ensuite à l'objet qui nous a tous deux occupés.

Nous avons employé deux méthodes bien différentes, qui nous ont souvent conduits aux mêmes déductions. C'est une preuve en faveur de toutes les deux. Lorsque les résultats diffèrent c'est probablement que les conditions spéciales aux Anglais ne sont pas celles de la plupart des pays, et je crois bien, en effet, que si l'on posait ailleurs les mêmes questions, on aurait des réponses assez souvent différentes. Il ne serait pas facile d'obtenir des réponses. Seraient-elles exactes? Les individus seraient-ils parfois vrais dans les réponses, tantôt se trompant et tantôt sans le vouloir. En Angleterre même, où l'on est plus véridique, certaines personnes se font des illusions. Je n'ai pas pu m'empêcher de sourire

en lisant que quelques uns de vos ecclésiastiques prétendent n'avoir nullement été contrariés par leurs opinions dans les recherches scientifiques. Je l'ai entendu dire, avec la même bonne foi, à quelques uns des nôtres, mais quand on leur parle de certains faits, ils les nient ou les éludent, et souvent ils évitent certaines sciences ou certaines recherches. Comme l'expose très bien Herbert Spencer, dans sa Social Science, l'homme est naturellement inconséquent. Vos ecclésiastiques paraissent plus éloignés que les nôtres des tendances scientifiques, excepté les unitairiens. De même, chez nous, les trinitairiens sont souvent ennemis de la science et non les unitairiens (protestants libéraux).

L'origine géographique de vos hommes de science (p. 20) tient peut-être à la prépondérance des villes dans la partie ombrée — La proportion favorable à l'Ecosse et défavorable à l'Irlande, dont vous parlez ailleurs, résultait aussi très clairement de mes livres, et vous expliquer, je crois, avec raison que les écossais reçoivent une éducation meilleure. Genève, la Hollande, l'Ecosse et la Nouvelle Angleterre sont des ou étaient des branches d'un arbre intellectuel vigoureux planté par Calvin.

La quantité de savants fils uniques ou premiés (p. 33) m'a étonné, mais avec un peu de réflexion cela se comprend.

Vous aimez les recherches statistiques, entre autres sur la fécondité. Elles peuvent se faire en Angleterre mieux que sur le Continent, mieux surtout qu'en France, par exemple — l'absence d'enfants

y est moins souvent volontaire. Je n'avais pas d'idée de l'étendue de cette cause dans les provinces françaises avant d'avoir lu un ouvrage sérieux, mais peu décent, d'un vieux médecin qui pratique dans la petite ville d'Arbois: Bergeret, Des fraudes dans l'accomplissement des fonctions génératrices, leurs causes, dangers etc, 1 vol. 8°, Paris 1873, chez J. B. Baillière, prix 2f. 50c. L'auteur exagère je crois beaucoup les inconvénients des abus qu'il signale. Comme tous les médecins il ne voit que ceux qui souffrent de certaines pratiques et ne pense pas à tous ceux qui n'en ont pas éprouvé d'inconvénient. Mais le libertinage qu'il signale dans de très petites villes et même dans les communes rurales de la France explique bien le nombre très faible des naissances et fait naître de singulières réflexions. Le partage égal entre les enfants est évidemment une cause d'immoralité chez les parents et de paresse chez les enfants. C'est aussi, il est vrai, une cause d'économie dans les familles et de richesse totale. En Angleterre les accroissements de capitaux se divisent entre des individus toujours plus nombreux; en France ils restent accumulés dans une population stationnaire.

Je ne juge pas la condition de la santé tout à fait comme vous. Il est possible que les fils de parents robustes le soient moins lorsqu'ils deviennent des hommes de science, vivant dans les villes, mais ils n'en sont pas moins adaptés à leur milieu et c'est l'essentiel. A Paris j'ai rencontré souvent des fils et petits fils de paysans qui n'avaient pas l'air robustes, mais qui supportaient mieux que les campagnards les fatigues de la vie urbaine. Plusieurs étaient remarquables

par leur intelligence et leur activité. En se tenant à l'abri du froid et se soutenant par une bonne nourriture ces citadins, sans avoir de bons muscles, vivent longtemps et font un travail excellent. Ils sont naturalisés — mais pour cela il faut deux générations au moins. Les fils de campagnards n'ont pas souffert progressivement de l'éducation à la ville, de même que les fils d'ouvriers dans la campagne.

Vos idées sur l'éducation résultent des faits. Elles sont excellentes et je leur souhaite du succès. Le journal *Nature* dit souvent les mêmes choses, mais il les mélange d'assertions et de prévention[s] que je ne puis pas toujours approuver. Il a l'air de croire que les gentlemen sont naturellement inférieurs aux ouvriers. Nous avons prouvé l'un et l'autre que les classes supérieures donnent partout une proportion considérable d'hommes éminents. Il serait donc utile de favoriser ceux de cette classe qui montrent quelque goût pour les sciences et ce serait plus profitable que d'élever artificiellement quelques individus de la classe inférieure, au moyen de subventions pécuniaires difficiles à bien placer.

Votre dernier volume complète admirablement le premier. Je vous en félicite et vous prie d'agréer, mon cher Alphonse, l'assurance de tout mon dévouement

Alph. de Candolle

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

6)

Genève 8 nov. 1879

f. IIc

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/5

Mon cher Monsieur

J'ai lu avec beaucoup de plaisir les opuscules que vous avez bien voulu m'envoyer. Les photographies cumulées m'ont paru curieuses. Elles serviront probablement dans plusieurs cas et pour diverses recherches de médecine, physiologie, etc. On peut en inférer aussi certaines conséquences utiles dans les arts. Je me propose, par ce motif, de montrer vos génériques images dans une séance de notre Société des arts où se trouvent toujours des dessinateurs, des photographes, etc. Si vous publiez d'autres essais je vous serai très obligé de me les envoyer avant le mois de janvier prochain.

L'aspect de vos criminels confirme ce que je lisais hier dans un article scientifique signé de Parville dans le Temps, sur les crânes de 36 assassins français. Leurs crânes étaient larges d'une tempe à l'autre.

Les observations psychométriques dont vous décrivez les résultats me semblent bien difficiles à faire. Cependant je sais, par expérience, qu'on arrive en se donnant de la peine à constater des faits de cette nature. J'ai aussi

observé des choses analogues pendant la nuit, et ce que j'ai conclu appuie votre opinion, par des rapprochements assez intéressants.

Pendant deux années, à l'âge de 31 et 32 ans, je me suis appliqué à saisir au moment du réveil la nature de mes rêves. Avec une ferme volonté on y parvient. Les détails s'oublient très vite, mais on peut noter dans sa tête si le rêve se rapporte à des choses anciennes ou récentes et à des choses dont on s'était occupé la veille ou aux quelles on n'avait pas pensé depuis longtemps. Voici ce que j'ai trouvé !

1° Très souvent dans la soirée j'avais parlé de quelque personne ou objet qui a servi de point de départ à un rêve. Quelquefois on en avait parlé devant moi, ou j'avais lu à haute voix le nom ou celui de l'objet. Rarement une lecture des yeux produisait cette conséquence. Le nom ou le mot était devenu source de quelque association inconstante d'idées, comme dans vos observations, mais les déductions étaient erronées et souvent absurdes. Des conversations ou lectures de quelques jours antérieurs, même je crois de ~~24 heures~~, ne conduisaient pas à des rêves.

2° (et ceci encore plus certain) : jamais je n'ai rêvé à des choses qui m'avaient causé

ou récemment ou autrefois de vives inquiétudes ou une vive émotion. Quoique ma carrière ait été assez uniforme j'ai éprouvé des chagrins, j'ai eu des soucis qui m'empêchaient de dormir. J'ai assisté à des scènes révolutionnaires qui m'irritaient au plus haut degré. Ma vie a été exposée plusieurs fois dans des courses de montagne, etc. Or ces événements ne se sont jamais présentés dans mes rêves, non plus que des plaisirs très vifs.

3° J'ai rêvé à des personnes mortes depuis longtemps, mais presque toujours je me suis souvenu que j'en avais parlé dans la soirée, ou qu'une liaison d'idées analogue avait existé. Par exemple je rêvais souvent être avec mon père, mort en 1841; il me semblait le voir, causer avec lui, sur des affaires scientifiques avec beaucoup de suite et de raison, mais je travaille tous les jours dans la bibliothèque de mon père, je consulte ses ouvrages, etc. Cet. dans le courant habituel de mes idées.

Tout cela confirme, par une autre voie, vos réflexions de la page 7.

Les idées qu'on a la nuit, quand on est réveillé et qu'on ne peut pas s'endormir complètement également à ce que vous dites. Dans cet état on a (du moins moi) deux ou trois idées très précises qui reviennent constamment. Ce sont des idées qui vous préoccupent depuis quelques jours: probablement une inquiétude

sur un de vos proches, un procès, etc, ou quelque lettre difficile à rédiger, quelque discours à faire, etc. Comme on ne voit rien, d'autres causes d'idées n'existent pas et celles qui vous dominent ont une force extraordinaire. Un peu d'agitation nerveuse qui empêche de dormir augmente cette vivacité des idées nocturnes. J'ai été si souvent frappé de leur netteté ~~de ces idées~~ que je m'étais fait fabriquer une ardoise, avec règle mobile, pour pouvoir écrire dans mon lit certaines phrases, certaines divisions d'un sujet, qui m'apparaissaient tout à coup et que le lendemain je ne pouvais plus retrouver. L'appareil n'est pas assez commode pour l'employer, aussi quelquefois j'allume une lumière pour noter ce qui vient de m'apparaître dans ces nuits d'insomnie. Pour un écrivain l'absence de sujets de distraction me paraît une cause essentielle de sommeil. Je ne comprends pas surtout ceux qui étudient ou réfléchissent en se promenant dans la campagne.

Voilà, mon cher Monsieur, des observations dont vous ferez ce que vous voudrez. Je n'ai pas l'intention de les publier. Si vous voulez en parler dans quelque note je n'ai pas d'objection, sans cependant vous le demander.

Agréez, je vous prie, l'assurance de mes salutations les plus dévouées

Alph. de Candolle

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Carte-correspondance.

10

GENÈVE 1
24 V 76 — 4
SUC. H.O.N.

Adresse. ***Indirizzo.***

A Monsieur Francis Galton
42 Rutland Gate

in à a } Londres

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

f. 10 v

Genève 24 mai 1876.

Mon cher Monsieur, je vous envoie sous bandes un article sur votre intéressant opuscule relatif aux jumeaux. Il vient de paraître dans les Archives des Sciences physiques et naturelles de mai 1876, qui se publie ici. J'ai ajouté ci et là quelques réflexions pour montrer mieux l'intérêt de vos recherches. Je regrette que votre départ de la Suisse ait coïncidé avec mon excursion dans l'Engadine, où ma santé m'oblige à aller pendant les grandes chaleurs. Agréez, je vous prie, l'assurance de mes salutations empressées

Alph. de Candolle

51

(De Candolle)

Genève 1er Janvier 1884.

F. 13c

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/5

Mon cher Monsieur

Je prépare une seconde édition de mon volume de l'Histoire des sciences et des savants qui est épuisé depuis longtemps et que les libraires me demandent. Pour cela je fais grand usage de vos English men of Science et du volume récent des Inquiries into human faculties qui contient beaucoup d'articles curieux. Nous suivons la même méthode, celle d'observer, et quand on le peut de compter pour comparer, par conséquent nous devons nous appuyer l'un l'autre et nous risquons bien peu d'être en opposition.

Permettez moi de vous demander quelques informations sur des savants anglais.

Pourriez vous me dire quelles étaient les positions ou professions des pères du célèbre zoologiste Owen nouvellement créé K.C.B., de Sir George Airy et de Sir George Wheatstone. Je n'ai pas pu le savoir d'après les dictionnaires biographiques à ma portée.

Je présume que Sir William Thomson, né à Belfast, fils d'un prof.r de Mathématiques, était un protestant, d'une famille écossaise ou anglaise établie en Irlande. Est-ce exact?

Le caractère de votre illustre confrère Charles Darwin est si honorable, si éminent sous plusieurs rapports, que j'aimerais connaître sur lui certains détails d'une valeur même secondaire. Par exemple, avait-il une disposition naturelle aux arts du dessin? et à la musique? Rien ne l'indique dans ses ouvrages.

Je ne sais pas s'il faut lui attribuer une imagination forte. Beaucoup de personnes le lui reprochaient, parce qu'elles ne comprenaient pas la valeur de ses observations et déductions, et qu'il leur plaisait de dire qu'il se livrait à de pures hypothèses. Pour moi qui ai reconnu très vite la sagesse de son esprit et sa prudence, je ne sais pas si ces qualités avaient occupé la place entière de l'imagination, ou s'il faut admettre que même avec beaucoup de vigueur de raisonnement il avait beaucoup d'imagination.

L'aîné de mes petits fils, Raymond de Candolle, né Anglais, élevé à Rugby et qui vient d'entrer à Trinity College, Cambridge, voit les chiffres déposés en séries et certains chiffres plus apparents que d'autres dans son esprit. C'est le seul cas de ce genre dans ma famille.

Toujours, mon cher Monsieur, votre très dévoué

Alph. de Candolle

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/5

Genève 27 oct. 1884

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/5

Mon cher Monsieur

Je suis très heureux de penser que vous approuvez mes dernières recherches sur l'hérédité. A peine cependant elles étaient publiées que je voyais d'autres considérations qui mériteraient examen et avanceraient nos connaissances. J'espère qu'elles se trouveront dans votre prochain volume.

Il n'y a pas de doute que les maîtres et maîtresses d'écoles pourraient faire des observations intéressantes sur les enfants, mais il faut vouloir observer, et le temps manque souvent à des personnes aussi fatiguées par leurs fonctions. Si on leur ordonne de faire telle ou telle observation elle se fait moins bien que si cela vient de leur propre volonté.

Les écoles dont on pourrait tirer le plus grand parti sont, par exemple, les écoles polytechniques, normales, navale, etc, en France. On y entre, à un âge déterminé, après des examens qui classent les individus. Les élèves sont soumis au même régime de nourriture, et ensuite on les classe à la sortie. On pourrait donc constater si, dans des conditions égales, les plus habiles ont été les plus ou les moins robustes,

les blonds ou les bruns, les fumeurs ou les non fumeurs, les fils d'hommes instruits ou d'autres, etc. Il faudrait dans une de ces écoles qu'un médecin ou un des administrateurs eut l'idée de faire ces comparaisons, voilà le difficile, quoique deux années fussent suffisantes.

Votre article "Measurement of characters" a l'avantage de provoquer les réflexions et suscitera peut-être de bonnes observations. Je vous remercie de me l'avoir envoyé!

L'article de Mr Wolff sur les Juifs me paraît un peu trop flatteur à leur égard. Si certaines prescriptions du Talmud sont bonnes pour la santé, il me paraît bien douteux qu'elles soient suffisamment observées par les fidèles, comme le prétend l'auteur. Les injonctions des Juifs et des Musulmans sur les ablutions ne les ont pas rendus généralement propres. Ils sont moins propres que beaucoup de chrétiens auxquels la religion ordonne de mépriser leur corps, de penser surtout à l'âme et à la vie future. Je ne puis croire que la séparation des époux pendant des périodes aussi longues que celles dont parle Mr Wolff, soient réellement observées, surtout les mariages étant précoces, et si on les observe il doit y avoir un palliatif dans une polygamie plus ou moins admise. Les anciens Juifs étaient régulièrement polygames, ensuite les

servantes ont probablement servi de complément à la femme légitime et aujourd'hui que se passe-t-il chez les Israélites? Je voudrais d'autres témoignages que ceux de M. Wolff par exemple le Dr de médecins. Il y a beaucoup d'actrices juives et de modèles pour les peintres. La prévoyance habituelle chez la race et leurs mariages précoces ont probablement plus d'importance pour régler les mœurs que les prescriptions de la loi religieuse. L'article de M. Wolff m'a appris de cette bien des choses que j'ignorais et ses réflexions sont souvent très justes.

Vous avez bien raison de dire que les Juifs sont adaptés à la vie parasitaire. C'est une bonne définition des faits. Il faut dire qu'on les a forcés à cette vie exceptionnelle. Si les difficultés étaient complètement levées pour eux, ils changeraient peut-être. D'Israeli a été un homme d'état égal à beaucoup des plus distingués.

C'est un professeur de physiologie juif qui me proposait d'exécuter avec moi des expériences sur l'effet de l'alcoolisme, de la peur, etc, sur les produits dans les lapins ou les cobaïes ou les chiens. J'avoue que ces sortes d'expériences me répugnent, mais je crois qu'elles prouveraient ce que je suppose: que l'état momentané des parents influe sur les produits. On l'a vu maintes fois pour l'alcoolisme et je viens de lire dans une Revue très sérieuse (Revue d'hygiène, octobre 1884

les blonds ou les bruns, les fumeurs ou
non fumeurs, les fils d'hommes instruits
d'autres, etc. Il faudrait dans une de c
écoles qu'un médecin ou un des adminis
teurs eut l'idée de faire ces comparaiso
voilà le difficile, quoique deux années p
suffiraient.

Votre article "Measurement of chara
a l'avantage de provoquer les réflexion
et suscitera peut-être de bonnes observa
Je vous remercie de me l'avoir envoyé

L'article de Mr Wolff sur les Juifs m
paraît un peu trop flatteur à leur égard
Si certaines prescriptions du Talmud sont bo
pour la santé, il me paraît bien douteux
qu'elles soient suffisamment observées par l
fidèles, comme le prétend l'auteur. Les injo
des Juifs et des Musulmans sur les ablutions
les ont pas rendus généralement propres. Ils
moins propres que beaucoup de chrétiens au
quels la religion ordonne de mépriser leur c
de penser surtout à l'âme et à la vie futu
Je ne puis croire que la séparation des ép
pendant des périodes aussi longues que celle
dont parle Mr Wolff, soient réellement obse
surtout les mariages étant précoces, ainsi on
observe il doit y avoir un palliatif dans un
polygamie plus ou moins admise. Les ancien
Juifs étaient régulièrement polygames, ensuite la

servantes ont probablement servi de complément à la femme légitime et aujourd'hui que se passe-t-il chez les Israélites? Je voudrais d'autres témoignages que ceux de Mr Wolff par exemple le Dr de médecins. Il y a beaucoup d'actrices juives et de modèles pour les peintres. La prévoyance habituelle chez la race et leurs mariages précoces ont probablement plus d'importance pour régler les mœurs que les prescriptions de la loi religieuse. L'article de Mr Wolff m'a appris de reste bien des choses que j'ignorais et ses réflexions sont souvent très justes.

Vous avez bien raison de dire que les Juifs sont adaptés à la vie parasitaire. C'est une bonne destruction des poisons. Il faut dire qu'on les a forcés à cette vie exceptionnelle. Si les difficultés étaient complètement levées pour eux, ils changeraient peut-être. D'Israeli a été un homme d'état égal à beaucoup des plus distingués.

C'est un professeur de physiologie juif qui me proposait d'exécuter avec moi des expériences sur l'effet de l'alcoolisme, de la peur, etc, sur les produits dans les lapins ou les cobaïes ou les chiens. J'avoue que ces sortes d'expériences me répugnent, mais je crois qu'elles prouveraient ce que je suppose: que l'état momentané des parents influe sur les produits. On l'a vu maintes fois pour l'alcoolisme et je viens de lire dans une revue très sérieuse (Revue d'hygiène, Octobre 1884

p. 875) ce qui suit :

" Notre ami, le prof. Layet, de Bordeaux, avait à faire (au congrès d'hygiène de La Haye) un rapport sur la restriction volontaire de la natalité au point de vue de ses conséquences humanitaires et sociales". Selon lui : "Au point de vue moral, elle favorise l'illégitimité, les 9 départements qui ont le moins de naissances légitimes ont aussi le coefficient d'illégitimité le plus élevé .... L'accouplement incomplet d'une fonction pervertit les excitations au lieu de les éteindre - l'habitude de la restriction amène une perturbation du système nerveux des conjoints. Les enfants nés par erreur dans ces conditions se ressentent de la perturbation nerveuse qui a présidé à leur conception. Les aliénés sont plus nombreux dans les départements où les époux ont le moins d'enfants."

" M^r Lunier, de Paris, est convaincu de l'influence de la restriction volontaire sur le développement de l'état nerveux, particulièrement de l'hystérie et de la névralgie iléo-lombaire chez les femmes. Il en cite de nombreuses observations nouvelles. La suppression du droit d'aînesse fait que le mal s'étend comme une tache d'huile dans les campagnes"

Certainement dans les pays, comme la France, où la loi assure un partage égal entre les enfants, beaucoup de femmes et de maris ont peur d'une 3ème ou 4 ou 5ème grossesse. L'effet de cette peur sur certains enfants est probable. Me voici sur un sujet bien scabreux. Il vaut mieux s'arrêter et vous prier, mon cher Monsieur, de me croire toujours

votre très dévoué

Alph. de Candolle

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Genève 29 Sept. 1875

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/5

Mon cher Monsieur
Vous avez eu la bonté de m'envoyer votre savant article sur l'hérédité de la stature et je m'empresse de vous en remercier.

La taille (soit stature) est bien un des meilleurs caractères à étudier au point de vue de l'hérédité. Il est précis et d'une nature simple qui s'adapte à la statistique. Sur le continent nous avons une quantité de données relatives à la taille des jeunes gens appelés forcement au service militaire, mais rien sur l'hérédité de ce caractère. On a constaté souvent qu'un changement dans l'alimentation d'une population modifie la taille moyenne. Ainsi, dans les départements français, la stature s'est quelquefois élevée quand le maïs a été substitué au sarrasin ou au seigle. Inversement, le canton de Berne en Suisse, avait une belle population, forte et de taille plutôt élevée, mais les paysans se sont mis

Ce sera un travail bien intéressant.

Les publications de la société d'anthropologie anglaise n'arrivent pas ici. Auriez vous la bonté de me donner le titre et le prix du journal de cette société? Je trouverais peut-être moyen de le faire acheter par notre Société de Lecture, sorte d'institution littéraire qui reçoit déjà les publications françaises et allemandes sur l'anthropologie.

Recevez, mon cher Monsieur, l'assurance de mes sentiments très dévoués

Alphs de Candolle

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

10)

Genève 20 avril 1898

A. Mr

Answered May 9 sent me Cambridge Hand

Mon cher Monsieur

Il y a longtemps que j'aurais dû vous donner signe de vie en réponse à votre lettre obligeante du 26 mai dernier, mais l'âge m'a rendu très lent et m'empêche de faire des recherches d'aucun genre. J'aimerais pourtant bien savoir si vous avancez dans vos utiles publications, aux quelles je porterai toujours de l'intérêt.

Un de mes derniers efforts a été de rédiger pour la Société de Psychologie physiologique fondée à Paris une série de questions à poser sur l'hérédité. J'ai su, par Mr Taine, que la société a reçu des réponses

GALTON/3/3/3/5

RSITY COLLEGE L GALTON

UNIV PAPERS LONDON

et qu'on s'occupe de les utiliser.
Reste à savoir comment les personnes questionnées ont été à la hauteur d'impartialité et de jugement nécessaires.

La lecture de la correspondance de votre célèbre cousin Charles Darwin m'a causé beaucoup de plaisir. J'aurais bien aimé connaître les questions qu'il agitait avec Sir Joseph Hooker, en 1852-54, lorsque je m'occupais moi même de l'origine des espèces, au point de vue géographique, ce qui me conduisait en 1855 à constater l'ancienneté géologique des causes de la distribution actuelle. D'un autre côté cela m'aurait retardé dans les recherches et je n'aurais publié ma Géographie botanique raisonnée que plus tard, après peut-être l'ouvrage classique de Darwin (1859).

Il y a dans ses lettres des phrases caractéristiques et admirables sur les principes

et les méthodes dans les sciences d'observation. Je veux relire les trois volumes pour les extraire.

Quelle remarquable exposition des idées souveraines de l'auteur! On ne trouve rien de pareil dans Montaigne, Gibbon, Rousseau et autres qui ont écrit sur eux-mêmes trop tard et avec une impartialité souvent douteuse.

L'hiver a causé les désastres en Suisse comme ailleurs. Ici ce sont surtout des avalanches. Malgré cela nos lacs et nos Alpes auront toujours de l'attrait. Ne viendrez vous pas les visiter de nouveau cet été? Ce serait fort agréable pour votre très dévoué

Alph. de Candolle

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
8/3/3/5

11)

Genève 28 mai 1878
F.21c

Mon cher Monsieur

Je regrette d'apprendre par votre lettre du 8 mai que vous avez été si longtemps malade, mais heureusement vous ajoutez que maintenant votre santé est rétablie. Quant à moi les fatigues et le chagrin causés par la maladie et la mort de ma femme ont singulièrement affaibli mes facultés morales pendant que l'ouïe, la vue et la mémoire diminuaient par un effet naturel de l'âge. J'ai perdu mon ancienne activité et ma confiance dans le résultat possible des recherches. Il faut prendre mon parti de la retraite et ma dernière publication commencé à publier en 1824, ma carrière scientifique n'a pas duré moins de 64 ans. Mon ancien goût pour la statistique persiste encore, au moins lorsqu'il s'agit de suivre de bons travaux faits par d'autres. C'est donc avec plaisir que j'ai lu votre analyse des recherches de Mr Venn sur

la tête des étudiants de Cambridge. Il y a bien des comparaisons probantes à faire sur des jeunes gens de mêmes conditions, âges, etc, qui se conduisent diversement à l'université. Par exemple comparer les fumeurs intempérants, fumeurs modérés et non fumeurs, au double point de vue des succès intellectuels et des succès dans les exercices du corps. L'antagonisme entre les aptitudes intellectuelles et corporelles, si bien connues des Anciens, ressortirait sans doute d'une comparaison statistique dans les écoles.

A propos d'exercices je vous recommande un volume qui vient de paraître dans la collection internationale d'Alcan (autrefois Alglave à Paris. C'est Dr F. Lagrange Physiologie des exercices du corps. 1 vol in-8°, Paris 1888. Prix 6 fr. L'auteur traite la physiologie des muscles, nerfs etc, d'une manière très savante et vraie à ce qu'il me paraît, et j'ai remarqué une distinction dont on ne parle pas encore, c'est que certains exercices fatiguent à la fois la tête et le corps, tandis que d'autres reposent le cerveau tout en employant les muscles. Par conséquent les premiers (escrime

par exemple) contribuent au surmenage dont on se plaint dans les écoles, tandis que les autres (la marche par exemple) n'ont aucun inconvénients et offrent beaucoup d'avantages physiques. Il faut recommander les exercices qui exigent une tension d'esprit aux élèves, et les exercices bêtes aux étudiants qui veulent travailler et aux commis, employés etc, dont la tête est fatiguée.

J'ai connu deux savants distingués qui n'étaient pas bien véridiques, mais je dois dire qu'ils ne mentaient pas sur des affaires scientifiques, comme leurs expériences ou observations. C'était plutôt pour rendre service à un ami, ou pour nuire à quelqu'un qu'ils n'aimaient pas. Tous deux aimaient la vie politique. Les hommes de science manquent par fois de force morale et il en résulte une disposition à cacher certaines opinions plutôt qu'à mentir. En général cependant j'estime que l'habitude des recherches rend véridique.

Si vous passez à Genève cet été je serai très heureux de vous voir. Dans le moment des grandes chaleurs j'irai peut-être dans les Montagnes, mais ce ne serait ni loin ni pour longtemps.

Recevez, mon cher Monsieur, l'assurance de mes sentiments les plus dévoués

Alph. de Candolle

Je demanderai l'ouvrage du Dr Vogel. J'ai lu avec intérêt Mathématique pour la connaissance de mes amis. Calculateurs

De Candolle Genève 15 Sept. 1889
f. 23c

Mon cher Monsieur
Je viens de lire dans le Times vos observations sur les examens du Civil service et j'ai lu également des articles dans le Nineteenth century sur le même sujet, qui m'intéresse particulièrement. Voici pourquoi: J'ai un petit fils, né en Angleterre, sorti avec honneur du collège de Rugby, et qui se fatigue depuis 18 mois à préparer un examen du Civil service, qui (helas!) n'est jamais annoncé et sera peut-être encore renvoyé longtemps. Je n'ignore pas qu'on veut réduire le nombre des places et qu'on ajourne les examens à cause de cela. Mais il serait pourtant équitable d'avoir égard aux jeunes gens qui se préparent. Ce serait fort plaisant. En France il y a des examens pour l'entrée dans les écoles polytechnique, militaire, etc, et les examens ont lieu à des époques fixes chaque année. Ainsi au bout

GALTON/3/3/3/5

UNIVERSITY COLLEGE LONDON
GALTON

De quelques mois un jeune homme sait s'il est admis ou s'il doit viser à une autre carrière.

Vos reflexions sur les conditions physiques à stipuler dans les examens sont de toute justesse quand il s'agit du service militaire ou du service indien, et je crois que dans ces cas on a déjà pris des mesures convenables.

Quant au civil service proprement dit je remarque un défaut capital. On exige les mêmes connaissances pour des services d'une nature très différente. Ainsi, pour des occupations sédentaires ou actives, pour des services d'ingénieur, de calculateur etc, qui demandent des mathématiques, ou des services diplomatiques ou littéraires, qui demandent des connaissances de langues vivantes et d'histoire, on oblige les candidats à se bourrer la tête également de grec, latin, mathématiques, histoire, économie politique etc, etc. La moitié des objets ne servira à rien dans chaque carrière. C'est le système Chinois, dans le quel chaque lettré

et supposé apte à tout et utile dans toute carrière.

Une première réforme désirable serait d'avoir deux catégories d'examens pour les jeunes gens de la division dite supérieure. Pour les uns on exigerait des connaissances spécialement littéraires et pour les autres spécialement mathématiques.

Les conditions physiques ne sont pas de même importance dans tous les cas. Pour inspecter des travaux publics une certaine force musculaire, une taille élevée, une bonne vue, sont des avantages. Mais pour les métiers sédentaires de la poste, de divers bureaux d'administration et dans la diplomatie c'est assez indifférent. Les gens un peu faibles et sédentaires par nature valent mieux dans un bureau que ceux passionnés de sports. Le plus habile diplomate du XIX^e^ siècle a été Talleyrand, qui était boiteux et myope.

Le vrai principe devrait être d'obtenir des hommes spéciaux : the right man in the right place. On s'en éloigne

UNIVERSITY COLLEGE LONDON GALTON PAPERS

dans le système actuel anglais du civil service. C'est peut-être la conséquence des idées fausses de la démocratie actuelle qui juge tous les hommes égaux et propres à tout, ce qui conduit à une médiocrité générale.

Je pense avec plaisir à la continuation de vos recherches. Votre persévérance sera récompensée et déjà on sait à quel point elle est méritoire.

Recevez, mon cher Monsieur, l'assurance de mes sentiments très distingués

Alph. de Candolle

Cour St Pierre 3
à Genève.

P.S. Si vous connaissez un emploi dans lequel il soit avantageux de parler et écrire également bien le français et l'anglais, de savoir assez l'allemand et d'avoir des connaissances étendues dans les sciences historiques, je pourrai vous recommander mon petit-fils, âgé de 21 ans. Il rentre dans vos conditions de familles intellectuelles, par trois générations du côté paternel et autant du côté maternel.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
333/5

Genève 23 Juin 1890.

F.25

Mon cher Monsieur

Je ne vous ai pas encore remercié des informations que vous avez bien voulu me donner au sujet du Civil Service et des examens renvoyés indéfiniment. Mon petit fils a dû n'y plus penser, après avoir perdu 18 mois à s'y préparer. Il est allé en Allemagne apprendre le droit.

Ne pouvant plus travailler pour la Science, je m'amuse à observer le déclin de mes facultés, et j'ai cru un moment pouvoir ajouter quelque chose à vos recherches sur l'influence relative de Nature and Nurture. Je me disais: des facultés qui se maintiennent le mieux chez moi, à 84 ans, sont-elles de naissance (nature) ou le résultat d'un exercice fréquent? Il se trouve qu'elles

sont à la fois un effet de naissance et d'un usage continuel. Inversement les facultés devenues très faibles étaient faibles à l'origine et n'ont guères été cultivées pendant ma vie. Ainsi : j'ai conservé la faculté de marcher mieux que beaucoup de vieillards. Or, mon père avait été un grand marcheur dans sa jeunesse et j'ai toujours aimé la marche ; j'ai fait autrefois de fortes marches dans les montagnes, c'est le seul exercice que j'ai cultivé.

J'ai hérité de ma mère une mémoire faible. Maintenant elle est très faible. Or, j'ai eu toujours de la répugnance à apprendre par cœur et j'ai cherché toujours à remplacer la mémoire par des notes.

Ma conclusion est que la plupart des hommes font les choses aux quelles ils se sentent naturellement propres, et négligent celles pour les quelles ils ne sont pas bien doués. L'usage résulte d'une disposition

naturelle et le nouveau d'une faiblesse aussi de nature. Voilà qui est bien contraire à ce que pensent les instituteurs, les professeurs et beaucoup de parents. Ils veulent forcer les jeunes gens et les jeunes filles à faire ce qu'ils n'aiment pas, tandis que la jeunesse aimerait faire ce pourquoi chacun se sent bien doué. Il y a ainsi beaucoup de temps et de forces perdus; mais la jeunesse échappe bientôt à la contrainte, et alors on voit les jeunes gens qui ne sont pas calculateurs abandonner les mathématiques, les jeunes demoiselles qui ne sont pas naturellement musiciennes fermer leurs pianos, etc. Les pédagogues veulent faire tous les individus semblables et les individus voudraient être dissemblables, ce qui serait un grand avantage pour la société en général.

Avez vous été informé que les naturalistes ont fait depuis deux ou trois ~~grand~~ ans de grands progrès sur le procédé de la fécondation dans les deux règnes? Ce n'est plus le protoplasma qui joue le principal

rôle, mais les noyaux (nuclei) mâles
et femelles. Les noyaux s'accouplent.
Ils renferment des filaments, en nombre
déterminé, dont les positions changent
d'une manière curieuse. Vous pourrez
juger de ces découvertes en regardant
les planches d'un mémoire de Mr Guignard,
dans le Bulletin de la Société Botanique
de France de 1889, qui se trouve aussi
dans les Actes du congrès de Botanique
à Paris en 1889. Les zoologistes ont
observé les mêmes faits.

Recevez, je vous prie, mon cher
Monsieur, l'assurance de mes sentiments
les plus dévoués

Alph. de Candolle

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Geneva December 13th 1911

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/5

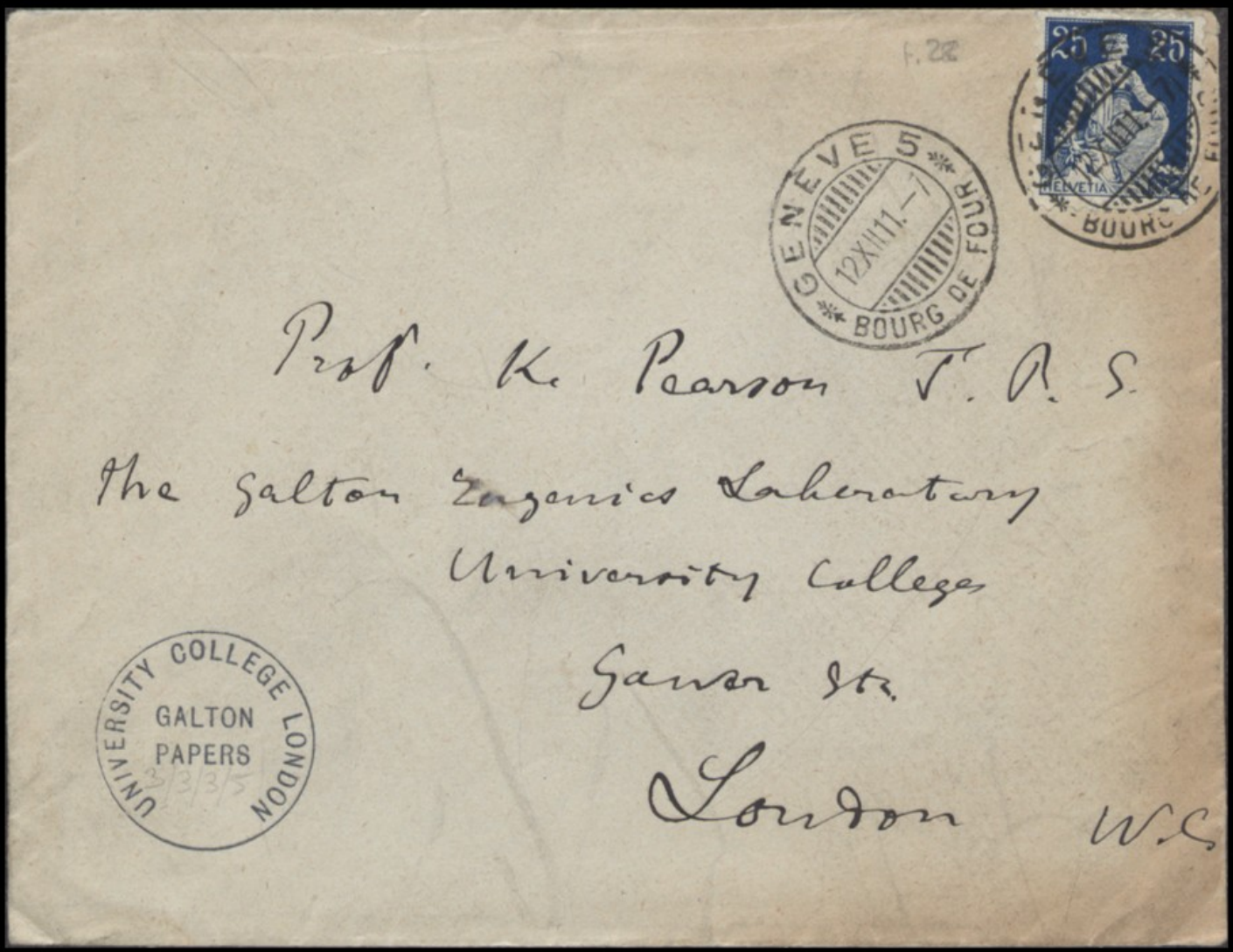
Dear Sir

I have safely received the 14 letters of Francis Galton which I had lent to you, together with the copies of those of my father for which I thank you very much. I read them with a very great pleasure, thinking that I was again listening to him.

You are quite at liberty to publish any extracts of these letters, you may think of sufficient interest to the public. Only I strongly advise you to

have them printed from the originals, for the typed copies are indeed, as you say, far from satisfactory.

Believe me, dear Prof. Pearson,
to be
Yours very faithfully
C. de Candolle


F. 28
GENEVE 5
12.XII.11.—7
BOURG DE FOUR
25 25
HELVETIA
Prof. K. Pearson F. R. S.
The Galton Eugenics Laboratory
University College
Gower St.
London W.C.
UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

COLLEGE LONDON
GALTON
PAPERS
3/3/3/6

S J. Calver

f1r

205 Albion Road
Stoke Newington
London

March 29th 1891

To National Liberal Club.

Sir Douglas Galton,

Sir, In your work on "Hereditary Genius" you express a wish to know something more of the collateral descendants of Edward Gilpin - I can only give you information about that branch of the family who left the ancestral home at Kentmere turned quaker and settled at Coalbrookdale I belong to that branch & my grandfather James Gilpin settled at Bristol at the beginning of

the century married Mary the eldest
sister of the late Joseph Strutt
and had 15 children ten of whom
lived to be 50 or older.
The eldest son was the late
Charles Gilpin many years
senior member for Northampton
and a member of Lord
Palmerston's first
administration though
not a member of the
cabinet. I am proud of the
descendants of Bernard
Gilpin's family were divided
into saints and sinners
and were weighed in

impartial scales the poor saints would be made to kick the beam. but it is a noticeable fact that of my aunts two are recorded ministers in the County of Hinds, one has for the past 40 years been a public institution in Liverpool as a general directress of philanthropic undertakings and as no mean preacher and a sonnetteer is a missionary in Madagascar where she is a leading educational authority One of my sisters died at

Ludo at the age of 40 very
suddenly - She had neither
money nor position yet I
believe I do not exaggerate
when I say all Leeds was in
mourning for her, and this
through sheer force of character
My youngest and only surviving
brother is Inspector of Schools
and practically minister of
education in Jamaica but
he has no leaning to mysticism
his being a cold clear
Kenchant intellect -
To leave my immediate family
who are only Gilpins through
our mother and go back
to her family - The sister
next in age to her died
fifty years ago at the age
of 24 or 25, leaving memories

behind her which from a purely religious or spiritual point of view will rival those of your relative (aunt?) Mrs. Schimmel penninck though my aunts were immeasurably inferior to hers intellectually It is just possible you may be familiar with my name as the author of a long series of letters to the "Times" newspaper from France during the war 1870-1 of "The Shores and Cities of the Rodan See" of an article on "Siena"

LEGE LONDON

F.34

in the "Contemporary"
March 1883, and of letters
in the "Christian World"
from Switzerland Italy
Germany. Jamaica
the United States Canada
Scandinavia &c.
I consider there is a strong
family likeness in my
uncles and aunts
to the received portrait
of Bernard Gilpin
Dear Sir, Yours very faithfully
Sam[uel] Fox Tapper

f.4

ENGLAND AND THE HORRORS

OF THE

OPIUM TRAFFIC.

A

PUBLIC MEETING

Upon the above question, will be held at the

FRIENDS' MEETING HOUSE

PARK STREET, STOKE NEWINGTON,

On the Evening of April 1st, 1891.

Chair to be taken at 7.30 p.m., by

WILLIAM C. ALLEN, Esq.

The Rev. Prebendary Shelford, M.A., Rev. W. Spensley Rev. C. Fleming Williams, Rev. Crighton Alexander Rev. T. Vincent Tymms, Rev. Joseph Johnson, Primitive Methodist Superintendent, Rev. C. F. Nightingale, and Rev. Hermann Gollancz, M.A., J. Fife Stewart, Esq., R. Hingston Fox, Esq., M.D., Edward R. Allen, Esq., and other gentlemen have promised to attend.

AN ADDRESS will be delivered by

SAMUEL JAMES CAPPER, ESQ.

And a Resolution will be submitted in support of Sir Joseph W. Pease's motion for the suppression of the Traffic, which will come before the House of Commons upon the 10th April next.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS
3/3/3/6

F.6

Francis Galton Esq. F.R.S.
42 Rutland Gate
London SW

S.F. Galton
Esq.
Rutland Gate





f.10
UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/7

8 Old Cavendish St.
Feb. 21. 1873

My dear Sir

I received your note & Mendoza cheque for which I thank you on last evening, and enclose an receipt for the same. I shall be glad to hear the result of a few more trials. Have had all the tubes observed remaining at University College, put in the place & covered over as before

Here as numbers for parties.
If at any time they are
wanted and I should be
absent, either of my porters
Old John, or Plume knows
where they are would get at
them. With thanks, believe
me Yours very truly
Charles J. Castle

Francis Galton Esq

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

F.2 219/2

8 Old Cavendish St W.
July 21. 1873

Received of Francis Galton Esqre
eight pounds, eight shillings
for expenses attending to this
date



Charles E. Carter.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/8

St. John's College.
Cambridge, May 6th

Dear Mr. Galton:

Here I am once more. I shall be in town on Wednesday, and should be glad to call if you have half an hour to spare. I do not want to trouble you overmuch, but I should like your cooperation in definitely arranging a psychological and, if possible anthropological, laboratory here. Venn, Ward and others are interested, and I think something might be done. I should also like your further advice concerning a "Practical Psychology" and a plan for a portable apparatus to measure the reaction-time.

Respectfully and Sincerely Yours.

J. McK. Cattell.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/8

St. John's College.
Cambridge, May 8th.
[1888]

Dear Mr. Galton:

I shall be very glad to come Wed. morning as you appoint. I must however say 11.30, as my train does not arrive at Liverpool St. until after 10.

I shall be most interested in your laboratory. It is my present plan to stay here until Xmas - to try and arrange a laboratory and to lecture during the autumn. Then I shall be married and return home, but could come back here the following autumn, if it seemed worth the while.

Looking forward to much advantage and pleasure in seeing you.

Sincerely Yours.
J. McK. Cattell.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/5

ST JOHN'S COLLEGE,
CAMBRIDGE.

May 24th

Dear Mr. Galton:

Enclosed is the proposed chapter on "Hearing" and first of the book. My plan would be to follow it with the other senses, sight, taste and smell, Touch and temperature, organic and motor sensation. Then chapters on the measurement of mental processes — time, intensity and complexity, and organs you see to the units of physics, time, mass and extension. Then come treatment of attention, memory, association of ideas, mental imagery etc.

But if you will cooperate

with me I am ready to alter the plan as we may arrange. The treatment of topics might be made fuller so as to give more definite instructions, a description of apparatus, or even of the results to be expected and inferences to be drawn from them. In any case I had proposed to give full references. Then the plan might be enlarged, so as to include anthropological measurements etc.

I shall be very glad if you will consent to prepare the book with me, and will, as far as possible relieve you of routine work. Some such book is urgently needed. It does not exist in any language.

Sincerely Yours.

J. McK. Cattell.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS
3/3/3/8

St. John's College,
Cambridge, May 25th.

Dear Mr. Galton:

I shall always be very thankful to you for your kindness and trouble in looking after my paper. I thank you also for having invited me to call on you. I look to be in London on Tues and Wed. June 7th and 8th. The week after that I am going to the Continent, but shall again pass through England on my way home the middle of August.

I have received to review an "Elements of Physiological Psychology" by Prof. Ladd of Yale College. It follows the lines of Prof. Wundt's book, and for most purposes is as good or better. Could any measurements be made on the North American Indians collected at the "Wild West Show"?

Respectfully Yours
J. M. Cattell.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/6

St JOHN'S COLLEGE,
CAMBRIDGE.

May 31st '88.

Dear Mr. Galton:

I thank you very much for your letter and the annotations. I shall be most grateful for your cooperation in any way you care to give it. It would probably be best for the future of the work if it should be by <u>you</u> and by <u>me</u>. If you are not able to give as much time to it as I or do not wish to accept full responsability, our respective shares in the preparation might be stated in a note. In this case, i.e. if it is published as a joint work, I think Wood

would be willing to write a preface. He at present has your letter and the MS.

I expect to be in London June 14th - 17th, and could see you if it seems desirable.

I shall lecture here during the Autumn, and at home afterward, and shall in both cases have practical work. My plan would be to get the first draught ready during the summer, and then correct and complete it while the practical work is being carried on.

Sincerely Yours,

J. McK. Cattell.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS
3/3/3/8

St JOHN'S COLLEGE,
CAMBRIDGE.

June 12th

Dear Mr. Galton:

Ward gave me back the MS. today - he has hitherto been busy examining. He agrees with you in thinking it should be made fuller so as to give apparatus and more explicit directions, and I shall rewrite it with this in view. He thinks it would be a good thing if you will prepare the work with me, and I shall be very glad if you will. If you do not care to do this, I should like it very much if you would contribute a chapter on anthropometric determinations.

If you care to see me about this or other matters, I can call or meet you at South Kensington the first of next week. My address until Tuesday will be care S. Owen, Esq., The Yews, Greenwich Park, S.E.

Sincerely Yours,

J. McK. Cattell.

I shall probably be on the continent June 20 - July 4th, and then in Cambridge until Sept.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/8

Greenwich Park,
July 7th '88.

Dear Mr. Galton:

I am now back from my two weeks tramp in Brittany.

I think a chapter containing directions for making the anthropometric determinations you recommend, would be an important part of the proposed work, and if contributed by you yourself would add much to its value. I can understand, however, that you might like to see part of my text before you consent - this I shall try to prepare during the summer.

If you come to see me at present in this or any other matter, I can call on Tues. or Wed. before two. My address here is c/o S. Owen Esq. The Lewis. at Cambridge during the summer as before. St. John's College.

Sincerely Yours.
J. McK. Cattell.

Dr. J. M. Cattell f.11a

Grosvenor Mansion, Bournemouth, W.

Sept. 10th '88.

Dear Mr. Galton:

Since I last saw you I have been working at the proposed Experimental Psychology. Enclosed is a plan for a table of contents — I shall be glad to have any suggestions. I have rewritten the chapter on Hearing with regard to your suggestions and Dr. Ward's. The directions are now much more detailed than they were before. I should be glad to have you look at it again, but it may be better to wait until I have used it with a class at Cambridge during Oct. I am looking to your chapter as the most valuable part of the work.

I have spoken of your anthro-

f.11b

Laboratory Manual of Experimental Psychology

		circa pp
	Introduction	
I.	Physical and Physiological Data	10
II.	Sight	40
III.	Hearing	20
IV.	Taste and Smell	5
V.	Touch and Temperature	5
VI.	Common and Muscular Sensation	5
VII.	Movement	5
VIII.	Intensity of Mental Processes	5
IX.	Time " "	20
X.	Complexity " " (inc. memory)	10
XI.	Space and Time	10
XII.	The Train of Ideas	10

—

Anthropometry

? { Mind in the Lower Animals
Development of the Child's Mind
Abnormal States of Consciousness

F.82

metric laboratory to Prof. Robertson, and he thinks it would be well to call attention to it in Mind. I might write a notice and short description, if you approve.

I am now working at experiments on the association of ideas. and with Mrs. Bryant hope to have a paper on the subject in the Jan. Mind. I hope to learn more about the experiments you told me of on imagination.

I hope I may be allowed to see you during the autumn. I stay here until the 17th, after which my address will be St. John's Col.

Sincerely Yours,

J. McK. Cattell.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/38

Cattell

F.13

answered Feb 13/89

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/8

Southport, Jan. 1. 89.

Dear Mr. Galton:

We are now about to sail for America. I had hoped to see you before leaving, but we have not been in London since our marriage a month ago.

I am much obliged for the permission to make use of the work you propose writing. It would be all the better for my work if you would yourself compile the chapter, after having seen the MS (i.e. of mine) or proof of the rest - but there is time enough as my share will not be finished for a year or two. I want to go over the ground with classes as thoroughly as possible before publishing.

Shortly before leaving Cambridge
I bought a set of your apparatus
for testing muscular sense. I
did not find it quite suitable for
psychological purposes, and Mr.
Darwin is going to make another
set - but it would be well if we
could arrange together the best form.
In the set I tested the smallest
differences were not small enough
for muscular sense & ~~not~~ the
greatest distances not great enough
for sense of pressure. The use
of three weights makes the test
ambiguous. for the subject may
compare adjacent weights, or may
compare the lightest with the heaviest
and place the remainning between.
Then of 30 weights only 11 are
different, and if the apparatus is
to be used abroad grammes would
be better than grains.

I had arranged with Prof. Robertson to write for Mind a notice of the S-Kensington laboratory. If you approve of it, and have any data you could give or lend me I should be glad. My address will be University of Pennsylvania, Philadelphia, Pa.

I hope to be in England again in three years, and to see you then. I look with great satisfaction on the two years I have had in England and have much to thank to your kindness.

Sincerely Yours.

J. McK. Cattell.

15

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/8

replied Nov 13/89

University of Pennsylvania
Philadelphia, Pa.
Oct. 22. 89.

Dear Mr. Galton:

I have to thank you much for the letter you wrote me last summer.

The proposed "Laboratory manual of Experimental Psychology" has made some progress. I hope to complete it this year, as I go over the ground with my class. I give them the MS, and can thus see how well its instructions are understood. I shall be very glad to make use of the work you are preparing on the S. K. laboratory, but I should like it still better, if after seeing my proof, you would add to it directions for making such bodily tests as are

of psychological interest. In any case I should be thankful, if you would look through the proof. The book is a first attempt both for me and of its sort, and I want it to be as good as may be.

Resuming on your kindness in the past, I shall mail you with this a paper on "Mental Tests and Measurements." You will, I think, be glad to see that we are following in America your advice and example. But I send you the paper, especially, hoping that the ten tests and the methods of making them may have your approval, or may be modified so as to obtain it. There is much need of cooperation in psychological work. If the tests have your approval, I shall send the

proof to Prof. Wundt. If you have time, and think it worth while, would you make any corrections and alterations which seem to you advisable, and forward the MS to Prof. Robertson? Or if you find the MS illegible, or are too busy just now, would you send it on to Prof. Robertson; and ask him to send you a proof? – if he accepts it.

The outlook for psychology is, I think, more hopeful in America than in England. At this university we have made something of a start. We have good laboratory rooms, and apparatus costing $2000. And what is still more important, we have students, both elementary and advanced. I hope we shall

F.J.S.

do some research work this year. If you are interested in it, I could send you an account of what we are doing.

I hope I am not troubling you unduly in sending you this MS.

With kind regards and great respect,

Sincerely Yours,

J. McK. Cattell.

UNIVERSITY COLLEGE GALTON PAPERS LONDON

617

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/3

F.20c

University of Pennsylvania.

Philadelphia Pa. Jan. 26. 1890

Dear Mr Galton:

You will think me negligent in having delayed so long to answer your letter, and thank you for your great kindness as regards the MS. I have only just heard from Prof. Robertson, accepting the MS., and was waiting until I knew its fate. He will, I think, send you a copy of the proof, and if you will write some comment, I shall be very glad. If the proposed tests and methods do not meet with your approval, I hope they can be modified so as to obtain it. The tests are much the same as you have used. The pressure causing pain, is, I believe, a new test, but it seems to be a constant of some interest, and is easy to determine. The two tests about which I am in the most doubt are sensation-areas, and the least noticeable dofference in weight, as I find it difficult to get accurate results in a short time. Do you not think the metric system should be used in such determinations?

Perhaps you would be willing to call attention to several tests made in the S. Kensington Laboratory, and not included in this shorter series, such as size of head, sharpness of vision, highest audible note etc.

I am much interested in your suggestions concerning assigning

ections. I am particularly interested in those measurements in which one mental quantity is the function of another. In mental time , complexity and intensity, I believe we have quantities analagous to physical time, space and density; which may in like manner be measured and subjected to mathematical treatment.

Respectfully and Sincerely Yours,

J. McK. Cattell.

received Nov 5/1901

F.21

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/8

THE POPULAR SCIENCE MONTHLY
EDITORIAL DEPARTMENT

Garrison-on-Hudson, N.Y. October 26, 1901

Cattell

Dear Dr. Galton:-

Would you not consent to publish in THE POPULAR SCIENCE MONTHLY the second annual Huxley Lecture which I understand you are about to give before the Anthropological Institute? If you would do so it could be published in England as well as in America, which was done in the case of the lecture by Lord Avebury last year.

Very truly yours,

J. McK. Cattell

Dr. Francis Galton,
London

f.22

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/5

THE POPULAR SCIENCE MONTHLY
EDITORIAL DEPARTMENT

Garrison-on-Hudson, N.Y. November 18, 1901

Dear Dr. Galton:-

On receiving your letter I cabled asking you to send a copy of your address to THE POPULAR SCIENCE MONTHLY. I have read the address in Nature with the greatest interest, and much regret that we were unable to print it from an advance proof. The circulation of the MONTHLY is larger than that of any other purely scientific journal. It goes to 1,500 American libraries, and your results would be brought before an audience as likely as any to be sympathetic. We can not reprint the article from Nature, but if you can send me a special copy, so that it can be printed as a contribution from you, or authorize me to use the copy in Nature, we shall be glad to publish it.

I shall be under great obligations to you if you are able to reply at once. Please address me at Garrison-on-Hudson, N.Y.

With kind regards and much appreciation of the kindness you showed me when I was in England,

Very truly yours,

J. McKeen Cattell

Dr. Francis Galton,
London

Dictated. Signed in Mr. Cattell's absence

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/8
F.23

THE POPULAR SCIENCE MONTHLY
EDITORIAL DEPARTMENT

Garrison-on-Hudson, N.Y. December 21, 1901

Dear Mr. Galton:-

I am much indebted to you for permitting us to publish your lecture in the POPULAR SCIENCE MONTHLY. I trust that you will keep the MONTHLY in mind in case you have an article or lecture that might to advantage be published in America.

Please let me tell you how much I appreciate the amount of my own indebtedness and that of other psychologists to your pioneer work. My own work on Association, on individual differences and in other directions has been very directly based on yours.

Have you seen, for example, Dr. Lay's Doctor's thesis on 'Mental Imagery' and Dr. Wissler's on 'The Correlation of Mental and Physical Traits'?

Veryt truly yours,

J. McK. Cattell

Francis Galton Esq.,
London

F 1c

RIVISTA ITALIANA DI SOCIOLOGIA

ROMA, 42 Piazza Poli March, 21 1897

CONSIGLIO DIRETTIVO

S. COGNETTI DE MARTIIS — G. SERGI
A. BOSCO — V. TANGORRA
G. CAVAGLIERI — E. TEDESCHI

Declined

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS
3/3/3/9

Dear Sir,

It has been founded in Rome a new Review devoted to Sociology and Social Sciences, the "Rivista italiana di Sociologia". Among the editors are two of our more eminent professors, M^r. Sergi, professor of anthropology in the University of Rome, and M^r. Cognetti De Martiis, professor of political economy in the University of Turin.

I have the honour of sending you the programma of the Review. My friends in the editorship of the

Review and myself, we shall be
much obliged if you will give
a paper to the Review. Many
learned scholars in Italy and abroad
have kindly promised to be con-
tributors of the Rivista italiana
di Sociologia. We shall be very
glad to have among them you
also, whose name is well known
in our country by your valuable works
of anthropology and particulary by your
perspicuous publications concerning the
genius and the theory of inheritance.

You could send your paper
in english: we will charge of a truly
and exact translation of it.

Wishing to announce the papers that will be published in the first numbers of the Rivista italiana we should like to know the title of your article as soon as possible, also before you can send it.

I remain, Sir, with my best regards

Your respectfully

Guido Cavaglieri

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

F.3c

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/9

RIVISTA ITALIANA DI SOCIOLOGIA

Quanto prima uscirà in Roma la **Rivista Italiana di Sociologia.**

Una rivista, a qualunque disciplina appartenga, ha il dovere di giustificare lo scopo che si propone, perchè sarebbe causa di una inutile dispersione di forze se non avesse una meta particolare da raggiungere.

Questo dovere è anche maggiore per una rivista di sociologia, la quale, nello stato presente degli studi sociologici, sembra, più di ogni altra rassegna scientifica, aperta al dilettantesimo ed a scritti troppo vaghi ed indeterminati. La sociologia infatti, sebbene abbia avuto ed abbia insigni cultori, non è ancora chiaramente delineata nei suoi principii; e spesso, sotto il suo nome, appaiono lavori, che — per poca profondità di indagini, o per affrettato spirito di sintesi, o per l'abuso di comparazioni artificiose tra fenomeni sociali e fenomeni biologici — si riducono a sterili generalità, piuttosto che consistere in un esame accurato dei fatti e nella deduzione prudente delle leggi.

Una rivista di sociologia, quindi, per riuscire in qualche modo utile e portare un efficace contributo alla scienza sociologica, deve prefiggersi un fine rispondente ai bisogni attuali di questa scienza, tenerla nei suoi limiti naturali e diffonderne l'esatta conoscenza; nè deve occuparsi di tutti i fatti o argomenti di indole sociale, che, per essere troppo particolari, non entrano nel dominio della sociologia, nè invadere e mietere l'intero campo di altre scienze.

A tali concetti la **Rivista Italiana di Sociologia** informerà l'opera sua.

Essa cercherà di contribuire con ricerche originali allo studio degli istituti e dei fenomeni sociali, descrivendone gli inizi e seguendone l'evoluzione presso le genti primitive e le nazioni più civili.

La *Rivista*, inoltre, si proporrà di svolgere il lato sociologico delle singole scienze sociali ed in ispecie di quelle loro dottrine, che

direttamente o indirettamente concorrono a rischiarare il processo di formazione e di sviluppo della società: si verranno così a meglio dimostrare i legami delle varie discipline, che hanno per oggetto comune la società umana, con una scienza più generale e più vasta; il che favorirà il progresso così della sociologia come di quelle diverse scienze.

La *Rivista*, infine, avrà di mira quello che è l'intento supremo della sociologia, vale a dire la coordinazione dei risultati sin qui ottenuti dalle indagini sociologiche, in modo da giungere ad una sintesi scientifica che spieghi le leggi dell'evoluzione sociale.

Per attuare questo programma la **Rivista Italiana di Sociologia** conterrà memorie e discussioni riguardanti la sociologia propriamente detta; e, a meglio approfondire le indagini sulle istituzioni sociali, ricorrerà a cultori di discipline etnografiche, filologiche e storiche ed anche a esploratori e viaggiatori, che possano con speciale competenza illustrare costumi ed usanze di determinate razze o popolazioni. La *Rivista* conterrà pure studi di psicologia dei popoli, di economia, di etica sociale, di storia della cultura, di demografia; si interesserà, in una parola, di quanto sia diligente esame dell'uomo nella vita collettiva, dalle forme rudimentali di associazione a quelle più avanzate, dalle prime manifestazioni intellettuali, economiche, politiche e morali a quelle più evolute e più progredite.

La **Rivista Italiana di Sociologia** seguirà il suo cammino *con piena indipendenza da ogni partito e da ogni scuola*, guidata soltanto dall'ideale della più larga libertà scientifica. Lascierà che i singoli collaboratori sostengano idee e teorie proprie; ma esigerà da essi *l'applicazione rigorosa del metodo positivo* e vorrà che ricerche e discussioni abbiano un carattere essenzialmente scientifico. La *Rivista* darà quindi il bando a quelli scritti che si perdono in affermazioni aprioristiche od in formule vuote, e sarà piuttosto disposta ad accettare ricerche modeste, ma pensate, le quali tentino di chiarire punti ancora oscuri o di risolvere problemi ancora incerti o non bene posti.

La *Rivista* terrà informati i suoi lettori del movimento scientifico in Italia ed all'estero. La rassegna delle pubblicazioni, affinchè riesca chiara e di sicuro vantaggio agli studiosi, sarà affidata a cultori delle singole materie ai quali si chiederà un giudizio obbiettivo

e sereno e di rifuggire da ogni biasimo o lode per preconcetti o riguardi personali.

Ogni numero della **Rivista Italiana di Sociologia** conterrà:

1.° Articoli originali scelti secondo le idee esposte;

2.° Brevi note e comunicazioni su temi e questioni più vivamente discussi;

3.° Una larga rassegna delle pubblicazioni italiane e straniere — così di libri, come di riviste o di atti accademici —, le quali riguardino la sociologia e le scienze, che hanno attinenze con essa;

4.° Una cronaca con notizie riguardanti gli studi sociali, con il sommario delle principali riviste e con l'elenco delle pubblicazioni recenti di maggiore interesse.

Il compito prefissoci non è lieve, ma ci rendono fiduciosi della riuscita il bisogno che crediamo generalmente sentito dai cultori delle diverse scienze sociali di far convergere le loro particolari indagini ad un più alto fine, l'amor nostro per gli studi sociologici e la tradizione dello spirito pubblico italiano, per indole e per classici ricordi inclinato ad amare ed incoraggiare ogni disciplina che miri al progresso intellettuale e civile.

Roma, *Marzo 1897.*

Salvatore Cognetti de Martiis — Giuseppe Sergi

Augusto Bosco — Vincenzo Tangorra

Guido Cavaglieri — Enrico Tedeschi

Scansano, Tip. degli Olmi

F1

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/10

Dear Galton

Best Congratulations on the Medal. I think you have well deserved it. We were much interested by the Report of your Speech. I did not know of your Connexion with our new Master:

We had the pleasure of making acquaintance
both him yesterday evening at the Durands.
Both united kind remembrances to Mrs Galton
believe me, dear Galton, yours very sincerely
A. Cayley

Cambridge 3rd Dec 1886

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/11

Cozzlet

2 File

"Neva"
Westgate-on-Sea.
June 18th 1904.

Dear Sir,

I remember reading something in a Russian newspaper that a Mr. Reshetnikoff encouraged marriages of well-built good looking peasant men & women by giving dowries etc, and that in some cases fine children were the result of such marriages.

Breeding, I think,
did not go beyond
the encouragement to
marry.'

Russian newspapers
are, as a rule, unreada-
ble and full of
humbug. At present
the correspondent of the
"Novoe Vremya" at Star-
ropol or some place
in the Caucasus writes

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

many letters about a girl who is in a trance, prophecies etc and lives in his house!

The local police-master examined the case and wrote to other newspapers to say it was all nonsense. I read his letter.

As regards the Restrictikoff business, I would suggest your writing (& mentioning my name)

to a Scotch doctor who has a Koumis (see page 81 of enclosed A.R.L.S issue N° 39) establishment in the Steppes. His address is Dr Carrick, Orenburg, Russia. He would probably know the truth about the matter.(x)—

If you care to join the A.R.L.S. & to receive our publications I will be happy to have you elected. Always at your service. Truly Yours

Ed. A. Cazalet

(x) Dr Carrick has not yet gone to H.P.B. at Ostende — this season to his great regret.

F3

Daily Chronicle June 2/024.

A BEAUTY FARM.

To People Russia with Apollos and Hebes.

An "amazing marriage" has just taken place near Perm, in North-East Russia, on the estate of a wealthy retired distiller named Reshetnikoff.

The bridegroom, a handsome peasant, named Vasilieff, of splendid physique, and the bride, a lovely girl of eighteen, were driven to church in M. Reshetnikoff's carriage, and given as dowry a large wooden cottage and a plot of land. Hundreds of persons witnessed the ceremony, and at the wedding breakfast M. Reshetnikoff delivered an eloquent speech in which he welcomed "the second generation of his nurslings who are to make of Holy Russia an earthly Olympus peopled with Apollos and Hebes."

The meaning of these strange proceedings is as follows. At the time of the Russo-Turkish war, M. Reshetnikoff, struck with the inferior, ill-nourished physique of many recruits, set aside annually out of his large fortune the sum of 10,000 roubles for the purpose of eliminating the unfit by encouraging marriage only between young people of exceptional beauty, health, and intelligence.

To attain this end, he employed as workers on his estate only the handsomest and healthiest villagers. These he encouraged to enter upon matrimony by free grants of land, payment of all marriage fees, and an annuity of 50 roubles a year for every child born.

He succeeded in removing from his estate by rather harsh means all deformed and sickly persons, and attracted handsome giants from all parts of the province by granting them valuable privileges. Those who refused to marry the partners he selected were unceremoniously deported.

Since the institution of this human beauty farm forty model marriages have taken place, and over 100 children have been born, nearly all of them being immensely superior to the average Russian peasant children in strength and beauty. The girls in particular are remarkable for their graceful carriage, and lithe, active forms.

Vasilieff's marriage was celebrated with exceptional display, owing to the fact that he and his bride are the first couple, both of whom sprung from unions arranged by M. Reshetnikoff.

UNIVERSITY COLLEGE LON.
GALTON
PAPERS
3/3/3/12

(Miss Channells

F.1c

7 Rodney Terrace
Cheltenham Sept. 23d/93

Sir

I beg to acknowledge the receipts of your letter (forwarded to me by Messrs Blackwood) and will endeavour to answer the questions you ask me. First do I know any other lady who has held a similar position in any great harem, who has afterwards published her experiences. I do not; there have been a few European yourneyses somewhat similarly placed, but I never heard of any having published a book, and

this was an argument frequently used by my Anglo-Egyptian friends in pretending me to publish. My pupil's harem would not be a fair specimen of an oriental harem, first because she had been with Europeans from her early childhood, and secondly, being the Khedive's daughter, she was the sole wife, and mistress of her household — it was her establishment, not her husband's,

With regard to the eunuchs, I should say their position is a wretched one — they have no occupation, and are simply guardians or gaolers, they [illegible]

the day about the inner courts, generally playing at back gammon. I don't remember ever seeing any of them reading, but they are delighted with any change in the monotony of their lives. There were one or two good looking men among the Eunuchs' eunuchs, but in Turkey Trake I saw were more like apes than men. They perform no menial offices, and are treated with respect by all the inmates of the harem, one or other of them would often come into the harem to pay a visit and have a chat with the upper slaves, and

UNIVERSITY COLLEGE LONDON GALTON PAPERS

there was a great deal of ceremony; and polite speeches exchanged between them. I often had letters left at the gates for me (not paid letters for there was no delivery at that time) and two or three eunuchs would bring me in the letter, and take my chairs sit at the table while I read and perhaps answer the letter. They were very polite, but it never seemed to occur to them that they were intruding. I heard of several scandals in another great harem, but that did not concern me, and the household in which I lived was thoroughly well conducted. I am afraid I cannot give you any more information, I fear this adds but little to what is contained in my book.

I am Yours truly
Ellen Chenevix

Miss Chennells

f.3r

7 Rodney Terrace

Cheltenham. Sept 26th/93

Dear Sir

I am afraid I cannot tell you how many eunuchs there were in the Kinen's household, but I should think not more than a dozen. This is however merely a guess on my part. The passage you refer to in my book about "the double line of eunuchs" ~~refers~~ and the procession of the Bride took place at the palace of the Khedive's Mother, not at her own home. This lady had a splendid palace on the Nile and all such festivities in

which the harem took
part in were held in
her house. European ladies
might be invited, but no gentlemen.
In these harem fêtes, there would
be plenty of eunuchs, besides
those belonging to the establish-
ment for the eunuchs considered
themselves free to go wherever
their mistresses went, and
were glad enough to relieve the
monotony of their lives.
I don't know if you have
observed lately in the Times,
an announcement of the death
of Prince Ibrahim, eldest son of
the present Khedive — that
was the husband of my
friend, so now all are gone

except the Es: Effendi and
his son Ibrahim (brother of my
pupil) and they are never likely
to be allowed to leave Turkey.

Believe me dear Sir

Yours truly

Ellen Chennells

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS
3/3/3/12

Orey House Hurstpierpoint Nov 18/02

My dear Mr Galton — Let me congratulate you very heartily on the real honor conferred upon you — I should in your place value the Darwin medal far more than any Knighthood or Baronetage — and I dare say either the latter would have been more of an encumbrance than otherwise —

I hope you are well & may long live to see the success of your most invaluable work & contribution to Science and

Believe me Sincerely yrs

F. Galton

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS
3/3/3/13

Dr Chapmell

F1

223 Liverpool Buildings,
Highbury Station Road, London, N.
August 25, 1901.

Sir Francis Galton, F.R.S.
42 Rutland Gate,
S.W.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS
3/3/3/14

(Childs

Dear Sir,

Some time ago I wrote asking if it would be agreeable & convenient for you to allow me to take a set of prints from your hands as I am endeavouring to make a collection of Hand Imprints from people distinguished in any way in order to ascertain how far the characteristics of genius of different sort are exhibited in the formation & markings of the hands. I had not read your very instructive & interesting work on Finger Prints then or else I should have written differently. But now that I have only just finished carefully reading your book & am familiar with your objections to Palmistry & the reason you give for the presence of lines on the palms. Be this as it may I should like to say how greatly I should appreciate permission to see a few of your prints taken from different hands as well as to be able to obtain prints of your hands to add to my collection. I should be delighted to call upon you any evening after 7 o'clock or any Saturday afternoon after 2 o'clock.

I am,

Yours faithfully

C. W. Child

F. 191

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS
3/3/3/15

No.

Kew Observatory,
(Old Deer Park,)
Richmond, Surrey,
Sept 15th 1896

Dear Mr Galton

I heard yesterday
from Sir Douglas Galton as to the date of
the discussion
~~meeting~~ (1) & have a postcard this
morning to the same effect from
Prof. O. Lodge. It is my intention
to go down to Liverpool ~~to~~morrow afternoon
& be present at the discussion on Thursday.
Prof. Rücker quite approved of
my being present, and if need
be answering questions as to details,
more especially because his
duties as treasurer might
render it inconvenient for
him to be present continuously.

What he deprecated was my taking any action which might suggest the Kew Committee were (as likely to prejudice it)
pushing the scheme. In fact what I think he meant was that I had better refrain from any action likely to hamper the committee in any way. If I should express any opinions it ought to be clear they are those of a private person, not of the Kew committee, and as I am unaccustomed to speaking in public probably the less said the better.

I am a life member of the B.A. so have only to apply for a ticket.

Mr Constable is back this morning, which facilitates my getting away.

yours faithfully
Charles Chree

F.193

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

No.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Kew Observatory.
(Old Deer Park.)
Richmond. Surrey.
Sept 18 1896

Dear Mr Galton

I daresay you will have heard full particulars of the B. A. Section A meeting yesterday. I was present at the discussion of the National Physical Laboratory report & Prof. Rücker reported that I was present to answer any questions put. None however were put requiring my intervention, & as no one expressed any objection to the

recommendations I judged it best to say nothing.

Prof. Ricker ~~made~~ made the proposal that a memorial should be signed & used as a lever with government, & that I think if numerously signed by really eminent scientific men ought & be the best plan. At a B.A. meeting one can't help suspecting that a very considerable percentage of those present are hardly people whose support ought to carry very much weight.

Sir Douglas Galton's spoken statement differed from the printed as to financial position &c & a larger grant was specified than originally. There

seemed the least shade of a doubt I thought on his part as to our surplus.

The simplest way of looking at it is that on Dec 31st 1892 the Observatory owed the Royal Society £400 advanced for building, & had still it turned out £60 to pay for the building. Well we have repaid that £400 and invested £1000, & our bank balance ~~at~~ is now & will be at the end of this year better than it was on Dec. 31 1892.

(We have in addition spent out of the Observatory funds some £180 in buildings, & some £40 or more for instruments to be used for research work in Thermometry). So that a surplus of from £300 to £400 a year is not an overstatement.

In connection with the proposed suggestions one little point occurred to

me. I think the proposal of the term Director for the head would be sure to create offence to the Royal Gardens authorities. Mr Thiselton Dyer uses the term "Director of Kew" at least occasionally without any restriction. The term "President" or some equivalent might be found less objectionable, but I should not wonder if a frivolous assault were delivered on "Kew" appearing at all in the title.

I don't know whether you are staying at Rutland Gate, so I have accepted Captain Creak's offer to sign the cheques, & am I expect to call at Admiralty tomorrow for this object

Yours faithfully
Charles Chree

F 196

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.

Kew Observatory.
(Old Deer Park.)
Richmond. Surrey.
Sept 30 1896

Dear Mr Galton

I had better write before you leave your present address. I wrote Dove explaining we wished the compass apparatus for some experiments we had in view shortly. He has replied to day saying he will let us have it as soon as he can, but apparently he cannot say definitely when through difficulty about workmen.

You will probably remember expressing an opinion as to bad ventilation near the head of the stair. There has also been an unsatisfactory state of matters with the Lavatory, adjacent

to the Barometer room. It ventilates if anywhere into the barometer room & I wonder the assistants there have not complained more than they have done. I have got Eldridge to look at both places & he has proposed schemes of ventilation which I shall naturally lay before the Committee at their next meeting.

I am somewhat isolated here, so have not heard anything new about the National Physical Laboratory question since my return from Liverpool. At the meeting there the motion (by Sir Douglas Galton) was supported by Lord Kelvin & Profs FitzGerald & Riicker. One or two people unknown to me spoke, but not I think with knowledge, & there was no opposition. There was little to show however whether or not there was any strong general feeling in favour of the report. The want of opposition might have meant that some of the audience were not ready to express an opinion

warrant fuller consideration.
There may be some trouble about the grazing inside the enclosure, though I hope not. Messrs Nightingale & the agents did not answer my letter enquiring whether anything had been done for a week. Yesterday they wrote saying they had done nothing, as the Golf Secretary had told them some time ago that he had made arrangements with the existing tenant, which they supposed included us as well. I wrote the Secretary politely for information, & hope it may prove satisfactory. Messrs Nightingale asked if whether we still desired them to look out for a tenant, but until I hear from the Golf Club & consult you I can't give them an answer.
Will the proposed extension make it in any way desirable to defer letting or introduce any special terms?
Last occasion when writing about

the terms I made a reservation that if land were taken for experimental purposes, to an appreciable extent, allowance would be made in the rent. Usually grazing is let for a year I understand.

I dont know any solicitor here personally & it might be question whether to employ local man or Royal Society's. If there is to be a committee meeting in October it would fall I suppose on the 16th. There were meetings in October the last 2 years I should naturally send you proposed agenda list about the end of the week if I knew your address. In addition to the ventilation & bubletting questions there is proposal from Met. Office to erect Dines' pressure tube anemometer, & one or two stamps to report e.g. loan of photos to Prof. Fleming for B.A. lecture, completion of magnetic curve & 3 offices, & perhaps - if business so light - particulars of some experiments for direct photographic test for lenses. I saw Mr Scott last week, he expected to be away till Oct 24th.

Yours faithfully

Charles Chree

f. 199

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.

Kew Observatory,
(Old Deer Park.)
Richmond, Surrey.
Oct 1 1896

Dear Mr Galton

The Secretary of the Golf club has not written a reply to my letter but I met in with him on my way home last night. He spoke without making any reservation & in any case you ought to know what I know.

Apparently the present tenant and the golf club have been always making but never completing an arrangement; they have not been able to bring him to the point. He has found that grazing with sheep is not a success — the place is rather damp — and has desired to replace them by cows if the golf club can persuade the crown to allow them to put up

a cow-shed somewhere. Apparently the club had decided in the meantime to persuade the tenant to take the place from month to month until the question as to the cow-shed was settled, at a rent about half what he has been paying hitherto. The secretary had understood the tenant to agree to this & had expected him to formally signify his acceptance of the terms to the club's solicitor. This however he had failed to do and presumably to put pressure on him, the secretary had instructed the solicitors to distrain for a quarter's rent owing. The order I understood had been given only yesterday. The secretary promised to let me have definite information as soon as he could.

If we had any serious stake in the matter & did not mind a rupture of relations with the golf club I think we had better put the matter in the hands of an independent

solicitor to watch our interests.

As things stand I hardly think this is advisable things not being a scientific matter I have no confidence in my judgment.

Doubtless the golf club have no reason to cancel our interests unless in so far as I think they recognise the inexpediency of doing anything so unfair as to drive us into a hostile attitude.

If the National Physical Laboratory question were more advanced I should think it desirable to attempt to ensure without delay that the requisite extension of land would be obtainable when required.

The town apparently are still pressing for a part of the Park for recreation grounds; & this may make the golf club more reluctant to

give up any part of the Park on this side. If the town get anything it will presumably be close to the green.

Yours faithfully
Charles Chree

P.S. I can't find time this morning to make agenda list, hoping to take magnetic observns in Mr Baker's absence

C.C.

f. 207

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.

Kew Observatory,
(Old Deer Park,)
Richmond, Surrey.
Oct 5 1896

Dear Mr Galton

I have heard nothing further from the Golf Club or their Oak(?) tenant as to the grazing. There are some animals in the enclosure so I must write the tenant in a guarded way. As to date of meeting Minutes of March 29th/95 run:
"It was decided that the May Committee meeting and subsequent meetings - except in special cases - be held on the third Friday of the month"
Of course so far as the secretary is concerned the wish of the chairman constitutes a "special case", and I shall understand unless I hear to the contrary

that your wish is that this month the meeting be on the 25th, to meet the probable convenience of members returning late to town. If this be so, I should naturally defer the agenda list till end of this week.

The enclosed is an advertisement page from the "Horological Journal" for Oct^r which caught my eye. I don't like the idea, but I suppose we have no right to interfere specially. I thought such competitions were illegal, but of course that is a legal question.

Having gone so far Mr Bonnikeen would probably require a good deal of pressure to make him withdraw his offer; and I should not like to intervene unless I were practically certain of carrying my point.

One of the naval officers returned last week for some more practice, having a few days spare between a cruise with Captain Creak done at

F. 203v

the naval college at Greenwich where he goes tomorrow.

You would see probably in 'Nature' that Prof. Rücker had been made chairman of a committee dealing with Terrestrial Magnetism & Atmospheric Electricity at the International Congress.

Mr Baker returns next Monday.

Yours faithfully
Charles Chree

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

f. 204

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No

Kew Observatory.
(Old Deer Park.)
Richmond, Surrey.
Oct 10 1896

Dear Mr Galton

I enclose proposed agenda list. You know about No. 1.

2 Still unsettled, Golf Club & their late tenant engaged in maneuvring as to reduction of rent &c. As I mentioned, the Club on Sept 30 distrained for rent, which at least ruffled the tenant considerably. I persuaded the tenant to call here and pay his rent some days ago, & of course he gave me his views of the Golf Club to compare mentally with the secretary's views of him. The tenant had left some stock in here, & he has promised verbally to send in a written offer to take in the grazing inside enclosure at the old rent if he continues to be tenant for

the golf club, also to pay a small unspecified sum calculated per week for such time as he has stock on the ground — supposing he retires eventually from the Park tenancy. I know it is not strict business not to have the weekly sum in black & white, but on the other hand even if he were eventually to pay nothing, we should be no worse than if the stock were not there, as we can't well do anything so long as the tenant and golf club are negociating. I was at least gratified to get the rent away in full

3 Estimates promised in good time for meeting, but not to hand yet.

4 Do you wish "a" mentioned? Dove called the other day relative to some new steel for dip needles (he sent us a needle of it & as it is important his dip needles should continue good — as he is the leading English maker — I have given some thought to the subject, & got him to send me two samples of steel for experiment. This could be mentioned amongst "work done")

2 C and when Dyce was here I got him to promise - more or less definitely - to let us have compass apparatus by the end of the month. So I might now write the Geographical Society about the compasses.

4 B Prof. Riecke wrote two days ago that when at Paris he & Mourneaux, the head of the French magnetic department, had agreed it would be well to compare Kew & Parc St Maur. He wished arrangements made that Mourneaux should observe here for a week alongside of Mr Baker - the latter being set completely free for the purpose. Apparently he also thinks it likely a comparison later in Paris will be desirable, & is uncertain whether he could go himself, or whether it would not be better Mr Baker should go. On the latter hypothesis he thinks some 3 weeks of Mr Baker's time in all would be wanted. If it is impossible that Mr Baker should give even the week to the work here, Prof Riecke says he & Mr Maken, his assistant, will do what they can

to do the comparison here.
Mr Baker returns on Monday, & then I shall find the extent of his likely engagements. I think if possible we should try to do as much of the work ourselves as possible. It is work that it is most desirable should be done now — to enable a comparison of Prof Rücker's British survey with Bouveaux's survey of France just completed. Clearly Prof. Rücker wishes Bouveaux's visit arranged at once, before days get shorter, & is opposed to awaiting the Committee's meeting. I presume I may go so far as to accept his view of the situation. I am doubtful from a second letter received this morning that Prof. Rücker has misapprehended my answer to his first letter, proposing to put the matter on the agenda list. I quite agree with him in the expediency of acting at once, but the Committee should have opportunity as soon as possible of expressing approval or the reverse.
I also agree Mr Baker should do

f. 207r 5

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.

Kew Observatory,
(Old Deer Park,)
Richmond, Surrey.

189

the comparison work, as he is the regular observer here and considerably more expert than Mr Boxall or myself.

5 At last meeting there was a letter from Prof. Milne, suggesting that seismographical observations should be taken here & I was instructed to ask for particulars and cost of apparatus etc. He replied giving some of the information, & referring me to Munro for the rest. I wrote Prof. Milne yesterday asking if he wished to say anything further in the matter, as I understood the B.A. Committee had not yet settled the pattern of instrument best to adopt.

6 3° shall have some photographs to show.

4° pattern still here, but remain authorised by met. Council.

7° We have been asked to get Chrono-
graph for Colaba Observatory, which
has caused me a good deal of trouble
owing to want of clearness in specification
8. Balance will probably be such as
to suggest expediency of investment

I mentioned to you some time ago
that I should like to join the Physical
Society, if the Committee did not object
to my leaving here on the days of meeting
sufficiently early – there is a 3.40 train from Richmond
St James Park – to attend. I can't
with proper respect to the Society assume
beforehand their readiness to receive
me so that it hardly seems a proper
thing to go on formal agenda list.

If you wish to see me in town
before the meeting you will I presume
let me know.

As Mr Scott will not be back ought
I to write the Met. Office as to date
of meeting? Is there formal vote of Met. Council
allowing Committee to meet there, & should I write
Mr Scott asking him to communicate with Dr
Beattie?

Yours faithfully
Charles Chree

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.

Kew Observatory.
(Old Deer Park.)
Richmond. Surrey.
Sept 12 1896

Dear Mr Galton

I have written Prof. Rücker stating that we shall accommodate ourselves to any arrangement he may make with M. Moureaux to enter on the comparisons here subsequent to the end of the present week. The question as to subsequent comparisons at Paris may with advantage remain over, as I hardly think Prof. Rücker's mind is made up as to the best course.

The information in Mr Clarke's letter I had better I presume treat as confidential at present. I have heard nothing of him since he went out.

I find two or three points slipped

my memory when writing you last

1° Dr Bauer's request for description of magnetics at Kew. This presumably had better go on agenda. It might be worded "Request of Editor of 'Terrestrial Magnetism' for description of magnetic work at Kew"

2° The description of the Observatory which it was finally decided to relegate to the "Year Book" of the Royal Society is of course still here. Ought it to be submitted to Committee to consider whether it deals with all the points thought advisable at present, more especially since question of "National Physical Laboratory" is in the air?

3° & chiefly, ought there to be anything on agenda about the "National Physical Laboratory" proposals made by the B.A. Committee?

I note your emendation to Compass Examination.

As to the Physical Society, if a reference in the Minutes is requisite what you suggest seems exactly to

met the case. I shall have the memorandum with me & it can go on minutes or not as Committee thinks best.

Mr Baker is back to day after his inspection tour, having experienced most unfavourable weather.
He will have to go back for a day to Yarmouth as he had to send part of the Anemometer apparatus to London for absolutely essential repairs & will have to see that the instrument works satisfactorily after the repairs are executed.

Yours faithfully
Charles Chree

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

STATION, POST AND
TELEGRAPH OFFICE,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.

Kew Observatory,
(Old Deer Park.)
Richmond. Surrey.
Oct 15 1896

Dear Mr Galton

This morning I had a letter from Mr Keltie reminding me about the Azimuth compass experiments &c. I have written him explaining how we are situated, & stating if there is no hurry about getting instruments back that he can proceed to send them now.

Also Mr H. Rix wrote this morning saying he had been asked to edit the R.S. Yearbook & that he should be glad to have at once the description of Kew Observatory, as the work was passing through the Press. Clearly Mr Rix had not seen the letter I wrote the new Assistant Secy yesterday, so I have written asking whether he can wait till after the 23d, also whether he wishes plans of the Observatory.

Eldridge's estimates for ventilation are £6. for Cavatory £2.5s for thermometer room.

The Golf Club have reopened question of ladder for access to golf balls. I enclose letter from Secretary. He originates the discussion at an interview I had with him on the 6th relative to the grazing tenancy. I wrote him after reflection on the 9th saying that in my opinion he had to persuade the Committee that the penalties

attaching under the clubs existing rules to the hitting a ball inside the enclosure were sufficient to make a golfer take as much care, as he could be constrained to take, to avoid hitting a ball in. If the loss of the ball, or of time, were merely an aggravation of temper provoking some hostility to the observatory then I personally prefer the ladder the lesser evil. What he says about, provable early visits of caddies is a consideration. I presume that to a serious golfer the loss of a hole or a stroke is a very sufficient deterrent against carelessness. The place apparently balls are sent over is on the west side about the maximum of distance from our gate. I don't think there is the slightest danger to instruments as at present situated. If we are likely to be expanded soon under altered conditions any arrangement gratifying our neighbours in the mean time can't do any harm.

I had a postcard from Mr Scott this morning, asking me to let Dr. Baillie know the date of meeting &c. You would hear I daresay, he had hurt his knee & was laid up temporarily, at I think the house of a brother; he did not say how he was progressing, only that he might be unable to attend the meeting even if back in London

As you did not say anything about Dr Bauer's letter in your note I have not put anything on the agenda. The matter can be introduced amongst the "other business that may arise".

Yours faithfully

Charles Chree

f. 211

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.

Kew Observatory,
(Old Deer Park,)
Richmond, Surrey.
Oct 20 1896

Dear Mr Galton

I wrote the Secy. Golf Club quoting your suggestion, and also asking if he could let me know how things stood as to the grazing, & whether he still wished concerted action in the letting. I enclose his reply. There is no letter from Cradock; & now his tenancy could be impossible if concerted action is to be taken. On the latter point Mr Montgomerie is not explicit.

I have heard both from Mr Rix & Mr Harrison that it will do if the Ms be handed over immediately after the Committee meeting. If you wished I could send it you before hand.

Mr Kelkie writes he is collecting the azimuth compasses.

Prof. Rücker has written that on reconsideration he & M. Moureaux wish to defer the magnetic instrument comparison until the days are longer; a conclusion I quite sympathise with. I have suggested to Prof. Rücker that as the subject is on the agenda list he had better get the sanction of the Committee to an adequate scheme for the comparison.

There are several English letters from Prof. Milne; his own apparatus costs about £5-0. He sent a proof of a report to the B.A. giving particulars as to his own & 3 other forms of apparatus. I have been working for some months at the theory of apparent change of level due to surface loading, lunisolar effects &c, in an elastic solid medium, & the numerical results certainly suggest that tides in the Thames might be expected to affect no more than differences in evaporation &c on different sides of the building, such as Prof. Milne refers to for possible explanation of some of the observed phenomena.

Mr Scott wrote some days ago, and asked me to send a note to Elm Park Gardens if there were an *a priori* probability of failure of a quorum on Friday. I know of nothing to render such a contingency probable; perhaps the Physical Society meeting may clash, but their hour is still I suppose 5 pm.

Yours faithfully
Charles Chree

P.S. The elm tree slightly overhangs outside our fence & presumably balls are moving nearly parallel to the fence &c.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

f. 213

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.

Kew Observatory.
(Old Deer Park.)
Richmond. Surrey.
Oct 27 1896

Dear Mr Galton

Holdway's cheque arrived safely. I saw the Sec. of the Golf Club yesterday; he reported that the Club were likely to employ some London agents, & possibly the Kingston firm, for letting the grazing & promised to let me know definitely in a few days. He offered to tell the London agents to include our enclosure, but I rather inclined to my writing them direct.
Costs of letting ought to be apportioned.
Particulars & conditions ought I think

h ame direct from me. The Secy. was quite agreeable & either plan.
I have had an official letter of gratitude re step ladder.
I had a call here yesterday from Dr Van Ryckevorsel who is one of the magnetic Committee appointed at the late Paris International Met. Conference. He wishes some comparison made here of the Kew magnetometer & an instrument of his own, now being repaired in London, sometime after February. He is a friend of Prof. Rücker's & had talked over the matter with him. I understand Van Ryckevorsel not to ask for more assistance than I should feel at liberty to give without special leave of the Committee.
We have some slight difference of opinion with the Camb. Instrument

Co. as to glass tubes supplied
recently for melting sulphur in.
We got 6, ten days ago, & the first
3 we have tried have all flown
when full of liquid sulphur.
All our sulphur almost is used
up & I consider the tubes dangerous.
The Inst. Co. have they say tried
2 at least & neither broke & they
decline responsibility. I have
written Mr Shaw about it.

Yours faithfully
Charles Chree

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

f 215

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

No. 104/111C

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Kew Observatory.
(Old Deer Park.)
Richmond, Surrey.
Oct 30 1896

Dear Mr Galton

I enclose letter from the Self Clust Secretary which shall await your approval before following its suggestions.

On sending Mr Rix the No of the account of the Observatory I told him that I thought private copies might very likely be wanted, but referred him to you if he were in a hurry. He writes to day about the plan sent, but does not refer to private copies.

The Committee might I think desire to get a considerable number, if need be at cost of the Observatory, for distribution with next year's Report.

Yesterday Prof. Carey Foster wrote relative to the Owens College man,

F. 2160

Dr Harker, who wished to do some work here with platinum thermometers, the subject being referred a good many months ago to the sub-committee on Thermometry. Apparently Dr Harker hopes to get a definite answer at once to his proposal & Prof. Carey Foster asks whether I see any difficulty in the way of the work being done. I have written in reply that if a comparison of Dr Harkers platinum thermometers & those we have is what is wanted I see no serious obstacle provided his apparatus can be set up in the platinum thermometer room. But if a comparison of mercury & platinum thermometers is wanted, as Prof. Foster's letter says, serious difficulties must arise for the want of any comparer adapted for microscopic readings, & for the fact that Kew thermometers as previously constructed are too coarsely divided for accurate microscopic work.

Presumably a comparison to 0°.05 C or even 0°.01 C would not be good

enough. Dr Hacker I see, from an abstract of a paper read recently before the Royal Society, aims at 0°.0001 C in determinations of the freezing point.

I have been anxious for long to have a comparer suitable for the degree of accuracy aimed at at Sevres, say 0°.001 C, but an apparatus of that kind should have been ordered months ago if wanted shortly.

Supposing a comparison of platinum thermometers arranged I should probably wish to incur some expense in way of preparation, e.g. to get immovable gas regulator such as Messrs Heycock & Neville lent us for some months for use with the molten metal experiments

Yours faithfully
Charles Chree

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

42 Rutland Gate SW
Oct 31/96

Dear Chree

W. E. A. Reeves, FRAS, assistant map curator of the R. Geog Soc has written a paper on "terrestial magnetism" for acceptance by the Society. In it, a fact is shown which is quite new to myself, viz: that if the lines of equal dip on a map of the Earth, are corrected by referring the dip, not to the plane of the horizon at the places of observation but to the Earth's axis, the lines so corrected ~~become~~ run like parallels of latitude round the geographical pole, with only a little distortion, apparently due to land & sea distributions.

Has this been noticed before?
If not, would the same result come
out, by making the further
substitutions in the formula
by which the distribution of dip
is expressed?
(The fact that the dipping needle
is vertical at the so called magnetic N.
poles is not, according to Gilbert, inconsistent
with the above; but I do not follow him here.)

Kindly send me a few words
of reply, that I may send to him
and which might be also utilized
by the N. Geograph: Society as
a contribution from yourself.
Also send me back this letter

that I may forward it at the
same time

by fax the Entity W'

Francis Galton

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

F219

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No

Kew Observatory.
(Old Deer Park.)
Richmond. Surrey.
Nov 2 1896

Dear Mr Galton

I am not sure I understand what Mr Reeves has done. ~~It~~ ~~is~~ ~~a~~ ~~problem~~ ("The figure is the standard type for applications of Spherical Trigonometry to astronomy; P pole; Z zenith; E Equator; PZM Geographical meridian; ZS magnetic meridian, S answering to South or non-dipping pole of needle so that $ZS = \frac{\pi}{2} - i$, where i is dip.)



Does Mr Reeves find the inclination SP of dipping needle to polar axis, construct the curves SP = constant, & find they are approximately small circles? I am not aware that these curves have been drawn before.

If EZ = λ the latitude, SZM = δ the magnetic declination, then

$SP = \cos^{-1}\{\sin i \sin\lambda \sin\delta + \cos i \cos\lambda \cos\delta\} =$ Constant

is the equation to the family of curves, i as before being the angle of dip. If i & δ were known as functions of Latitude & Longitude substitution could be made.

As regards the result, the uncertainty to my mind is that we have very few trustworthy observations at latitudes outside the limits 65° North & 40° South latitude. The observations we have in polar regions are seldom taken under conditions favourable for accuracy, & possess additional uncertainty from the facts that the diurnal variation in these regions seems inclined to be very large, & that the secular variation is not known. But when we deal with equatorial & temperate regions, where the observational results are best known, the curves SP = constant are found to be ovals whose departure from circularity is perhaps hardly likely to be very conspicuous. The crucial test would arise when we came to places within 25° of either pole.

For one thing until we come within

a reasonable distance of the pole it would be difficult to make sure that more nearly circular curves might not be obtained by taking instead of the geographical pole, some other point 10° or 20° away for centre of the curves.

An excellent illustration of this in a kindred problem occurred recently. Prof. v Bezold "Sitz.. der K. Preuss. akad der Wissen." Berlin april 1895 pp 363 et seq found that the mean value $\bar{V}$ of the magnetic potential along parallels of latitude follows very closely the law $\bar{V} = K \sin \lambda$ where K is a constant and λ the geographical latitude. This is the exact law the potential would follow in a sphere uniformly magnetised parallel to the geographical polar axis.

Dr A. Schmidt "Terrestrial Magnetism Jan 1896 pp 18 et seq" shows, however, that if we accept the values he has calculated for the Gaussian constants in the general formula for the potential, making use of the charts for 1885, then

a closer agreement to the simple law for the mean potential found by Von Bezold is got by replacing the pole by a point 25° away from it in longitude 277° from Greenwich.

It might be worth Mr Reeves' while to consider this point.

The position of the point (centre) which gives most nearly circular curves could be calculated mathematically from the values of the Gaussian constants given by Schmidt, p 21, if one had separated out the terms in the potential which contain positive & those which contain negative powers of the distance r from the earth's centre. Without this one could not find the vertical force & hence the dip.

If I may judge from Prof. Schuster's remarks (same Journal p 16) Dr Schmidt has effected this separation of the potential, but I don't know whether the results are published.

If they were accessible a close approximation to the desired result

would present but little difficulty.
The fact is that the Gaussian constants
answering to the higher surface harmonics
are so small that ~~—~~ 2 or 3 terms
suffice to give a close approximation, the
single term stumbled on by V Beyold — answer-
ing to uniform magnetization parallel the
polar axis — being 5 or 6 times larger than
any of the others.
Perhaps I had better add that the
values of the Gaussian constants found
by Schmidt and others are no more
trustworthy than the observational data
they are based on, and consequently
there cannot but be appreciable uncer-
tainty in the application to polar
regions of the general potential formula.
Without an actual study of Mr Reeve's
paper I can say no more.

Yours faithfully
Charles Chree

P.S. The late Prof Adams of Cambridge,
as I daresay you know, calculated out the
Gaussian constants & separated the
internal & external potential terms, but his
papers are still unpublished.

F. 223

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.

Kew Observatory,
(Old Deer Park.)
Richmond, Surrey.
Nov 3 1896

Dear Mr Galton

Of the Brit. Association
Mr Rii writes "Will you kindly let me know how many slip-proofs of the article you want for distribution to your committee; also how many separate prints in the finished form."

There is [redacted] little use I suspect in sending most members of Committee, but I think you intended a proof to each.

The separate copies obtained of last years "Report" numbered 300. We paid ourselves for 200 of these. About 250 have I think been already required.

Captain Abney has as yet taken no notice of the letter I sent

asking him to fix a time & place where I might call about the lens photographic test.

The London & County Bank have sent two brokers' documents showing that £400 India 3½ % stock have been purchased for the committee, the total cost being £471. 1. I have called their attention to the fact that the title "Incorporated Kew Committee" appearing in one of the documents is incorrect, to ensure the prescribed name is right.

I have written Messrs Vyers the agents employed by the Golf Club.

Twelve azimuth compasses have arrived, loaned to the R. Geographical Society by some Govt. department. As yet the apparatus from Dove is only promised "in a week". It is not however necessary for most of the tests proposed.

The naval officer comes on Thursday; there are ~~two~~ several magnetic instruments

on hand, & a large influx of sextants threatened, for the Japanese Government (I believe), so that Mr Baker's hands will be full.

Mr Rix, by the way, asks for a cliché of the little engraving of the Observatory. I have got the original block, as I understood he wished cliché of it & can let him have his choice. But first I wish to know whether you would not prefer that what appears should represent the Observatory as it now is, rather than the old appearance on the certificates. We could send Mr Rix the negative of a recent photograph, or take a photo for the occasion.

I shall let Prof. Carey Foster know what you thought of new thermometer apparatus.

As to Mr Reeves' paper you will I hope remember that it is impossible for

f. 226

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No

Kew Observatory.
(Old Deer Park.)
Richmond. Surrey.

Nov 7 1896

Dear Mr Galton

I got 2 proofs of the description of Kew Observatory yesterday, but a letter from Mr Ri this morning does not mention whether proofs have been sent direct to members of Committee. I have written him again.

Supposing you have got one, would it be well do you think to have in the large table a separate column for "lenses"? You will notice the text would lead one to regard "lenses" as not included in "miscellaneous"; of course this would entail a slight alteration in the last entries under "miscellaneous". The space allotted to "sensitive recorders" leaves a void

deal to spare. There has been a misunderstanding with Rix; in his last letter I understood him to ask for a negative of a photo of the old engraving itself. Mr Hugo took photos of both the block & engraving, but they did not turn out well, & supposing one negative as good for Messrs Harrison's purposes as another I sent me of a comparatively recent photo of the place. Mr Rix writes this morning as if the block was what he meant - though he had not then seen what Messrs Harrison had got — so I am sending it to him today in case he may really wish it. I am keeping the proofs till Monday, as I dint know whether Committee have really got copies.

Messrs Myers have written that they would desire our letting agreement as being somewhat special to be drawn by our solicitor; their ordinary form they make no charge for, as it is in set terms.

Presumably until tenant is found, agreement can wait.

As to Captain Abney, I should be happy to call on him but don't know when or when I am likely to find him disengaged. I shall try him again first I think by letter, or perhaps a telegram might work.

I see from the papers that Prof. Rücker is to be new Secretary for the Royal Society. I hope the omission by the printer of the asterisk to his name in the list of members of Committee, in the Times received yesterday, is not prophetic of his retirement.

Yours faithfully

Charles Chree

P.S. Mr Fascist apparently was not chairman of Committee subsequent to the Royal Society's management of Observatory. Nothing you will see in

aid of staff other than superintendent. Owing to the circumstances there are I suspect various misconceptions almost equally glaring in the description of the

F. 229

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.

Kew Observatory,
(Old Deer Park,)
Richmond, Surrey.

Nov 10 1896

Dear Mr Galton

The enclosed is all I can think of for next meetng, going on the assumption that a meetng will be held on Dec 18th. Questions as to Salaries for next year, adjudication of Expenditure of present year for auditor &c on naturally would fall to be dealt with at the last meetng of the year.

I have written Prof. Carey Foster asking whether he wishes any item inserted re Dr Baker or other thermometric question, & propose to add what he suggests, if anything, to the list as returned by you.

I judge it best to report formally the difficulty as to sulphur tubes & also some facts now pretty clearly established as to limits of accuracy in the platinum resistance bridge

We have been trying the reading in ice of some Kew standards taken after exposure to a series of gradually increasing temperatures, & may as well state general results.

One boy clerk, W. Pizzey, has got injured when playing football – not in the enclosure – & doctor's certificate says he won't be about for 3 weeks, so I suppose the fact had better be mentioned.

I don't know whether it is worth mentioning either the letter of thanks from the golf club, or the circular about Chrystal Palace Exhibn. The latter is simply a printed circular stating the facts, with attached application form

"No charge will be made for any

exhibit of Historical Interest.
For ordinary exhibits payment
is required according to space occupied.

Yours faithfully
Charles Close

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

F. 231

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.

Kew Observatory,
(Old Deer Park,)
Richmond, Surrey.
Nov 17th 1896

Dear Mr Galton

In answer to my
Enquiries Prof. Carey Foster wrote I had
better put on the agenda list something
general about platinum thermometry, as
it was possible the sub-committee on
thermometry might make some such
proposal as spending £100 on sending
Dr Harker to Paris to compare platinum
& mercury thermometers. I have heard
nothing further on the subject.
No other new business has arisen as yet
for the Committee, & I don't suppose
there is any occasion for my seeing
you before the meeting.
The Compass testing apparatus was

sent in by Dover the other day.
The naval officer is still here, & between that, 2 dip circles, a unipolar & numerous sextants Messrs Baker & Boxall are somewhat overwhelmed. I have been occupying myself part of today taking the deflections of the 12 azimuth Compasses sent on behalf of the Royal Geographical Society, using Dover's apparatus. They give a very small deflection compared to what the new regulations require from a ships' compass, so that it would be better to take their deflection at a smaller distance. I have tried them at two distances.
The exhibits we had at the Glasgow Photographic Exhibition have safely returned; no expense has been incurred, but we probably shall want assistance in putting the Largest up again in its place. That however is a trifle. Eldridge has commenced on the ventilation work.

f. 232 J

I heard from Mr Griffiths the other day; but his letter is rather technical. The Met. Office have written for report on Earth Thermometers.

Yours faithfully

Charles Chree

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

25 Mount Ararat Road
Richmond Surrey
Jan 4 1897

Dear Mr Galton

Thanks very much for agreeing to head the list. Accordingly I enclose the original form which Dr Frost returned with a second letter on Saturday. I shall write him enclosing your letter. At Dr Frost's suggestion I selected 12 from the original list of 40 papers, as Prof Stokes when consulted by Dr Frost thought the full list much too long. This selected list along with the original list go

in Dr Frost's possession so
that he may use his discretion.
I had no means of judging
whether one had better slur
concentrated effort on one subject
or width of scope. Of course
nearly all my best work is in
Elastic Solids, but the number of
authorities on that subject is
very limited – say Lord Kelvin, Sir G. Stokes,
Lord Rayleigh, Prof Darwin, Prof Pearson,
A.B. Basset, & A.E.H. Love. Others
of course, including Prof Perry, have
given a good deal of attention
to it & to applications to Engineering.

Dr Frost asked for list of my
acquaintances amongst F.R.S's
& has got it.

In writing you I forgot to say
this afternoon that we intend

having the earth thermometers taken up on Wednesday Respect auditor on Thursday.

I noticed the R.S. Statement of accounts in a recent number of the Proceedings. It grouped the fascinating income from original shares - which is paid over to us - & from £ s-d Consols together rather obscuring I thought the separate sources; but the principal point was recovery of some £12 income tax returned.

I was wondering whether or not in reminding Assistant Secy of present January payment I should explicitly ask that this recovered tax be included.

Yours faithfully

Charles Chree

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.

Kew Observatory.
(Old Deer Park.)
Richmond. Surrey.

Jan 5 1897

Dear Mr Galton

I enclose proposed agenda list for the meeting on the 15th. I The various points as to the tables etc might be settled; as it is troublesome to make fundamental change after matter in print. There is question as to Sassiot Trust which perhaps ought to be raised. You have I suppose the R.S. Proceedings giving particulars of income & expenditure at p 324. Two items strike me viz in income £14.19.3 "income tax received" regarding which I have already written you, & in expenditure £6.5.2 for "Law charges". What these charges were is not said, & I should not wonder if they refer to expenses connected with the Committee's change of name, undertaken at the suggestion of the Royal Society. Apparently this payment

has been made out of the income of the £500 consols, because "Dividends" less "Payments to Ken Cttee" = £13.6.8, which represents approx. interest on £500 at 2¾. As the Ry. Docs has never paid over the consols interest it may be a question whether or not the point should be raised. Should I write formally and ask for explanation of balance sheet for the Cttee or simply report matter to the Cttee & ask for instructions? Is there still £10000 irrigation bonds, or has part been converted to Consols along with surpluses occurring when bonds redeemed & presumably bought?

2 meant to get terms of application for cost of seismograph approved. Question of other application could be raised.

3 Was postponed from last meeting so that rough estimate of apparatus might be got from Carlle.

4 Have just finished some experiments with deflections of 8 inch & 10 inch cards by White. They lead me & Baker & myself to the conclusion that Captain Creak had considered 10 inch cards

only. Briefly I find.

deflecting power 8 inch card / weight 8 inch card = " " 10 " " / " " 10 " "

= 0·7 approximately, on an average of 3 specimens of each. The differences between individual specimens of each class ~~were~~ immaterial. The 8 inch cards are decidedly below the deflecting power prescribed in the new regulations, the 10 inch as decidedly above; and I should say that both are of the very best make. We hope to have time to try other points in the afternoon & I shall write Captain Creak. If any change in regulations is requisite the Committee's sanction will be required.

5 One of the four aneroids is not working sufficiently regularly & as it has been once already with the maker who considered a cure doubtful, I should like to get another. I am trying to extract a general theory from the experiments, having got a considerable number of isolated results of interest, and find further experiments necessary.

6 The conclusion of these experiments

should presumably be reported, & also probably the intention of the Met.l Counc.l to set up a permanent installation. I intend writing formally to Mr Scott to ask whether the Council will make any payment for assistants' time spent on the preliminary observations during 1896. I think some payment should be made as the experiments were solely at the instance of the Met.l Council; at the same time we have, for our own purposes, taken more observations than was probably necessary so it would not be unreasonable to charge for all the time spent. We tried 2 readings a day for instance to see possibility of getting diurnal variation &c & had mercury thermometer at depth of 3 inches in case results should be worked up.

Yours faithfully
Charles Chree

f. 238

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.

Kew Observatory,
(Old Deer Park.)
Richmond, Surrey.

Jan 7 1897

Dear Mr Galton

I enclose notice of meeting with P.C. from Captain Creak.

Govt. Grant I think the expediency of grant might be left to Sub-committee on Thursday who might decide provisionally. If so, I should write Prof. Carey Foster in your approving.

Watches An important point is that any reduction of list, in the way of cutting off names that would appear under past conditions, would reasonably be objected to by those makers excluded. If any one who had during 1896 got over 80 % marks were left out, he would feel aggrieved. It would be a bad distinction. Thus if anything were done I should prefer Notice being given in

present Report; the year 1896 to be treated as ~~before~~ 1895". If the Royal Society dont object to publishing so long a list the expediency of curtailing it is uncertain. It occupied 3 pages of Proceedings last year. If we can get it in 3 pages this year only by omitting headings on one page.

We could state the percentage of watches of Class A which work 80% makes 1 superior to 1 each year; & could publish table of results some one year for past years. This would show up. I should recommend doing this with brief glance at other prominent points, perhaps next year. Best way of putting things would want consideration. I think a page or two of interesting matter could be written.

I hope to have ready on the 15th table of monthly results for instruments verified in 1896, whose form could be then finally settled

Yours faithfully

Charles Chree

f. 240r

No. 621/XIII

STATION, POST AND TELEGRAPH OFFICE, RICHMOND, SURREY.

ALL CORRESPONDENCE TO BE ADDRESSED TO THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON GALTON PAPERS

Kew Observatory,
(Old Deer Park,)
Richmond, Surrey.

Jan 13 1897

Dear Mr Galton

I enclose proposed alterations in compass testing regulations. I saw Captain Creak at the Admiralty & talked the matter over, but it is not certain that he will approve of some at least of the regulations. They originate with me after hearing his views as to what occurred to me from the numerical results before me. The data were got out from the cards, & that in the 10, 8 & 6 inch Thomson cards the average deflections (angles in the auxiliary magnet) are about $14\frac{1}{2}$, 10°, 6°, and that the weights are approximately as the tangents of these angles & so as the deflecting powers. I then calculated the deflection limits so as to make $\frac{\tan(\text{limiting angle allowed})}{\tan(\text{mean angle deflection})} = \text{constant}$. The results actually worked out at about 420 & 240 grains weight limits and $8\frac{1}{4}°$, 4° 56′ for deflection limits. I thought it well to allow a little for uncertainties. Captain Creak thought rule 4 should apply for all; also he would now like to lower upper period limit to 38 seconds. Difference between 38 & 30 seems to me a triple narrow. He thought no inferior period limit should be assigned to 8 & 6 inch cards, as often used in parts of ship where force weak. I query whether superior limit 40 should not be lowered for these 8 & 6 inch cards at least. Captain Creak was also inclined to

doubt necessity of allowing wider error limits in rules 8 & 9 for the smaller cards; he at all events would not allow above 0°.75.. I have sent Captain Creak similar amended papers to you, requesting him to send me written suggestions if he can't attend the meeting. I have asked whether any card less than 6 inches should be recognised as suitable for standard or steering compass. We have had small liquid compasses.

As to azimuth travellers' compasses my interview was too short to get much advice. Captain Creak was prepared to recognise that at least for 2½ inch compass 10 minutes error might be triple error passing limit; & I think he was disposed to concede 20. Apparently he thought deflection limit unnecessary, attention being concentrated on time of swing. A limit to time of swing he was hardly prepared to suggest; 8 seconds he thought a good average period. So perhaps 12 seconds would be sort of limit to aim at. I certainly shall not be able to consider question of travellers' compasses properly before the meeting.

I enclose letter from Prof. Carey Foster. He is not quite correct as to the facts; e.g. we paid for platinum thermometer worn in toto ourselves. There is fall of some 3000 in clinical thermometers tested in 1896 as against 1895; this is considered probably temporary but still worth consideration.

Yours faithfully
Charles Chree

2 Enclosures

F. 241

Station, Post and Telegraph Office, RICHMOND, SURREY.

ALL CORRESPONDENCE TO BE ADDRESSED TO THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

No

Kew Observatory,
(Old Deer Park,)
Richmond, Surrey.

Jan 18 1897

Dear Mr Galton

I enclosed two cuttings from local paper of Saturday. Whether the negociations are actually concluded or not I do not know; but it is at least believed locally that they are or are to be. The ground is the part of Park next to railway line.

Dr Harker wrote that morning he expected to be here today or tomorrow, so presumably tomorrow.

Have pretty well finished the azimuth compasses today; so hope to send you results soon. I suspect

limits suggested by Captain Creak would prove very severe, if new compasses sent us are fair sample of good ones.

I postponed Casella's estimate for thermometer testing apparatus, because it should be seen by experienced assistants as well as myself, before being brought forward at meeting. Casella sent it to Met. Office on Friday, so I had not seen it myself even.

Yours faithfully
Charles Chree

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

f. 243

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.

Kew Observatory,
(Old Deer Park.)
Richmond. Surrey.
Jan 22 1897

Dear Mr Galton

At the Committee meeting leave was given to get 2 anerords to read down to 15 miles; but I think you withdrew some suggestion as to the advisability of trying to borrow them under a misapprehension that I thought purchase essentially best. My view was that there was no objection to borrowing provided we could retain the instruments until the experiments were concluded, that time however being somewhat indefinite & depending on circumstances we cannot foresee. I do not know what the contingency was you had in view, & have thought it well to write you before ordering the instruments. What

we wish to 2 instruments ~~between~~ many in good working order, with well divided regular scales, whose ascending & descending readings differ by a fair average value. If the differences are exceptionally small unavoidable errors in reading will be too largely; while if they are too big the instrument is not a fair sample.

Dr Harker arrived on Tuesday & brought with him a considerable amount of apparatus; he had been a few days in Cambridge on his way here staying with Mr Griffiths, from whom, Mr Shaw, Mr Heycock & Mr Neville he had received suggestions. I think he is likely to require various small pieces of apparatus, materials &c, so I wrote Prof. Carey Foster — as chairman of the sub-committee, authorised to spend up to £5-0 to get suggestion as to method of working — It might be advisable to regard any small odds & ends, directly necessary to the proper working of the

Kew apparatus as at present constituted as being procurable in the usual way, on my initiative, ~~has~~ not to be included in the £50. If in doubt I could refer matter to Prof Carey Foster. Suppose for instance Dr Harker finds he wants some wire, clips &c, it might inconvenience him to wait two or three days, or take a trip up to town to interview Prof. Carey Foster or Prof. Rücker.

I had to turn my hand to the dip circle urgently wanted at the Admiralty & to the azimuth compasses, so have only today got the MS of annual Report ready for the printer.

I think Caulla's estimate £5-5 would do, it seems par too much for an apparatus likely to deal with only 3 or 4 per cent of the total number of thermometers sent us (say 10 per cent of those used for meteorological purposes).

I think of writing them to that effect. The plan is a very ~~burried~~ hurried.

superficial production, so we can hardly judge as to its goodness of idea.

I think I have pretty well all the data now required for report on azimuth compasses, but shall consult Mr Baker before sending it you.

Yours faithfully
Charles Chree

F 2465

3 Enclosures

STATION, POST AND
TELEGRAPH OFFICE,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No

Kew Observatory,
(Old Deer Park,)
Richmond, Surrey.

Jan 29 1897

Dear Mr Galton

I enclose a letter received some time ago from the Met. office, but which I have only now found time to write about. It means that the Met. Council decline to make any payment on behalf of any of the work done here on the earth thermometer question. The letter referred to as second Memo I also enclose. The question of "how such charges shall be met" I should have supposed exclusively a matter for the Met. Council, but the question "that such charges shall be met" is one I think concerning also the Kew Committee. The interpretation put on the letter appears to be that no claim for assistants' time will be allowed unless at some date prior to the work the Met. Council shall formally decide to pay for such work. If this be so then it would be well an explicit declaration should be made at the time we are asked to do any extra work that payment will or will not be made, otherwise we can't tell what decision the Met. Council may have come to on the matter. On receipt of such a statement I could consult the Committee.

The idea of having to make a definite bargain in writing beforehand before undertaking any extra work does not seem to me very satisfactory. For instance one might be asked to

do something requiring immediate attention at a time when no Committee meeting would occur for some months.

I had concluded that a disposition would have existed on the part of the Met. Council to temper economy by regard to the consideration that extra taxation without representation is seldom profitable policy in the long run.

The fact that without the use of apparatus not belonging to the Met. Office the investigation could not have been carried out satisfactorily seems to accentuate the refusal.

Yours faithfully
Charles Chree

I. 2471

STATION, POST AND
TELEGRAPH OFFICE,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.

Kew Observatory,
(Old Deer Park.)
Richmond. Surrey.
Jan 29 1897

Dear Mr Galton

It turns out that Dr Harker somewhat underestimated the cost of a resistance box. The Birmingham maker he wrote to quotes £5. 5. — whether excluding carriage, or not, is not stated; it also looks as if he had no instrument in stock. At present Dr Harker is using boxes lent by Prof. Rücker, on promise of return in a week. We now think the best plan will be for Dr Harker, when returning the boxes, to take a look round at messrs Nelder's or elsewhere to select a box; he seems confident he can get one at about £5. 5; & if so certainly an extra 5/. or so is not to be considered. Prof. Rücker seems to have been unaware that the sub-Committee on thermometry were authorised to spend up to £50 on instruments; so he & Prof. Carey Foster as a majority could have authorised any payment of the sort. I wrote Prof. Carey Foster on the general question, who said that "I take it the sub-Committee must approve proposed expenditure, but I imagine that any expenditure that you might think desirable would be sanctioned almost as a matter of course". So perhaps it will suffice if on Dr Harker's reporting the necessity for any not serious outlay, I use my discretion & , if there is hurry.

report to Prof. Carey Foster. ~~if Harker is agreeable~~.

Apparently Prof. Carey Foster & Dr Harker did not settle definitely what the monthly payment should be; but Dr Harker has I think thought that £10 a month, the maximum of the "minute", would be paid. Under the circumstances I think it would be best to make it £10 a month; it might be as well it should be made clear at once whether this includes everything, travelling expenses, transport of apparatus &c. It would I think be best that Prof. Carey Foster should settle things definitely with Dr Harker & report formally to next meeting.

Dr Harker is calibrating the bridge wire today; he has cleaned up the box, taking some of it to pieces in the operation. This has led to what at present is puzzling us, viz an apparent sudden jump of 0·2 °C in the ~~zero~~ readings of the platinum thermometers in ice. There has during the year been in almost every case a gradual apparent fall of the ice readings, & this change brings one or two of the thermometers nearly to their original reading. It may be that the apparent gradual change of zero has been due in part to a gradual deterioration in the box put to rights by the cleaning; only as the changes in the zeros have been different in the several thermometers, and one — the earth thermometer — shows an apparent rise of zero instead of a fall like the others, I think some other explanation is the true one. Clearly if the readings in ice are liable to alteration to such an extent, by unknown changes in the box, the situation becomes more complex.

Yours faithfully
Charles Chree

1

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Return to F. Galton (three) f. 248

No.

Kew Observatory.
(Old Deer Park.)
Richmond. Surrey.

Feb 2 1897

Dear Mr Galton

The question as to payment from Met. Office was raised in Feb 1895 when the original letter I sent you from Mr Scott was submitted by me & the Ctte I made a statement of the situation but the committee came to no decision, there being merely informal conversation. From the remarks made by members of the Met. Council present, I understood the intention was to put the onus on Kew of applying for payment for special work, but to treat such applications favourably when they appeared reasonable.

As to the pecuniary side, in 1895 we estimated our expenditure under "Normal observatory" at £5-16, the payments by the Met. Office being £408. In

1896 the estmate is payments £616, receipts from Met Office £418 (to nearest pound). The heading includes magnetic observation work as well as meteorological, special work for the Met. Office. On the two years I think we have certainly spent what we estimate at over £800 in toto on Meteorological Work alone. The estmate includes the share of my time & Mr Baker's time we ~~think~~ consider to most accurately represent the facts, as well as the share for assistants' time actually occupied in dealing with records &c.

The numerical results in our expenditure have tended to rise of course with the general rise in ~~the~~ scale of payments to the staff, while the payments by the Met. Council are ~~remaining~~ less than they would have been previously, owing to their fresh departure in declining to pay for special work. ~~Thus if the Met. Council hold that their payment was at present on the side of generosity, they must either hold that 6 years ago it was largely charity, or else that our work is now very inferior in quality compared to what it used to be.~~

There is no doubt that much of the work done here for the Met. Office

3

is routine & does not require high scientific training, & the Council may think of course that scientific knowledge is useless to them at Kew and should not be paid for.

As to the Gassiot fund the Met. Council seem to me to put too narrow an interpretation on its provisions. The fund is "for the purpose of assisting in carrying on & continuing Magnetical & Meteorological Observations with self recording Instruments and any other Physical Investigations that may from time to time be found practicable and desirable." Later on other objects are added viz "for or towards the repairs or Insurance of any such Observatory or for the repair or Insurance or improvement of the present Instrument in use for any of the purposes aforesaid or for providing & keeping in repair ... any new Instruments as the said Ctte may from time to time in their absolute discretion deem expedient...."

The conditions are 1° that the services of the Ctte are gratuitous, 2° that an annual report is submitted & 3° "that if

by ~~any~~ reason of the said Kew Observatory ... being at any time discontinued the observations shall cease to be recorded and the investigations shall cease to be made for the space of twelve consecutive calendar months or for any such further period (not exceeding --- thirty-six consecutive calendar months) as the Council of the R.S. shall determine the said trust fund shall be paid over" (to other sources). It is clear it was not intended that the £400 should go exclusively for keeping up magnetic & meteorological recording apparatus; it is even doubtful how justified one is in regarding such objects as having prior claims to physical investigations such as platinum thermometry. In any case magnetic work is mentioned first, & yet we tabulate only 5 days a month.

As to practical policy, it is I think desirable that the meteorological work should not be contracted, if the place continues to exist as at present, and if this be so the Observatory may regard itself somewhat as being

5

(Clerk) 762/97

f. 251

Station, Post and Telegraph Office, RICHMOND, SURREY.

ALL CORRESPONDENCE TO BE ADDRESSED TO THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON GALTON PAPERS

No.

New Observatory,
(Old Deer Park,)
Richmond, Surrey.

189

in the position of a private person possessed of private means ~~who~~, not altogether sufficient to satisfy his tastes, who can add to that income by doing work at less than proper market value. There may be others similarly situated prepared to do the work on similar terms, and a strike might merely lead to loss of the extra income. Relying on a continuation of the connection the Observatory has provided itself with a staff adequate for its present work, and if the income were contracted it might bear hardly on some assistants who have been long connected with the place.

Thus though the payment from the Met. Office may be doubtfully the full equivalent of the work they get done by us it might be bad policy

to break with the Office, without having a second string to our bow.

Some clear understanding ought I think in any case to exist as to what lengths we shall be prepared to go in doing work without special payment. At present the Met. Council apparently claims to have sole discretion in the matter, which does not seem an arrangement calculated to work smoothly.

Lenses I saw Captain Abney at S. Kensington yesterday, but only for some 20 minutes with various interruptions, so that the interview did not allow of much conversation. The position is I think that Captain Abney thinks the sort of photographic test we have tried is probably good, & that he thinks a direct photographic test of definition &c much the best; but he is far from sure whether, taking into consideration the small number of lenses that have been sent, it would not be better to give up testing lenses altogether.

He offered to come here some Saturday

Taffernion & discuss the matter on the spot. I dint myself think his visit would lead to much unless the Cttee had previously decided that it is desirable to undertake the expense required for a photographic test. To settle this the Cttee ought to have before it information as to whether photographers at large really would benefit from a test & are likely to avail themselves of it. If possible an opinion should be got from some influential photographic body.

For instance a cheap test supplying focal length & a test photographic for definition, curvature & distortion combined, at a total cost of 3/ or 4/, might be a success.

To carry out a photographic test we should require a longish room - which might be of conservatory pattern, or the ground preferably - well lighted; and a suitable Camera to take plates of various sizes, with suitable test objects at various distances

would I think be essential. The prime cost could hardly be less than £5-0 pr £100. I have felt since the Cttee decided to get the platinum work done by Dr Harker, that considering the expenditure thus pr to be incurred the lens question might as well be left in the background for a little time. Captain Abney however wrote suggesting the visit I made yesterday & there could be no harm in the committee considering the situation at the next meeting. I don't think cost of plates &c would be at all serious.

Yours faithfully
Charles Chree

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No

Kew Observatory.
(Old Deer Park.)
Richmond. Surrey.

Feb 4 1897

Dear Mr Galton

The question of the cost of the minimum of Meteorological work that the observatory is obliged to perform to satisfy the terms of the Gassiot trust is rather a difficult one. On the whole after a careful study of the terms my opinion is that the minimum is nil; in other words that the exact objects of research are really left to the discretion of the Committee. If the Committee should formally decide that sufficient Meteorological records had now been accumulated, & that the income from the fund could with greater advantage to science be devoted to other physical

investigations, I am disposed to think that legally they should be within their right. I quite recognise that this is ~~unquestionably~~ a doubtful point. The explicit reference at the start to "magnetical and meteorological observations with self-recording instruments .." certainly tells in favour of the view that the actual running of the recording instruments is essential. On the other hand the conditions of forfeiture are that "the observations shall cease to be recorded and the investigations shall cease to be made" "by reason of the .. Kew Observatory ... being at any time discontinued". This I think would be held to mean that the condition of forfeiture was that the observatory should fail to be maintained as a place for physical investigation. It would appear that so long as either the self-recording instruments were run, or the investigations were made the conditions were satisfied.

If provisionally we accept the

view that the running of the self-recording instruments both magnetical & meteorological is essential, we have to consider whether anything beyond this is necessary.

I see no compulsion to publish the results, or to take any steps to prepare them for publication. There would not appear to be any provision even that the results should be accessible to, or in a form intelligible to and useful by the public. If I am correct in this view then the minimum cost would represent cost of photographic paper, gas, and assistants time in merely changing curves. I find that on the average of 1895 & 1896 I estimated at £100 a year the cost of paper, chemicals, gas & share of caretaker for magnetic & meteorological recording instruments combined. The mere changing & developing the curves could be done by a boy, and he could in addition take two readings a day

of absolute instruments furnishing data to check the meteorological curves. Such attendance of course would not be calculated to produce results so satisfactory by any means as we now attain, but it would seem to satisfy the conditions of the trust if we accept the view that running the instruments is compulsory. Thus putting the Magnetic curves aside I think that any provisions the trust deed may enjoin as to meteorological observations would certainly be covered by a sum less than £100 a year.

Yours faithfully
Charles Chree

f 257

2 Enclosures

No

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Kew Observatory,
(Old Deer Park.)
Richmond, Surrey.
Feb 5 1897

Dear Mr Galton

I should have sent you the enclosed earlier, but really have been somewhat overwhelmed by more pressing work. So far as I know the Committee were not consulted at all about Mr Claxton's appointment as Director of the Mauritius Observatory, and if this be so then I think it would be well he should know the true facts of the case. The authorities who were consulted or who acted without consulting the Committee might object to sharing the credit.

Dr Harker is getting on with the calibration of the resistance box. His opinion is he had better get

thoroughly at home with the apparatus, study & probably remedy in part any defects, & experiment on various points bearing on the degree of accuracy obtainable, before proceeding to Paris. In this my opinion coincides.

I have been dilatory in thanking you for the trouble you have taken over my certificate for the R.S. & the interest you have shown. It is gratifying to me to know it was so strongly supported. I have written to Frost thanking him for his zeal & enterprise.

Yours faithfully
Charles Chree

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Enclosure f. 259

No.

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Kew Observatory,
(Old Deer Park.)
Richmond, Surrey.
Feb 9 1897

Dear Mr Galton

I have not sent back yet the old & new compasses sent by R. Geographical Society, thinking it best to await instructions from you & the Society. On returning them I should make application for sum originally mentioned.

You did not say what was to be done with Mr Clarke's letter; so I have done nothing.

I quite agree as to expediency of submitting my letters on financial relations with Nat. Office & General Strachey, before thinking of bringing them before the notice of other members of the Council.

Yours faithfully,
Charles Chree

F 260

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.

Kew Observatory,
(Old Deer Park.)
Richmond, Surrey.
Feb 9 1897

Dear Mr Galton

I enclose proposed agenda list. Is reference to deputation advisable[2]. Some members might not know of it.

1) I suspect it may prove expedient to introduce temperature correction into figures relating to magnetic diurnal variation. You may remember I got leave to run a thermograph, & some of the figures are certainly worthy of serious consideration.

2 Shall report what Dr Walker has been doing &c. Also perhaps question as to change of gen should be mentioned. Am not clear whether data up to date should not be dealt with for publication.

3 Wrote Captain Abney some days ago. Point at present is I think whether it is worth while going to considerable cost for apparatus & photographic studio. If test really wanted & would advantage be taken of it? Opinion perhaps from some important society would be best thing. I have put this to Captain Abney.

5 Exhibition March 16-19; you doubtless know particulars

The date of meeting is the 19th.

4 I forgot this. Apparatus practically broke down, pano being reduced to 1. ~~I had~~ Munro sent man & found wheels all so much worn I considered myself warranted in ordering new ones. At present we use the old wheels, until new are ready.

There is great press of clinical thermometers at present, & break down was very awkward..

Yours faithfully
Charles Chree

f 252

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No

Kew Observatory,
(Old Deer Park.)
Richmond, Surrey.

Feb 11 1897

Dear Mr Galton

The assistant cyclostyling at first the agenda omitted No 2, and as we have run out of more cyclostyle paper — a supply ordered a week ago not being yet to hand — I thought it best to act as has been done. It certainly makes No 2 prominent.

I find I had forgotten two things; 1° that Mr Constable suggests ceasing to issue C certificates for watches. He thinks the test hardly good enough, & that its existence is a doubtful financial assistance as it diverts to class C best some watches that otherwise would be entered for class B, or get class B failure forms. The question might fairly be raised on the "Report", because

notice might conveniently be given in the Report if a decision to discontinue class C were come to. The second question was apparatus for testing thermometers horizontally; but perhaps its omission is no loss. I told Mr Casella that his estimate over £50 seemed to me prohibitive & asked for alternative scheme. This is promised but may not turn up in time.

The temperature correction for V.F. magnetograph is I think important & ought to be settled before ~~for~~ tables for 1896 are completed; so I must hold over their completion. I have got most of the facts now, but not all.

Prof. Oliver Lodge wrote yesterday asking about our electrograph data, where they can be seen etc. I told him generally position of affairs, stating that if he wished to have set of curves, application would have to be made to the Met. Office through Mr Scott.

On Dr Harker's initiative I have instructed Eldridge to provide two

shelves for the platinum thermometer room, & also asked him to provide estimate for protecting heater off watch over from loss of temperature during the night. I also thought of slightly shifting the chronometer room so as to secure better place for electrograph battery, but it does not seem the simple job represented to me & so probably it will be left alone.

Dr Harker evidently thinks that before proceeding to Paris he could with great advantage devote a good deal of time to studying various features of the platinum thermometers, & devising the best means of obtaining the utmost possible accuracy. Apparently also he entertains considerable doubts whether the Sevres standard hydrogen thermometer can be used at temperatures over 150° C or so. It would I think be well that the sub-Committee

on thermometry should communicate with the Bureau International without much delay, find out what is practicable & arrange a policy. If time & money are limited great preliminary attention to details might be a mistake. There is great activity just now in Clinical thermometers. I have just stamped over 330 certificates, rather a monotonous occupation.

Yours faithfully
Charles Chree

P.S. Golf clubs have had some shape in the Park the last few days, so I wrote Secretary. He says it is merely temporary & that no arrangement as to letting & grazing has been made "owing to the Town taking the 87 acres". I suppose he aims at enlisting our sympathy.

C.C.

I. 265

STATION, POST AND
TELEGRAPH OFFICE,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No

Kew Observatory,
(Old Deer Park.)
Richmond, Surrey.

Feb 17 1897

Dear Mr Galton

I enclose a copy of the particulars I have sent Professors Adams & Rücker & Captain Creak; as I have not another copy perhaps you will bring it to the meeting. The summary of numerical details is on the last page; but I think any member of Committee would find the details clear enough. The thermograph curves were read by myself, partly because actual contact with the work gives me a clearer idea of its limitations, and partly because other people were too busy; I can thus realise the additional work entailed by adopting a temperature correction for diurnal variation & it is quite appreciable.

Mr Constable has prepared table bearing on C certificates for watches. Between 1885 & 1890 only 95 watches were entered for this test. Then from 1891-95 there were a considerable number, mainly, cheap Swiss watches. But in 1896 the number has been 500, of which only 24 passed. The fee for certificate is 5/6, & rejection fee is half this, so sum in question is not large. Of course the fact that the numbers both of class A & class B watches is decidedly less in 1896 than in any year since 1870 is a consideration.

Question arises as to publishing Watch rating list in horological journals for March; this was done I am told last year.

I forwarded you the other day what looked externally the duplicate of a letter I received asking "practical cooperation" from the Chairman of the "Clock & Watch Makers Asylum". Mr Constable thinks a subscription

or rather donation from the observatory would be money well bestowed. The connection of the observatory with watch makers is close and if donations are desirable in such a case, the present occasion is worthy of consideration. It has occurred to me sometimes whether a contribution to some local purpose – e.g. the hospital – might not be desirable. The question however is complicated; perhaps the Committee have considered it before.

The New Magnetic tables will of course not be ready on Friday, being delayed by temperature correction question. I have however got together the table of values of magnetic elements at other observatories. It means a fairish bit of work, as a good many places don't explicitly give mean annual values, but only monthly values, & generally a good deal of hunting for data is requisite. No intimation has been received from "Science Progress" of their wish to continue the table, so unless the committee think otherwise I feel disinclined to approach the Editor again on the subject.

Platinum Thermometry As I said before, I think particulars of comparison at Sevres had better begin to receive attention. The authorities there should be communicated with, to see what is practicable. Dr Harker's work hitherto has been with calibrating the bridge, not yet completed, & other preliminaries. If the comparison at Sevres &c is likely to last a longish time I certainly think expediency of publishing something bearing on the work already done should be considered. We have spent a good deal of time on the work & may as well get some credit for it. For work at Sevres the Bureau International may put in a claim.

As to Dr Harkers subsidy, Prof. Carey Foster wrote approving that it be at the rate of £ 10 per calendar month; but he also thought that the question of allowing for special expenses should be considered. For instance carriage of Dr Harker's apparatus from Manchester came to some 15/. & it might be well to recoup this. Dr Harker finds Richmond a very decidedly more expensive place to live in than he expected.

The pump outside came to grief in the frost; I have estimate for repairs £ 1. 4s 9d. It gives cold water in summer & so helps to economise ice.

Yours faithfully
Charles Chree

F 266

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.

Kew Observatory.
(Old Deer Park.)
Richmond. Surrey.
Feb 22 1897

Dear Mr Galton

I was so much interrupted today at the observatory to think over your letter & even now I have had to answer it somewhat hurriedly. This afternoon Mr Zambra of Negretti & Zambra called, considerably excited about my article in Saturday's Times. He clearly thought Prof Rücker had been running down English opticians, and was anxious to contradict his statements that we had to go abroad for high class thermometers. I hope I succeeded in persuading him that Prof. Rücker was not a German, and that the inferiority he referred to was

not in English workmanship but in our scientific knowledge of English glass. I advised him to write Prof. Ricker calling attention to his grievance, & intend dropping Prof. Ricker an explanatory note. It would be a pity to set London opticians by the ears if by any possibility their cooperation could be secured.

I enquired as to the copying paper; it was supplied by Waterlow; it is called "buff" something or other.

Yours faithfully,

Charles Chree

f. 267

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

No.

Kew Observatory.
(Old Deer Park.)
Richmond. Surrey.
March 2 1897

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Mr Galton

I got your telegram this afternoon telling me not to write to Times anything about thermometry. I have not said or written anything to any one relative to the subject of your letters, judging it was inexpedient to talk. I don't see the "Times" as a rule, so have no idea of the cause leading you to send the telegram. An article in the "Times" some 10 days ago was brought under my notice by Messrs Negretti & Zambra who took exception to the statement ascribed to Prof. Rücker that one had to go abroad for first

F 26 81

rate thermometers. I explained in conversation to Mr Zambra, who called here on the question, that I understood Prof. Rücker to make no reflection on English workemanship, but to call attention to absence of sufficient scientific knowledge of English glass amongst people generally. I also advised him to write to Prof. Rücker if he still felt a grievance, & wrote myself to Prof. Rücker explaining the position.

Dr Harker seems pretty strongly of opinion that the uncertainties in our resistance bridge in its present state are too great for really accurate work, & with my approval saw Prof. Carey Foster yesterday showing him some figures. The uncertainties are of the same kind as I described to the committee when Dr Harker's coming here was decided on. It rather looks as if something would have to be done to the bridge of a more or less fundamental

character, entailing its being
sent to Cambridge. We are getting
some slight apparatus made which
we hope may throw some light on
the extent of the evil, & Prof Carey
Foster thought until this was tried
we had better wait. I have
not yet received an answer to my
letter to the director of the Bureau
International.
Several watch makers have expressed
their approval of our ceasing to
issue class C certificates. I had notice
cyclostyled & sent out, giving this much
the most direct way of conveying
the information.
The list of specially good watches has
appeared in
the March number of one of the
horological journals. The Ctte authorised
its being sent you will remember.

Yours faithfully
Charles Chree

F. 269

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No

Kew Observatory,
(Old Deer Park.)
Richmond. Surrey.

March 3 1897

Dear Mr Galton

I received your letter this morning & also one from Prof. Rücker. After your telegram I thought it might be as well not to go out of my way to see the "Times"; but Dr Harker came across Mr Powell's letter & gave me a general account of his reference to me. I have sent Prof. Rücker copies of all essential parts of my two letters, ~~sent~~ the first to Messrs Powell, the second to Mr H. Powell who had answered my first letter & who asked me to address to him. The letters were written six months ago, the primary object being to obtain particulars as to the chemical constituents of our Kew Standard Thermo-

meters, which have been of Powells'
glass for upwards of 30 years at least.
Mr Powell answered my enquiries
in a straightforward fashion, only
prescribing that I should regard
the particulars as confidential.
Powells sell nearly all the glass
used in London for thermometers, &
I thought it would be doing good service
both to ourselves & English thermometer makers
generally to put clearly before Mr
Powell the most prominent difficulties
arising, through peculiarities of different
glasses, in modern thermometry of
high accuracy. I impressed on him
the importance of absolute uniformity
in chemical constitution & treatment
and while pointing out that English
glass has a natural scale coming
closer to the hydrogen scale than either
the French or German standard glasses,
insisted that while for ordinary
purposes — where accuracy only to 0°.1 is
looked for — it might do to use

uncorrected the readings of an English glass thermometer, it was a very different matter when accuracy to 0°.05 C or even 0°.01 C was desired.

I have frankly explained to Prof. Rücker that ~~not~~ I dint think his policy of silence the best plan, unless some negotiations I dint know the particulars of would suffer. To me it seems that Prof. Rücker's utterances before Lord Salisbury have raised amongst London opticians & glass makers some apprehension that what is aimed at is a wholesale substitution of German thermometers for English. This I think it would be good policy to dispel. So far as concerns clinical & meteorological thermometers, used seldom much above 100° F, the proximity of the English glass scale to the hydrogen scale is I think a distinct advantage. The lag, temporary changes of zero &c are seldom of much

practical importance for such purposes.
You at least, as a meteorologist, can
appreciate that for ordinary practical purposes the
elaborate procedure required to take a
single reading from a Fortnelot thermometer
is too much of a good thing. The
number of thermometers used for delicate
physical work is comparatively insignificant.
The view I should like put before the makers
is that what is found fault with is not English
workmanship, but the absence of sufficiently
exact scientific knowledge as to the properties
of English glass thermometers, and the absence
of provision for the examination of thermometers
of the highest accuracy of any kind of glass.
They might even see a distinct prospect
of advantage in the existence of an insti-
tution where, amongst other thermometric
work, the properties of English glass might
be carefully studied, whence possibly might
precede suggestions enabling its adaptation
to higher thermometry. The idea that we
aim at introducing German thermometers will
help us with the Government either, while a
backing from English makers might.

Personally I should have been
quite ready if you had desired it.

f 272 5

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.

Kew Observatory,
(Old Deer Park.)
Richmond, Surrey.
189

to try my hand at pouring oil on the troubled waters, but of course after the letters I shall not do anything. There may of course be further developments, rendering silence somewhat difficult.

One question I forgot to put at last Committee meeting, viz whether in future the numbers of instruments tested should be entered as previously in the "minute book". Now that a special book exists for the purpose, this seems unnecessary. It might simply be said "submitted report of work done up to end of Jan 31st"

Yours faithfully
Charles Chree

P.S. Perhaps I should add that Mr Powell did not ask my leave to publish extract from my letter; his intention was not intimated in any way.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

f. 273

25 Mount Ararat Road
Richmond Surrey
March 19th 1897

Dear Mr Galton

I am not sure you would get a sufficiently clear idea of the situation from what I said at the committee meeting today. I felt a good deal hampered by Dr Hake's presence, as I gathered from Sir F. Mowatt it might be desirable to say as little as possible in the meantime, though he explicitly said I might consult the Committee. The object of the meeting today, I believe, was to obtain information that would enable Sir F Mowatt & Sir Courtenay Boyle

to suggest definite terms of reference of the question to some Committee of Experts. The memorial from Royal Society he was deemed too vague, more especially as concerns work in itself partly of the nature of research but required as preliminary for high class standardisation. Besides myself Profs. Roberts Austen & Dr Thorpe were present. After a good deal of conversation, the understanding was we three should separately or conjointly send in written memorial of what struck us as the work to be provided for. Nothing explicit was said as to place where work should be done, or anything as to utilising Kew Observatory. From a remark let drop I concluded the information you collected as to thermometry at

or something equivalent
Kew had been under review, & that the want in that department was at least partly recognised.

In some conversation with Profs Roberts Ansell & Dr Thorpe on leaving, Dr Thorpe expressed a wish for a conjoint memorial to be settled between us; but I said my position was not that of a principal & that I must consult the committee, but that I was prepared to suggest to the Committee that some one member should be asked to represent them. It was understood I should do this, ~~Professor Rücker as Prof Thorpe~~ and Prof. Rücker was suggested, by I think Prof. Thorpe. As things are at present, presumably any information supplied would have to go in under my name. The position seems somewhat anomalous, & if it could be made less so

by getting the committee directly represented I should be only too glad. Of course, for all I know, Jon or Prof. Rücker may have suggested to the Government officials to summon me to serve merely as a convenient channel, or they may be under the delusion I am a Government employe.

I am also writing Prof. Rücker to explain situation more fully. Not being behind the scenes at all I feel a trifle at sea

Yours faithfully
Charles Chree

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

f. 275(

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

25 Mount Ararat Road
Richmond, Surrey
March 20 1897

Dear Mr Galton

I found the enclosed awaiting me on my return from the Observatory today. It is in answer to a letter I sent last Monday in which I explained that the date April 2nd was by no means a convenient one for my going north, that I should very much sooner not go, but that at the same time I knew of nothing likely to absolutely preclude my going. Last night I wrote again explaining that an event unexpected by me when I wrote before had

occurred, viz the selection of April 2nd by the committee for date of meeting, and that the chairman had expressed the opinion that my absence would be inconvenient.

I have no desire to go if my reason for absence is sufficiently substantial, to show the Senate that I do not lack appreciation of the degree; & show this I should like to be in a position to say that the chairman of the committee with the full facts before him as contained in this letter thought my absence from the meeting undesirable. That, should I think, suffice.

I should add that until last year honorary degrees were always conferred in absence, & that the Secretary in announcing

the Festival & me merely asked whether I could be present. Thus I did not think any pressure likely to be put, & the Senates can hardly blame me if I ~~so~~ formed a wrong estimate of the situation

Yours faithfully

Charles Chree

It proves more important than
was anticipated that you should
attend Kew Committee - I urge strongly on being free to come
three Observatories. Richard 14 Surrey

Yours

Your attendance Kew Committee
proves more important than
anticipated. I urge strongly on
freedom to attend
15

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

f. 276v

1)

f. 277

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.

Kew Observatory,
(Old Deer Park,)
Richmond. Surrey.
March 23 1897

Dear Mr Galton

Your letter, received this morning, shows that my letter of Saturday had not fully explained the situation. The Aberdeen letter I then sent you applied appreciably more pressure on me to go than the earlier correspondence which I answered after the Committee meeting on Friday. In my Friday letter I explained that the Committee meeting had been arranged for April 2, & that you had verbally expressed the opinion my presence was desirable. To answer the Saturday's letter (i.e. letter received on Saturday sent to you) from Aberdeen, which of course crossed mine, I wished to state explicitly either 1° that you knowing of this letter still adhered to the opinion that my absence from the Committee meeting would be distinctly inconvenient, or 2° that I

would attend at Aberdeen, though it was appreciably inconvenient, the chairman of the Committee sanctioning my absence.

The Aberdeen people may answer my Friday's letter, excusing my attendance, but I expect them to wait the effect of the letter received by me on Saturday. On this hypothesis, on receipt this morning of your letter I wrote the Secy. of the Aberdeen Senatus, stating I had sent his letter received by me on Saturday on to you, and that in a letter received by me this morning you adhered apparently to the opinion you expressed on Friday, both as to date of meeting & importance of my presence at it. I then formally asked him to get Senatus to sanction my absence, & if they declined to send me telegram. I explained the great inconvenience the prolonged uncertainty put me to. The fact is between invitations I have been unable to answer definitely, & one thing or another, the affair has worried me a good deal.

3) For a meeting on April 2nd the agenda list should be sent out not later than next Thursday the 25th; accordingly I enclose what has occurred to me. Things may be in a position for deciding on proposed new apparatus for platinum thermometry. So far as I can judge no very clear decision was come to last Friday as to the suggested alternative box to be supplied with manganin coils.

The question as to excess of telescope testing work above capacity of Mr Baker & Mr Boxall – who have also magnetic work, Sextants & compasses to attend to – was not raised. I hardly liked entering in details in Dr Harker's presence. The continuous light pressure on the department is trying. I have not yet had time to discuss the matter adequately with Mr Baker & should like to do so before making suggestions.

Dr Van Rijckevorsel has turned up today. There may be question as to occupation of Dr Harker, while Kew bridge

away. At present he is putting up his own bridge apparatus in hopes of trying several things with it.

As to the cheques I think it would be very premature to pay them on the 3d.; perhaps they had better be dated a fortnight or three weeks later & my signature be attached then ~~& not later~~. also we could not pay them until our bank balance was raised by payments to us of our quarterly accounts, without unduly reducing the balance.

In the rough minutes you say ~~make reference~~ "That Prof. Rücker be requested to suggest list of instruments suitable to the proposed Nat. Phy. Laboratory"

Should there be any reference at all to this in the Minutes? No official communication has passed between the Government & the Committee. It was not so much as suggested at the Treasury ~~that~~ I was expected to act as intermediary with the Committee; the only thing was that, in answer to a definite question I made, permission was given me to consult the Committee. I understood this to mean to consult privately.

An explicit reference in the Minutes

seems to imply a non-private communication; & further it is customary to have the minute Book indexed by a member of the staff, & to allow free access to it both to members of the staff (for instance in search of ruling of Committee on various points) & to the Auditor (to see authorisation for expenditure). Thus entry in the Minutes (unless worded so as to be unintelligible to those unaware of the situation) seems hardly compatible with the privacy that seemed intended.

Afranswerif It might be desirable I knew a little more of what has led up to the Treasury's action, & of what I am desired to do. Inquisitiveness is not a weakness of mine; but if I have not to do anything, or be responsible for any written statement, I wish to know enough to avoid contributing to a fiasco.

If the Treasury ~~and~~ have a definite understanding with you or Prof Rücker & have arranged that information should be supplied nominally through me, then I know, that all I have to do is to transmit what I am told &

be discrete. But if there is no such understanding, & the Treasury regard me as responsible for information sent them, then I think that either I should explicitly say that the Committee thought that the application for information should be made to themselves, not to an employee, or that I should not be expected to transmit information unless persuaded of its correctness & suitability. The information might for instance be irreconcilable with something I said in the personal interview; or be conveyed in a way that the interview led me to think injudicious. I have heard nothing as yet from Prof. Rücker, & should be glad to know what view you take of the situation before it is necessary to deal with the information.

Yours faithfully
Charles Chree

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

The Kew Observatory,
Richmond.
March 25, 1897.

Dear Sir,

You are requested to attend a Meeting of the Kew Observatory Committee to be held at the Meteorological Office on Friday the 2nd of April, at half past three o'clock. (3.30 p.m.).

Yours faithfully
Charles Chree
Superintendent.

f 282

Agenda.

1. Annual Report sent to Royal Society.
2. Platinum Thermometer Apparatus.
3. Increase of Telescope testing, strain on the staff.
4. Comparison of magnetic instruments by Dr van Rijckevorsel.
5. Report of work done.
6. Bank Balance.
7. Cheques to sign, and any other business that may arise.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

f. 283

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

No.

Kew Observatory,
(Old Deer Park.)
Richmond, Surrey,
March 25 1897

P.S. revised report for Secy. Soc. last week; have not had time to discuss your suggestions as to chart print with Mr Baker

Dear Mr Galton

Though you are not to attend the meeting you will desire to see agenda list as issued, so I enclose it. I have put things as strongly to Aberdeen as I can; pending on your telegram inter alia.

Prof. Rücker writes that he has seen Dr Thorpe & Prof. Roberts Austen & they have agreed in nature of memorandum, which will be shown me before it is sent in. By the way, I am doubtful whether you understand that what was asked for was particulars as to the instruments which the proposed institution should test, and the nature of the quasi-research work essential

to render high accuracy test work satisfactory. The suggestion you make as to the "minutes" is suggestive of the outfit of apparatus required in such an institution. I could easily manage to clothe insertion in language not shewing immediate cause of discussion; but must own I am not clear it is necessary to say anything.

Prof. Carey Foster was to come out on Friday, but wrote this morning he could not; so Dr Harker has gone up to town today, to interview him & Prof. Rücker, to see whether complete second box (without coils) or part only was thought of. When I hear I can write for estimate.

Hicks sent me the "Times" of Tuesday with his letter in it. I have merely acknowledged it, adding "English scientific men I am sure have no desire to go to France or Germany if they can get what they require at home". Prof. Rücker has he says written short letter to Times.

Yours faithfully
Charles Chree

f. 295

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.

Kew Observatory,
(Old Deer Park.)
Richmond, Surrey.

March 30 1897

Dear mr Galton

I understood your telegram to mean you would not insist on my attendance at ~~the~~ the meeting. As I mentioned yesterday I should now prefer to let the degree wait until next year. Either the Aberdeen people are offended, or they are not. In the former case a year to cool will make it pleasanter for both parties. In the latter case it would excite them & will seem ~~not~~ a course more in keeping with the dignity both of the Otter & myself. After what I have said, to give way now would suggest that either

the committee or myself had used stronger language than it was intended to set up. I did not. Thus after receiving your telegram I telegraphed Secy. U. Aberdeen Senatus to make sure I should get degree next year if present & he answered certainly. Thus I have decided not to go, but to be present at the Ctte meeting.

Kohlrausch has reported favourably on manganin & question of ways & means is sure to crop up, & will want my attendance.

H.M. Office of works have promised to paint outside of obsy this year & work is to commence soon. Last year they declined.

Yours faithfully,

Charles Chree

P.S. I don't care really much about degree, except as indication of friendly feeling, & my going now would not have any advantage in that way.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

E. 287

Station, Post and Telegraph Office, RICHMOND, SURREY

ALL CORRESPONDENCE TO BE ADDRESSED TO THE SUPERINTENDENT.

No.

Kew Observatory.
(Old Deer Park.)
Richmond. Surrey.
April 3 1897

nat. Phy. Lab.

P.S. No. today from Dr Thorpe. Think improvement possible; but shall give my attention to it at once.

Dear Mr Galton

The Kew committee meeting yesterday was attended by Prof. Adams, in the chair, Profs. Carey Foster, Perry, Rücker, Captain Creak & Mr Scott. The Camb. Instr. Co sent in offer to supply a Callendar-Griffiths resistance box with platinum silver coils, complete, for £110. They altogether declined to fall in with proposal that they supply skeleton box to be fitted with manganin coils by Dr Harker. Apparently their view was that if print production were a failure they would get blame, while if it were a success Dr Harker would get the credit. On Wednesday Dr Harker had

called, with my general approval, on the manager of Messrs Crompton, the electrical engineers, whom he believed to have been trying manganin for bridge wires. His object was to see what method was employed & whether it worked. In return for information supplied, the manager asked to be allowed to send a tender for the box, & on being informed I expressed my willingness to submit it to the committee without giving any pledge they would consider it.

Owing to the short time at their disposal Messrs Crompton's estimate was hardly final; but would total at about £70, without the coils. According to Dr Harker's figures, £75 should cover all.

The conclusion come to was that Dr Harker, who was at the early part of the meeting, should go to Crompton's forthwith & discuss some doubtful points, & ask them to send me written offer to complete the work by the end of April. If they should do so I was to

send formal acceptance of offer.

It was also decided to get 2 new platⁿ thermometers of higher resistance & some sulphur point apparatus from the Camb. Co. To meet the consequent charges, authority was given the Sub-Cttee on Thermometry to spend £80 above previous sums voted.

Permission was given Dr Harker to take a holiday from now to Easter Monday.

Authorisation was given to get a new boy for the Library & transfer boy there solely to Mr Baker's department.

Getting a new boy entails constructing exam.ⁿ papers etc, rather a deal of trouble but this time unavoidable.

It was decided to remit fee, £5. 5. 0, paid by Dr van Rijckevorsel for verification of his magnetometer, on the ground that the comparison he aimed at making with Wilhelmshaven was desirable in our interests.

The report of work done compares favourably so far with last year. The value, in pies, of the present quarter exceeds that

of the corresponding quarter last year by I think some £50 in the verifications & £30 in the duty; but the difference occurred in January & especially February.

The bank balance on March 31 was only £342, 12s 10d; but about £106 has been received since then, and there should be a comfortable balance before April 23d, the date put on the cheques signed yesterday by Mr Scott.

Captain Creak asked me if I could let him have some copies of particulars as to ships' compass testing; & perhaps you will be surprised to hear I had to promise them for the near future. It is one of the things I have had to shunt owing to pressure of work, but hope now to get time to carry through. Today I have received a request on azimuth compasses from R. Geog. Soc[y]. In returning it I have said that some off-prints would be acceptable if allowed under such circumstances. Perhaps however you have already provided for that. I thought the Ctte[e] at least might like to know particulars.

Yours faithfully
Charles Chree

of the corresponding quarter last year by I think some £50 in the verifications & £30 in the duty; but the difference occurred in January & especially February.

The bank balance on March 31 was only £342, 12s 10d; but about £106 has been received since then, and there should be a comfortable balance before April 23d, the date put on the cheques signed yesterday by Mr Scott.

Captain Creak asked me if I could let him have some copies of particulars as to ships' compass testing; & perhaps you will be surprised to hear I had to promise them for the near future. It is one of the things I have had to shunt owing to pressure of work, but hope now to get time to carry through. Today I have received a request on azimuth compasses from R. Serv. Soc[y]. In returning it I have said that some off-prints would be acceptable if allowed under such circumstances. Perhaps however you have already provided for that. I thought the Ctte at least might like to know particulars.

Yours faithfully
Charles Chree

F. 290

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.

Kew Observatory,
(Old Deer Park.)
Richmond, Surrey.

April 8 1897

Dear Mr Galton

I wrote the Sec^y of the Golf Club yesterday, having seen some sheep in the Park, to say that some arrangement, even if temporary, to keep down the grass inside our enclosure was desirable. I saw him this morning on my way here & was surprized to hear that Messrs Vigers the agents we employed jointly had let the Park, but not the enclosure. Why they had not informed me of the fact is a question of interest, but I am not sure of its expediency. The Secretary made a proposal that the Golf Club themselves should take the grazing inside the enclosure for their horses, at the same rate they get for the Park. He

F 290

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.

Kew Observatory,
(Old Deer Park.)
Richmond, Surrey.
April 8 1897

Dear Mr Galton

I wrote the Sec^y of the Golf Club yesterday, having seen some sheep in the Park, to say that some arrangement, even if temporary, to keep down the grass inside our enclosure was desirable. I saw him this morning on my way here & was surprized to hear that Messrs Vigers the agents we employed jointly had let the Park, but not the enclosure. Why they had not informed me of the fact is a question of interest, but I am not sure of its expediency. The Secretary made a proposal that the Golf Club themselves should take the grazing inside the enclosure for their horses, at the same rate they get for the Park. He

was to speak about the matter to the Captain on Saturday, & I told him I should expect a communication, to be laid before you. If this offer is really made it would I think be best to accept it. There is always a risk of a gate being left open & this renders an offer of a similar kind from another source less desirable. We should of course have to arrange similar terms to those proposed to Messrs Vigers.

If the Golf Club people don't come to the point promptly I should be disposed to accept an offer - of a somewhat tentative kind - made through the caretaker by a local tradesman to take the grazing for his horses; always provided of course he came to the point.

Horses can be brought with no inconvenience to the Park occupiers.

I think we should have been informed earlier of the situation by either Messrs Vigers or the Golf Club, but our interest is so small that it does not seem worth resenting this. Dr Harker had had

a considerable hunt on Friday
after the meeting to find Crumptons'
manager; but according to a letter I
had from Dr Harker yesterday he clearly
thinks Crumptons will undertake &
carry out the job satisfactory. At
the same time no letter from Crumptons,
promising to complete the work in
the time specified, has yet reached me.

If you are going away I had perhaps
better be authorised to complete the
arrangements as to the letting.
Probably I shall be away myself
a few days at Easter, but details
are still unsettled.

I think I told you the Office of
Works have promised to paint
the outside of the Observatory this
year, probably commencing in a week
or two.

Dr Thorpe sent me the other day
Mrs of report to Treasury, to which
I added; but I have heard nothing

further as yet

yours faithfully
Charles Chree

f. 293

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No

Kew Observatory.
(Old Deer Park.)
Richmond. Surrey.
April 12 1897

Dear mr Galton

I rather think I shall be away for a week's change from Wednesday afternoon, most probably at Bournemouth, but address must uncertain. Of course the Observatory is closed - except for necessary minimum of work - from the 16th - 19th inclusive. If I go mr Baker will have my address by the 20th & could forward anything if marked private, or if you are to be in town I could send you my address.

There are one or two small points:
The Otto resolved to remit Dr van Rijckevorsel's fee £5-5- for testing his magnetometer, but no cheque was signed. He lives in Rotterdam, but will be over here again for few days before May 1. Would

there be any advantage in getting his cheque signed now - to be cashed when he is in England? If such cheques are easily cashed abroad there is no reason why we should not wait May meeting.

The R. Geogl. Society have sent me 12 copies of report on azimuth compasses. I dont know whether you have got some or not. If you have not, please let me know any people you would like copies sent to. Retaining 1 for Library & 1 for myself, they would hardly go round the Office. Captain Creak of course should have one.

The painting of the building has begun.

Yours faithfully
Charles Chree

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

F.19511

STATION, POST AND
TELEGRAPH OFFICE,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.

Kew Observatory,
(Old Deer Park,)
Richmond, Surrey.

April 22 1897

Dear Mr Galton

The enclosed came in my absence & Mr Baker asked the Pelf Club Sect to leave the matter over until my return. I think the offer had better be accepted, but as it will probably cause only one day's delay think it best to let you see letter first. The letter & Messrs Vyse put it clearly that Otter claimed free access & ground, & on giving 7 days notice ~~& compensation~~ allowance for land taken might take any land they required for experimental or other purposes. & I dint think any legal document would add much, as I dint imagine there is likely to arise any difficulty in recovering the rent. Slight uncertainty as to what is meant by water supply; my letter mentioned the pump as its source.

I sent to Sir T Mowatt last night the joint report by Dr Thorpe, Prof. Roberts Austen & myself. Prof. Rücker had I believe discussed matter before document was sent me. I added mainly particulars as to work now done here & some slight alterations in

references to Thermometry.

I got back from Bournemouth yesterday afternoon & found rather a lot of things waiting to be considered.

Dr Harker has got back also from his holiday & has seen Messrs Crumpton & thinks that matters are progressing pretty fairly.

Yours faithfully
Charles Chree

Enclosure

F. 294

481
No. 4111

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS
2/3/3/15

Kew Observatory,
(Old Deer Park.)
Richmond. Surrey.
April 27 1897

Dear Mr Galton

I wrote accepting the Golf Club's offer, but had a letter from the Secretary, Mr Montgomerie yesterday to say he found that, after all, their grazing tenant was willing to take the grazing inside the enclosure on the terms proposed by the Club themselves. I saw Mr Montgomerie on my way home, & he said the club would prefer the grazing to be taken by their sub-tenant rather than by themselves; in fact that perhaps their chief reason for offering was their dislike of the possibility of some one from outside driving stock across.
This being so I said I should write the sub-tenant, Mr Anderson, sending him copy of original letter to Messrs Vigers

& asking for definite offer, on the understanding that if he failed to come to terms the Golf Club would adhere to their tender. Accordingly I have written Mr Anderson. I have sent him particulars of offer by Golf Club, & copy of letter to Messrs Vigers, & have asked him to make clear conditions as to payment of rent, explaining that this had preferably be same as this arrangement with Golf Club. I also mentioned that Your sanction was required & that I should write you mean time.

Mr Montgomerie says their agents considered Mr Anderson's references "all that could be desired", so I think we had better accept his offer if he adheres to it.

Crystal Palace Exhibition Some time ago circular was sent about photographic exhibits. This was mentioned at a committee meeting but hardly discussed because expense was thrown on exhibitors. Some days ago letter came from Negretti & Zambra to say they were to act as agents & hoped we could

exhibit. I replied pointing out that Exhibition commenced on May 4 & Ctte, whose consent was required, did not meet until the 21st; also that apparently expense of sending exhibits was thrown on Exhibitor (Return was promised in their first communication. & no charge for wall space). I enclose reply received today. I was in doubt whether Captain Abney or some other member of Committee might not take an interest in the Exhibition. Perhaps you know.

Dr Van Rijckevorsel is here just now finishing his magnetic work.

Some weeks ago Mr Shaw wrote me about application made him by Prof. Hudson of King's college to have small party of a "Teachers Guild" shown the place. Mr Shaw was in favour of it but had not himself given formal permission. He wished me apparently to write Prof. Hudson, but I reminded him that as I was doubtful while he

himself approved the visit it would be more on the usual lines if he sent the order direct. Yesterday Prof. Hudson wrote me asking that a party should be shown over, preferably on Saturday the 29th, explaining he understood from Mr Shaw the reply was likely to be favourable. Under the circumstances I have thought it best to say I should be happy to show a party, of 9 or 10 at most, over in the afternoon after work is over.

Painting This is going on rapidly, some 10 or 11 men being at work sometimes.

Resistance box &c I hardly know how this is progressing. There seems delay about final plans, which I hardly understand. Dr Harker has gone up to town today & is to call on Messrs Crompton's manager.

Yesterday the Central Physical Obsy St Petersburg wrote asking us to get 5 Campbell-Stokes Sunshine Recorders, bill to be made out to "Director of the Chinese Railway". I have replied pointing out that for ordinary M.O. pattern knowledge of latitude of place is wanted. The order is rather an unusual one.

Yours faithfully

Charles Chree

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS
3/3/3/15

No

New Observatory,
(Old Deer Park.)
Richmond. Surrey.

April 30 1897

Dear Mr Galton

The golf club's grazing tenant, Mr Anderson, wrote offering to take the grazing inside the enclosure on the terms proposed by the golf club - i.e. accepting all our conditions. Conditions as to payment of rent seem quite satisfactory, so in accordance with the discretion allowed by your letter I have written accepting the offer.

My recollections as to the Crystal Palace exhibition were rather different from yours, i.e. I thought it was decided not to exhibit, but on the ground of expense. However I have written Negretti & Zambra to say they can

have some portable exhibits when they chose to send for them.

My suspicions that Messrs Compton were finding the bridge construction a slower business than they contemplated have proved well founded. Their manager wrote the other day, & his letter referred to a wish of Mr Compton's to exhibit the apparatus at an Roy. Soc. ~~f~~ function on May 19th, and his hope that by using the utmost despatch this might be managed. Nothing was said as to asking the Committee's permission to exhibit, or as to the failure to complete the work by the time first stipulated, May 8th. Dr Harker has been up at Messrs Compton's several times & states that in his opinion they are doing their best to hurry up, & that the application of more pressure would be useless. I sent Messrs Compton's letter to Prof. Carey Foster, and he apparently thinks the prospect of this exhibition likely to be a valuable auxiliary in

hastening the work; also he does not go further than the view that it would be more regular if Messrs Crompton were to ask the Committee's sanction. I ~~did~~ wrote Messrs Crompton intimating this view of the case, & also pointing out the delay & the fact that the Committee might reasonably expect an assurance that everything was being done to accelerate.

Dr van Rijckevorsel finished yesterday; he has been to & fro a good deal, not working here every day. I have heard nothing further as to the proposed visit of Moureaux. Dr van Rijckevorsel had some talk of a comparison of magnetic instruments he & Prof. Rücker contemplated making next August in America. They had had some conversation as to the possibility of taking out Mr Baker to do some of the work, but did not wish me to mention this to Mr Baker himself, to avoid his being disappointed if the idea fell through.

f 301.

In the mean time discussion might be ~~very~~ premature, especially if in channels likely to reach Mr Baker ~~[illegible]~~ but if you see Prof. Rücker he could perhaps explain his views. I simply said that if Prof. Rücker & Dr van Rijckevorsel made any proposition that could be conveniently carried out I should fall in with it so far as circumstances allowed. Mr Baker is entitled to 4 weeks holiday a year, & has not for several years taken appreciably over half what he is entitled to — apart from inspection work, which is business not pleasure — & if he wished 1½ a week extra for a trip to America I think he ought to get it. Whether he would be anxious to go I have not the least idea.

The painting has been progressing rapidly & I shall be glad when it is over; this afternoon being wet the men are making a good deal of noise. The look of the place is very much altered.

The "Reports" will be sent out very shortly now.

Yours faithfully
Charles Chree

P.S. We contemplate having the exam.ⁿ for boy-clerk next Wednesday; 5 or 6 boys have made enquiries.

f 302 1

STATION, POST AND
TELEGRAPH OFFICE,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.

Kew Observatory,
(Old Deer Park.)
Richmond. Surrey.

May 7 1897

Dear Mr Galton

We had the Examn for Boy-clerk on Wednesday. The post had been advertised, & 5 or 6 letters of enquiry were sent, but only one boy presented himself for examination. However he did quite sufficiently well; his arithmetic was very distinctly good, 73 marks out of 100, his spelling & writing good, & his General knowledge very fair. He did not profess to know any French & his Science was of the "falsely so called" character, but his answers shewed enterprize & ingenuity. I have written his father to say that on production of a certificate of birth, to shew his age is as required, he will be selected. He presented, I should have said, 3 satisfactory certificates of conduct from Canon Procter, his late schoolmaster, & his present employer a Jeweller.

Prof. Carey Foster, I understand, spoke to you about Messrs Crompton's wish to shew the new box at a R.S. Soiree on the 19th. On learning that you both saw no objection I wrote Crompton's yesterday to that effect. The old box has not yet come from Cambridge, but why I can't find out. I was led to expect it a week ago & have written about it both to the Scientific Co. & to Mr Shaw.

Two days ago Mr Shaw wrote me relative to a conversation he had had with Mr H Darwin on the question of the reasons why the Camb. Co would not undertake the construction

of the new box & on the patent rights question. Clearly Mr Shaw was not quite easy in his own mind on the point, and thought it would be very unpleasant if the Cantt. people should make a fuss about the new box. He has not been at the two last Ctte meetings, & though I wrote him 3 weeks ago stating the fact that a new box with manganin coils had been ordered I did not enter on particulars as to the pattern. He had asked whether I had any objection to his showing this letter of April 14th to Mr Darwin, so in my answer (re my answer) I left that to his discretion but suggested that my last letter — in which the main differences between the Crompton & Callendar-Griffiths boxes were summarised — would serve his purpose better. Clearly Mr Shaw's view was that as particulars of the box must be disclosed sooner or later, ~~any~~ any question as to patent rights had better be settled at once. That seems clearly the best policy. The Exhibition at the R.S. Soiree would be bound to bring things to a head. I have conveyed to Messrs Crompton the general tenor of Mr Shaw's letter; it would have been unfair not to warn them, and as makers they ought to know whether their & our position is vulnerable or not. Dr Harker is up in town today, one object being to study the Callendar-Griffiths patent; perhaps a study by a lawyer in conjunction with Dr Harker before the new box was ordered might have been wiser.

The painting is I think pretty nearly finished. I think I mentioned the golf Club's tenant had offered same terms as the club did (for the drawing), & that I had accepted the offer. He has not yet put any stock in & I wish he would. Are there any special sources to which you would like particulars of ship compass tests sent?

R. Geog. Soc. have invited me to be present at paper on magnetism on May 12: I am hesitating as Physical Soc. meeting on the 14th seems of more interest.

Yours faithfully
Charles Chree

1)

f. 303

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

No

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Kew Observatory,
(Old Deer Park.)

Richmond. Surrey.

May 11 1897

Dear Mr Galton

The enclosed agenda list is somewhat long; but only items 3 & 4 should require much discussion.

1) Terms arranged as £5 a year for grazing by sheep or horses with right to carry water from pump, tenancy to date from March 25th. The tenant however represented that owing to delay grass was now so long he thought cattle requisite to deal with it, & offered to be responsible for any damage to fence. I replied that recognising the facts I should not object to cattle for 4 weeks from yesterday. No stock however has yet appeared.

2 Painting is finished, & Kew Green men are cleaning stone at the base of building.

3 (treated afterwards)

4 I recommend getting some high range mercury thermometers of standard Jena glass tested at the Reichsanstalt,

& then comparing them with the platinum thermometers, & I think Profs. Rücker & Carey Foster are agreeable. I wish to know best means of getting what we want.

5 Only 1 boy attended Exam^n, but he did well enough & I have written his father offering post on production of birth certificate as evidence of age being as required. Have not had reply yet.

6 Dr Van Rijckevorsel has finished. Before leaving he had talk about comparison of magnetic instruments. Dr Bauer Editor of Terrestrial Magnetism" writes comparison of his apparatus with Prof. Rücker's during latter's visit to Toronto. Prof. Rücker & Dr van Rijckevorsel are going together, & a suggestion was made that perhaps they might ask Mr Baker to accompany them to assist. Prof. Rücker was to write to America, & hopes to be in a position to say on the 21st whether he has proposal to make or not. One question is do Committee consider the presence at the Observatory of one of the two, Superintendent & Chief Assistant, necessary? I am anxious to make arrange-

3) ments to spend my holiday in Scotland with my brother & sister. The former has been negotiating as to suitable place & I am averse to keeping him hanging on. If the Ctte think that my being accessible in Scotland is all that is necessary during Mr Baker's absence in America then I should be free to make my arrangements. Of course Mr Baker's going to America is only a probability, or perhaps an improbability, but I dont wish to keep my brother waiting an answer for 10 days yet. So far as I know, the Committee have no rule in the matter.

7 Have sent 4 picture frames.

8 Requisitions for Mauritius & India not exactly new, but former is not yet completed; the latter a large chronograph has just been tested & seemed worthy special mention.

Requisition for Russia is 5 sun shine recorders, rather a large order & abnormal.

3 Apparently the Cambridge Co. have without consulting me done a great deal more than they were asked to; if this is

at their own expense, presumably the Committee will pardon the irregularity, but if it is at ours they may not. When I wrote the letter of March 20 the programme as I then explained was to send that box to Paris & that fact may have influenced the Camb. Co so it is only fair to mention it. My instructions were to write the Co. sending plan of alterations drawn by Dr Harker, which the Committee had approved, not to ask for estimate but state that the Ctte expected that as the faults were due to defective construction the charge would be strictly moderate. If the Company propose a charge reasonable for the original instructions, I should certainly recommend accepting the situation. We have to consider facts relating to the new Crompton box & we don't I suppose wish any unpleasantness over that. I understand through Dr Harker who had letter from Mr Shaw that he, Mr Shaw, had discussed question of new box with Mr Griffiths & that there would be no trouble over patent rights. I had letter from Prof. Rücker two days ago

suggesting expediency of consulting you as to our obtaining "guarantee that no patent rights are infringed" He adds "Do not let us drift into a lawsuit. If the exhibition at the Soiree is equivalent to publication it ought to be done at Crompton's risk". If I understand correctly, Mr Shaw's letter was equivalent to saying that he had assured himself Mr Griffiths would make no objection; but perhaps I had better write him mentioning what Prof. Rücker said.

I wrote Messrs Crompton on the question of patent rights infringement by the exhibition but Dr Hacker who saw their manager afterwards represents him as having no uneasiness on that score.

Lord Rosse called here this forenoon, making enquiries about magnetic instruments, with, as I understood, an aim to find out what it would cost to carry on magnetic observations at Valencia. Mr Baker & I showed him the [illegible] instruments & a magnetometer & dip circle of recent

construction now undergoing verification.

I have accepted invitation of R. Geog. Society to meeting tomorrow conditionally on no unforeseen interruption.

Yours faithfully
Charles Chree

P.S. I enclose letter from Cambt. Co which please return; I have sent copies to Prof. Carey Foster & Mr Shaw. I have written the Company asking them to let me know approximately what they intend to charge. Until I know what sub-committee think I hardly can get box calibrated & it is important to lose no time.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

f. 307

172

No 111C

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Kew Observatory,
(Old Deer Park.)
Richmond. Surrey.
May 12 1897

Dear Mr Galton

A watch has been sent here from Coventry, the request being that we subject it to a three weeks' trial only, on the ground that it is intended for presentation by the town of Coventry to the Queen, and that after being here it would be fitted in a suitable case & shown in the town hall. A B or C certificate would of course in such a case never do, & the time is not long enough for the A trial. As a compromise I have suggested to the sender that we issue one of our special forms stating in it, if such should prove to be the case, that the watch has performed within the limits required for an A certificate though not a

special trial of three weeks. This suggestion was in accordance with Mr Constable's opinion of what was best. The proposal will I understand be accepted if I write this week a letter, to be shown to the Mayor of Coventry, explaining why the ordinary A certificate cannot be issued.

The issue of such special forms for special instruments is of course quite in the usual course, but there are obvious differences in the present case, and I should like to know you approve before I write.

If the Coventry people wish to decorate the special form it wont do any harm.

The subject "Jubilee watch" might be added to programme of meeting if you think fit.

There is also one other question I should rather like to raise if time allows, viz form of certificate to Anemometers. An American publication, referring to Chicago Exhibition, contains somewhat strong objections to our present form by Mr Dines, and as there is at least some basis for the criticism I think it would be well to remove it.

The Cambridge bridge came yesterday. It is even more altered than I had anticipated from the letter I sent you. It is 6 inches longer & 2 inches broader than before. The marble slab is replaced by one of slate; the plugs are raised above instead of sunk above the slab. There is new cane & tank; the latter is of totally different shape from the old one & heated differently. In a word about the only thing left untouched is the bridge wire; which by the way I had asked them to resilver. I daresay what has been done is better than what I was instructed to ask them to do, but it seems to represent twice or thrice as much work. Dr Harker is anxious to start on the box but until I get some authorisation from Sub-Committee or yourself I am not disposed to take the responsibility.

Yours faithfully
Charles Chree

P.S. I dint think I could postpone writing the Coventry people later than Friday morning.

I. 309

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.

Kew Observatory,
(Old Deer Park.)

Richmond. Surrey.

May 13 1897

Dear Mr Galton

The enclosed agenda list was got out before your kind letter reached me this afternoon, so it contains no reference to the anemometer question.

As to the Cambridge resistance box I had very satisfactory reply to my letter this morning written by Mr H Darwin. The Company are to make a charge only respective of two new coils added at our request, & as blowing apparatus for stirring the water of the tank, which we had suggested when thinking of the new box & which has been inserted in the old box. The charge will be about ten guineas, on the basis we shown the tank, cover & of old box now superseded. This proposal is so satisfactory that on receipt of the letter I authorised

Dr Harker to tackle the box at once, & wrote the Camb. Co. expressing my personal satisfaction & the belief that the Ctte would also be satisfied.
I have informed Prof. Carey Foster & Mr Shaw of the letter.
It really means that the company recognised the defects in the old box as their fault and thought it their duty to put the box as it should have been originally. The restored box uses a system of plugs for which, as the plug pieces state, a patent was applied for as recently as last March; so that we can't feel absolutely certain of our ultimate satisfaction.
In my own mind I had expected a charge of some £25- to £30 for the changes the committee authorised; whilst for the changes actually executed, judging by the estimate for the new box, at least twice that charge seemed not unlikely.
On the question of the patent I think we may also feel reassured. Mr Shaw had seen Mr Darwin & in a letter to Dr Harker, of whose general

honor I was informed, he informed him that no difficulty of any kind was likely to arise. Mr Shaw had forwarded to him by me a suggestion from Prof. Rücker as to a guarantee by means Crompton & In sending it I said that according to what Dr Herkes reported such a guarantee was now quite unnecessary, so unless he is sufficiently certain in his own mind he is sure to write.

Of course the course, on May 19, precedes the Ottawa meeting.

Thanks for what you say on the holiday question.

Dr Herkes heard this morning from M. Guillaume of the Bureau International to say he intended being in London the first half of next week & hoped to call & talk over arrangements with him.

Yours faithfully

Charles Chree

F 311 C

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Kew Observatory
Richmond
May 14 1897

Dear Mr Galton

Please accept my best thanks for your very kind letter and congratulations. I heard from Prof: Rücker by telegram as you supposed.

As to the way in which my candidature was received by the Council I have no doubt I was much indebted to the eminence of my

promoters and their zeal
in my behalf.
Thanking you again very
heartily I am
Yours very truly
Charles Chree

f. 312

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No

Kew Observatory,
(Old Deer Park.)

Richmond. Surrey.

May 20 1897

Dear Mr Galton

I was at the Service last night. Prof. Rücker kindly took me round with the object of introducing me to Dr Guillaume but the latter was not then about & I did not have the opportunity of making his acquaintance. Dr Harker however, who has met him before, was able to get some conversation with him. He reports that the Bureau people are anxious he should be there by June 1. During June Dr Chappuis, the first aide, whose specialty is the gas thermometer, will be able to combine forces with Dr Harker. In the beginning of July Dr Chappuis will leave for 5 or 6 weeks holiday, but there is, in Dr Guillaume's

opinion, nothing to prevent Dr Harker making comparison then with mercury thermometers which have been carefully compared with the gas thermometer, & which for some purposes might be more convenient. If Dr Chappuis takes the work in hand, & allows no divergences into by paths, I dint see any reasn why the work should not be satisfactorily done before Dr Harker leaves Paris. Of course not knowing Dr Chappuis, not being able to estimate the time sure to be lost over unforeseen contingencies, I can't feel any assurance. The diffinulty I feel with Dr Harker is in getting him to go straight ahead; it is partly I think that he is probably not very strong constitutionally & gets easily tried without some variety, and partly that having a natural faculty for making apparatus he is never long happy without altering something. My own failings I daresay are the exact opposites, and opinions would

doubtless differ as to whose was the beam & whose the mote. But anyhow it renders it peculiarly difficult for me to form any estimate for time when Dr Harker is concerned.

Of course if it should prove that Dr Harker's visit to Paris must have one interruption, he could I daresay be put to use here in connection with the high range mercury thermometer question. The apparatus we have used belongs to Messrs Heycock & Neville & is not convenient for thermometers with long stems. Of course if we put Dr Harker on to this work, there might be some feeling on Mr Hugo's part that he was being superseded.

Yours faithfully
Charles Chree

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

F 314

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No

Kew Observatory,
(Old Deer Park.)
Richmond. Surrey.

May 24 1897

Dear Mr Galton

Things hardly fell out propitiously on Saturday. Dr Guillaume's visit was originally expected on Wednesday or Thursday & I could not postpone two engagements to show the Observ on Saturday, one with an Eton master & the other with an Aberdeen Professor returning home today. Thus my own hands were unduly full & Prof. Carey Foster was unable to come out until 1.30. I had arranged he & Dr Guillaume should lunch at my house, but as the latter had to leave before lunch ended so as to catch a train for Cambridge, where he was to be over yesterday, there was very little opportunity for conversation. In reality there seemed nothing admitting of

very definite discussion. During June
Dr Chappuis, the 1st aide at the Bureau
is free to work the hydrogen thermometer;
for 5 or 6 weeks from the end of June
Dr Chappuis will have his holiday, &
Dr Harker will have to use mercury
thermometers already compared with
the hydrogen standard. Thereafter
is too remote to prospect, for in ignorance
of what may be accomplished during
June. Here I shall encourage Dr Harker
in every way to expedition, but
a great deal must depend on when
Crumptons let us have the apparatus.
I have written them urging expedition,
& calling attention to desirability of
apparatus being delivered in boxes
stout enough to go to Paris in, so that
we may lose no time in getting boxes
made after delivery. Not unlikely they
may deny responsibility to supply
suitable boxes for journey to Paris; better
pay them something extra than be
disappointed at last moment, or give
order at once to Eldridge. Captain

Creak wrote on Saturday suggesting sending some copies of the compasses particulars to Captain Beall of the Board of trade. Captain Creak has himself written a paper in the nautical Magazine on the importance of compass testing. I did not have any opportunity of talking to Mr Scott about utilising the Met. Office in any way for bringing knowledge of the test before the shipping world. Captain Deacy was there about his barometer, & did not leave until 7m arrived.

I suppose I had better issue particulars at once; this is tantamount to notifying change of system of verification.

Mr Baker was prepared to fall in with Moreaux's comparison of magnetic instruments & spoke generally of deferring his holiday to July. This Toronto business is still one I cannot discuss with him.

Yours faithfully

Charles Chree

f. 316

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No

Kew Observatory,
(Old Deer Park.)
Richmond. Surrey.

May 29 1897

Dear Mr Galton

On Thursday we sent copies of the new compass regulations, accompanied by enclosed circular, to some 45 of the leading opticians who send us instruments, including all who have sent compasses or pentants. Also at Captain Creak's suggestion we sent several copies to Captain Beall, Board of Trade.

I got your letter yesterday. Would not an ordinary advertisement such as "Ships compasses tested, apply for particulars to Supt^t K.O." savour rather of the Commercial world & be likely to create prejudice in quarters we wish to stand well with? I take it the Committee wish to serve the public well, but not to act

like a commercial company making a large trade for its own sake. An isolated advertisement or two seems unlikely to do much good; persistent advertising costs rather a lot. Perhaps you may have reason to believe that the Editor of the "Shipping Gazette will not consider the subject of general interest unless an advertisement is sent. We could at all events send him such a letter as I enclose & see what he says. If he preferred a paraphrase of the regulations I should be happy to supply one. We could without exposing ourselves to criticism send copies of the regulations to the principal shipping companies & to Colonel Hozier; we should be intimating a change in our system. To create a temporary inflation in the supply of compasses would not I think be good policy.
In applying a new test, difficulties are pretty sure to be encountered at first, & it is specially desirable then not to be short of time; further I should

not wonder whether in some respects the new regulations may prove not sufficiently flexible. Captain Creak's familiarity with the very varied conditions of the Mercantile Marine can hardly be as complete as his knowledge in his own department.

Resistance box Crompton had spoken of delivery today, but yesterday in answer to telegram from Dr Hankel spoke of next Wednesday. I have written as strongly as I can, but suspect it is not much use. Also the wire in the two new thermometers from Cambridge was in Dr Hankel's opinion too fine. My original letter specially warned the Camb. Co. on this head, & I understand them to consent to change the thermometers which we returned. The reorganised box has all its plugs independent which is unquestionably an advantage; but it is already evident that the arrangement does not get rid of the uncertainty arising from the variability in different observers'

standards of tightness. In other words variations in the resistance of the plugs under different degrees of tightness – such as are natural to different observers – are quite appreciable. How small care & experience may make these uncertainties time only will show.

Magnetic Comparisons Have heard nothing further ~~from~~ about Toronto. Had letter ~~from~~ Prof. Rücker suggesting "about June 19th" for Moureaux's comparison; but more recent letter speaks of postponement to July to avoid Jubilee.

Blinds Have had applications for new blinds in several downstairs windows which seemed fully justified, so gave Eldridge instructions. The new paint gives too much prominence to such defects.

Two of the gutters have been trying for spots outside; if they succeed there will be the old trouble again.

Yours faithfully
Charles Chree

f. 319r

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

STATION, POST AND
TELEGRAPH OFFICE,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

No.

Kew Observatory,
(Old Deer Park,)
Richmond, Surrey.

June 1 1897

Dear Mr Galton

I enclose a letter from messrs Wilson & Gillie, the people who raised the compass testing question. The suggestion as to testing cards & pivots alone is one I had discussed with Mr Baker, without coming to any definite opinion. He sees some analogies in it to the practice, now discontinued, of testing Sertant shades alone - which there were grounds for believing makers abused -. At the same time we have not in the past insisted on James Whites sending bowls in all cases. Occasionally he would send half a dozen cards - supposed by us to be for old bowls - with a single bowl to try them in; new bowls & cards normally came together.

The certificates issued could make it clear that cards & pivots only had been verified; of course we can't make sure of the certificates being handed to the purchasers

One practical difficulty would remain, viz we should either have to purchase standard bowls of several sizes in which to test the compass cards — an expensive outfit — or insist on makers sending one bowl of requisite size with any consignment of cards. On the second alternative, the bowl might be faulty - magnetic -

I have written messrs Wilson & Gillie, intimating that if any

satisfactory scheme were suggested to meet the difficulties I have indicated, & there were reason to regard the suggestion as representing a generally felt want, I should be happy to consult the Committee. Makers can always fall back on the argument that we have no check on the compass bowl being mounted with its lubber line exactly in the right direction on board ship, & an error in that is just as important as an error in the lubber line's position in the bowl.

I wrote the Editor Shipping Gazette introducing your suggested alterations, and enclose for your criticism suggested letter to Col. Hozier & circular to be sent steam ship companies.

The "relay" used in connection with our standard clock downstairs has been working badly for some time. I have just seen Dents' manager who has no hesitation in assigning fault to the electromagnet, which certainly has a core with undue magnetic retentiveness, and says only plan is to have this altered. Mr Constable quite accepts this, so I have agreed to its being done. At the same time opportunity will occur to have the clockwork cleaned thoroughly. This won't interfere with our receipt of time signal & use of it with the clock in the barometer room; but of course the temperature protected clock downstairs will be useless until change effected. Mr Constable has had several tries himself, & Dr Harker has also tried his hand, at getting the relay to work properly, but without appreciable success.

With the new ~~Mx~~ there is ~~attempt~~ to secure uniform play pressure, in some cases uniform pressure by means of spring is applied I believe to bridge wire contacts. With the Comp. Mx it is not apparently a question of pressure alone.

yours faithfully

Charles Chree

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.

Kew Observatory,
(Old Deer Park.)

Richmond. Surrey.

June 4 1897

Dear mr Galton

I have today received notice of award of grant of £60 for purchase & erection of Seismograph. Suppose it will be matter for next Committee; they can examine the site. Perhaps at same time they could think of question of an ice well or house, & suitable place for trial of chronometers in the cold. at present it is serious business carrying out a "cold" test; if we could somehow utilise an adjacent ice well we might make useful economy in ice.

I wrote Col. Hozier yesterday, also the Secy Shipmasters' society. The latter has already expressed wish to have specimens of certificate forms, & enquired whether we have not some 60 year old

compasses. I don't think we have.
I suppose you approve of the certificate
forms, marked "specimen", being sent.
I had already sent him (yesterday) particulars
as to compass trials, & intend sending
particulars as to chronometers when
sending certificates.
The new resistance box not having
turned up, I telegraphed Messrs Crompton
yesterday; today I have letter express-
ing great regret, & announcing special
visit of Mr Crompton to the works to blow
up his employees; however extreme is
box will not be here before tomorrow
or, more probably, Tuesday morning.
I have not written the Bureau Inter-
national since Dr Guillaume's visit, being
too uncertain of the future.
Dr Harker & Mr Hugo have been working
with the restored Cambridge box & have
been getting some interesting results, so
that the time is not being wasted.
I was assisting yesterday a considerable
time myself, & think that when the
observers are thoroughly at home with

the apparatus some sources of uncertainty will be considerably reduced. Unless they are, I am doubtful whether the new system of plug contacts will prove a conspicuous success.

The Camb. Instrument Co. have sent the two high resistance platinum thermometers, altered as I desired when we had to send them back. They were tried this morning by Dr Harker & Mr Hugo who report favourably, and they look all right.

Enquiries have been made by members of the staff as to what holiday or holidays will be allowed on the occasion of the jubilee. I wrote Mr Scott yesterday to learn what was to be done at the Met. Office as a preliminary to consulting you

A hare outside the enclosure kicked a small hole in the fence, but the golf club have promised to have it mended.

Yesterday a Mr Thornycroft Donaldson, a young man, called to see if we could give any information as to suitable sort of chronograph for timing torpedo

boats; we gave him list of 5 or 6 of the best London makers of chronograph watches, as that seemed the sort of thing most suitable.

I presume the Royal Society Officials will in due course inform me of procedure necessary before my admission, without my applying for it

Yours faithfully
Charles Chree

f. 323

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

No.

Kew Observatory,
(Old Deer Park.)

Richmond. Surrey.

June 8 1897

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Mr Galton

I enclose proposed agenda for June 18. Before I go further I notice I have said nothing as to the Jubilee. The question of a holiday on the 22nd might be worth discussion, also whether any flag or other display desirable on this as a government building.

1 The latest is telegram from Crompton, according to which he will be tomorrow afternoon; presumably no chance of Dr Harker's getting off before the beginning of next week.

2 Got letter yesterday from the Reichsanstalt about which I shall try & get advice from Prof. Carey Foster or Prof Rücker. It may be question whether, as ctttee wont probably meet again until

the end of October, whether some provision should be made for meantime.

3) Question of testing compass cards separately might be ready for discussion;

4) Question of certificates ought I suppose to be approved.

4) Site might be considered & programme. I think we should arrange as to ordering the apparatus & perhaps on preliminary trial before any structural alterations decided on.

5 There are various desiderata:

1° Suitable place for cold test of Chronometers. In summer it is very costly in ice; place in cellars is utilised but holder of chronometers is very primitive.

2° Ice well might, I can imagine, be great economy. We spend a lot on ice & a good deal is certainly wasted owing to no proper storage. Perhaps objects 1° & 2° might be considered together. If we could have chronometer place adjacent to an ice well we might economise the cold.

3° Place for storing boxes. The "work-shop" is blocked by these.

I might also specify place for testing lenses photographically.

As regards 5 generally there are two points:

1° In prospect of Government taking up Physical Lab'y scheme is it best to wait & do nothing we can possibly avoid doing in the way of building or structural alteration?

2° Platinum thermometry has made & is making such demands on our resources that the year's normal income is pretty well provided for.

Partly on account of the second consideration & partly from having so many other claims on my time & energies, I have been doing nothing in the lens testing question.

Platinum thermometry, with all the trouble over apparatus, wiring sub-Ottee makers &c has occupied much of my time.

6 a) You spoke about photoheliograph some time ago.

b) Think some figures as to performance of these instruments should be before committee.

7 Should report Captain Schiicks visit & what may have been settled as

to Morecambe visit & the Toronto Comparison.

Questions 4, 5, 6 are specially suited for occasion when Otter meet here; the members had probably better inspect the actual appliances & situations.

I have heard nothing from Mr Scott as to intention of Met. Council to have us do any earth temperature work. If it is intended to ask us to do anything before ~~October~~ November, the question as to payment for such work would require consideration. Payment was refused for last work of this sort you will remember.

Yours faithfully
Charles Chree

F. 326

STATION, POST AND
TELEGRAPH OFFICE,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.

Kew Observatory,
(Old Deer Park.)
Richmond, Surrey.
June 12 1897

Dear Mr Galton

The enclosed letter from Lloyds may interest you. I wrote Captain Creak yesterday as to testing of separate compass cards.

One of the youths, Pizzey, who is assistant to Gunter is leaving & has intimated the fact. I think a week's notice is all we can really claim so that we can hardly refuse his wish to leave at the end of next week. He is one of the two who were applying for posts at Twickenham under the County Council. The other Holdway was unsuccessful & he has since intimated his wish to prepare to pass the Exam^n required to qualify for promotion to the staff. He is only a month or so over 19 so presumably may have time to pass the ordinary Science & Art Exam. He is the senior youth & has done the clinical thermometer work under Mr Hugo for some time. We certainly want a senior assistant out there & I think he should be encouraged to stay. Presumably we shall require to get a new boy in place of Pizzey; but I have still to consult

the assistants interested.
The Crompton box came on Thursday evening & looks well; Dr Baker expects fixing the coil to occupy 3 days. Then the bridge should be tried, taking at least a day, & the packing etc can't be done in no time; thus it certainly looks as if the start for Paris could hardly be made before Friday or Saturday at earliest, & more likely Monday. I work Prof Carey Foster yesterday both on this question & the Jena glass thermometers.
Today I have written Mr Griffiths on vagaries of Cambridge box; I have no doubt he will say he never heard of such phenomena to such an extent; but perhaps he has nevertheless met with & dealt with something smaller of a similar sort.
Mr Scott has written usual letter asking for assistant to inspect observatories &c.
A sum of £2. 8. 5: written off two years ago as bad debt (Bowman of Kew) has been paid.
As to ice question Constable says as temperature aimed at for chronometers is 45° F (40° & 50° F) or so, he thinks that shelves at back of an ice house would do. I have asked him & Gunter to put their heads together.

Yours faithfully
Charles Chree

f. 327

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No

Kew Observatory.
(Old Deer Park.)
Richmond. Surrey.

June 16 1897

Dear Mr Galton

This morning Dr Hanke had a letter from Dr Guillaume, suggesting postponement of his visit to Paris until the second week of July, on the ground of Dr Chapuis' being ill of measles. The proposal seems opportune, as I have been for some time looking forward with disquietude to having to mollify the Bureau people, whom I supposed to be wondering at our delay. With Dr Hanke's approval I sent the letter on to Prof. Carey Foster, suggesting that the best policy was to accept the postponement at once.

The Crumpton Bx may be approximately ready for use on Friday but three weeks will probably prove nine too long for preliminary work. There are several points in the behaviour of the Cambridge Bx much in want of investigation if the Crumpton Bx should prove unequal to occupying Dr Harker's time.

Captain Creak has sent answer to my letter re compasses; but not finding it altogether free of ambiguity I have written him again. He can't attend the meeting. If there is no reply from him & the Ctte consider the ~~reply~~ first letter ambiguous, permission might be given me to follow policy finally approved by Captain Creak. He clearly objects to standard compass cards being tested, as such, unless their bowls have been also tested.

Eldridge has promised some sort of plan for sic &c. Mr Constable was in favour of having chronometer

stand in box of ice cafe, with no ice directly used in Chronometer holder. Temperature such as 45° F in the vaults seems hardly to require elaborate arrangements specially for itself, provided there be a store of ice close at hand. I daresay anyhow the plan will provide basis for discussion, & with the short time available that is all that could be hoped for.

Some trials of Powell's thermometers are in progress.

You would observe I daresay that young Whipple at Trinity is 2nd wrangler.

Yours faithfully
Charles Chree

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

f 329

No. 880 / XIII

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Kew Observatory,
(Old Deer Park.)

Richmond. Surrey.

June 30 1897

Dear Mr Galton

I enclose letter received from Messrs Spencer & Co, of whom I know nothing except what the letter mentions. If the copper plate etching really applies to this Observatory,—and from what Mr Scott's "History" says of Richmond Gardens such is probably the case; it seems a thing we very probably had better have.
If you think so it might be worth while our buying, only it would be well it should be first seen by some one more knowing in such matters than myself.
I heard from Captain Creak some days

ago, before & after he had heard from me what the committee had decided as to testing compass cards without bowls.

It appears he really had been prepared, though not without hesitation, to test cards for steering compasses without bowls in the case of makers we believed satisfactory; while in the case of standard compasses a previous testing of the bowl would have satisfied him.

He proposes I should see him & have a talk in a week or ten days.

I sent Prof. Perry the essential letters we had from Prof. Milne in order that he might see what advice we had already got as to the seismograph & judge what more was desirable.

I have not yet ordered the Jena glass thermometers of Nichls of Berlin; I wrote the members of the thermometric sub-committee, & Mr Shaw held out hopes of a visit; it thus seemed well to wait & see whether he had anything to suggest. The two other members of the sub-committee have not written.

You may remember that at the meeting I had only some notes of the Communication about the Jena Glass Thermometers; the originals had been sent to Prof. Carey Foster & returned from him the morning after the meeting. On studying them again I rather regret not having asked to be allowed to get a "Faden thermometer", i.e. an auxiliary thermometer used by the Reichsanstalt people to get the temperature of the column of the standard thermometer emergent from the bath. I am somewhat sceptical of the method, but it might be well to give it a trial. The cost is put at 10 & 12½ marks.

The fixing of the coils in the new Crompton box is scarcely completed yet.

We have advertised for a new boy-clerk & propose having an examination about the end of next week.

Yours faithfully

Charles Chree

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

f 331

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No

Kew Observatory,
(Old Deer Park.)
Richmond. Surrey.
July 10 1897

Dear Mr Galton

I hope I have not misinterpreted the "Wednesday week" of your postcard of July 5; judging by a letter from Mr Scott the Met Council met last Wednesday; perhaps they meet next week as well. The picture of Clerk arrived; it clearly should be put in a frame. Yesterday we had 5 boys in for boy-clerk exam^n. Two did very well. I have written the better, Williams, offering him the post on production of evidence as to age; and I propose telling the second - & possibly more - that they were up to standard & I should like to note their names, in case of another vacancy & of other authority me to appoint one of

those at present unsuccessful. In advertisement we put age 15- & 16 (statutory conditions are 15- to 17) but as we wished a young boy — not one older than the last appointed — I thought this advisable. The second boy sent a birth certificate showing age 15-½; I believe the first is also under 16 but have not yet documentary evidence.

Prof. Carey Foster came here by appointment on Thursday & inspected the new box, with which he seemed pleased so far as appearances go. He decided, with my acquiescence, that Dr Harker might take a week's holiday before setting out for Paris — the date proposed is now the 19th. I can't say that as much has been done by way of preliminaries as I should like, the fixing the coils taking Dr Harker much longer than he thought likely; but without the holiday the Paris work would probably have been prejudiced. Also on Thursday morning Prof. Rücker wrote expressing readiness to attend a meeting of sub-Cttee next week on choice of datgo — here, to see box & talk on Paris programme. Prof. Carey Foster

seemed rather disposed to think this unnecessary, though he quite recognised desirability that the other members of the sub-Ctte should also see the box. He was to write Prof. Rücker & as yet I don't know what will be the decision. This morning Captain Creak writes suggesting I should call on him at the Admiralty early next week to talk about compasses, unless "later on" would suit better. I have replied indicating preference for "later on". I have far too much on hand for the next week as it is of desirable work, much more urgent than any compass question. Messrs Powell have made appointment for Tuesday to discuss construction of new Thermometers. I should have liked Prof. Rücker to be present, as I have had - I have informed him of appointment - no indication of Committee's wishes as to the length we should go in such experimental work. If I had a free hand of course I should take responsibility on myself, but I should be sorry

to exceed the somewhat nebulary discretion reposed in me by the sub-Committee. I presume Crumptons bill may be now paid when presented. Dr Harker did not find time to make satisfactory calibration of the Cambridge box, & I must try to get this done next week, before he leaves, as he will take with him some apparatus necessary for the purpose. Mr Hugo I daresay will be able to take the observations, & we intend starting on Monday. Dr Harker of course will be away & only return in time to pack up. Mr Baker is also away for fortnight, but will be back in time for Mr Reaux's companion.

I am annoyed not to be able to make appointment for early next week with Captain Creak, but hope you will see how I am situated. Mr Griffiths' visit is still of the future. If any one interested in platinum thermometry should come I ought to be here.

Mr Scott offers to sign cheques; the natural time is Friday next week. Some observations on time scale of our Sunshine recorder are not satisfactory; shall send report when data complete.

Yours faithfully

Charles Chree

F. 334

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

No.

Kew Observatory,
(Old Deer Park.)
Richmond, Surrey.

July 24 1897

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Mr Galton

I have been too busy to start this soon enough & shall leave it open until Monday. By arrangement I called yesterday at the Admiralty & saw Captain Creak. He really sees no objection to testing old or new cards for compass bowls we have already tested, whether standard or steering, within a reasonable time, put at from 6 to 8 years. He was almost prepared to go the length of testing cards for steering compasses whether bowls had been tested or not; but after talk inclined to negative side. We can have fresh regulation in October, sticking meantime to regulation laid down in June.

Dr Harker left for Paris on Tuesday night but has not written yet; perhaps I may hear on Monday. I wrote to Secy. Brighton & S. Coast Railway & also an open letter in

bad French for foreign use.
Mr Shaw came out on Wednesday after the Mch. Council meeting, stayed with me overnight & discussed our troubles. Next day he inspected Cambridge box in some detail & found what ~~was~~ is probably the chief, it may be the only, source of the thermo-electric trouble. It is Griffiths patent thermoelectric key itself, an instrument whose proposed object is to prevent the possibility of such effects elsewhere.
It seems to be a case of setting an unconverted thief up as a policeman.
I have written the Camb. Co. to ask whether they can undertake a cure. We can greatly mitigate evil by enclosing the key in a box with metal outside.
We managed to get comparison of coils effected before Dr Hasler got back to pack the apparatus, but there are uncertainties in the figures, some due probably to this thermoelectric effect, and some to the difficulty of maintaining a uniform standard of tightness for the plugs.
I got estimate, £50, for Siemograph from Munro & sent notes to Prof. Perry, Rücker & Adams, but have heard nothing as yet from them.

Moureaux writes saying he intends to be here on Monday; I have written Prof Rücker, though doubtless he was informed directly. They will presumably arrange the nature of the comparison, which is likely to extend over most of the week.

Mr Baker got back from his holiday last monday, & messrs Hugo & Bailey get back on monday from a week's holiday. Mr Hugo has been at Bailey & got into the 100 in the final stage for the Queen's prize.

Monday I have heard from Dr Hake who announces his arrival at Sevres "all right & find nothing in all my apparatus is broken". This seems very satisfactory.

I had a letter some ten days ago from Prof. Callendar — the joint controvers of the Callendar-Griffiths bridge —. It was partly about earth thermometers and was accompanied by specimens of curves obtained with a new pattern. So I thought it best to show the letter to Mr Scott when up at the

Met. Office ten days ago getting the cheques signed, & he thought it well that the letter should be read to the Met. Council. I informed the members of the sub-Ctee on thermometry of what Callendar said on the plug question in the bridge; it seems he himself has adopted mercury contacts since 1891!

The Met. Council seem to be rather increasing the duties of the observatory inspectors, & Mr Baker is evidently beginning to think he would prefer to be relieved from this. I suppose things are in rather a transitory state.

Mr Scott got some more pictures sent him by the same people Spence, & after talking over the matter with me purchased one showing the pagoda. The cost was only 10/6 & the place has been used for meteorological observations.

I intend leaving on Friday night, & to be a month away.

Yours faithfully
Charles Chree

f 337

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.

Kew Observatory,
(Old Deer Park.)
Richmond. Surrey.
Sept 11 1897

Dear Mr Galton

You may be interested to learn what is doing here, so as it is some considerable time since I reported progress I shall give a short account, though I am ignorant of your present address. M. Moureaux from the Parc St. Maur Observatory took magnetic observations on some afternoons in the last week of July, Mr Baker taking corresponding observations with the Kew instruments in the afternoons. Since my return from my holiday on Aug. 31 Mr Baker & I have made the necessary calculations for comparing the results, Moureaux having sent us the details of his observations. So far as I can judge the comparison has proved a decided success, there being fortun-

atcly very little magnetic disturbance on any of the days of observation. We have sent Moureaux the Kew data. I dint know whether Prof. Rücker came to any understanding with Moureaux as to what was to be done in the way of publication of the results. Moureaux could speak only the faintest trace of English, and I was thus unable to make much use of the few opportunities I had for conversation. When Prof. Rücker returns from america he will I daresay wish to learn particulars. The data for Dr V Rijckevorsel's comparisons have also been got out, & in that case also I do not know what is contemplated as to publication.

I have had several letters from Dr Harker from Paris. At first there seemed several obstacles to getting on with the work, but it seems to be now fully under weigh. The chief Aide at the Bureau, Dr Chappuis, is working with Dr Harker, and is anxious apparently to make a good use of the opportunity. Dr Harker sent me a general outline of their scheme of operations & it seemed satisfactory. Since my return Crumptons have sent in their bill, and claim £138 – made up of original estimate

for resistance bridge alone £5·5, extras according to instructions from Dr Harker £51·2·6, Case £10, copper tank £17·10, with charge for packing case & for delivery. The original specification allowed for "minor" alterations and this I had supposed would cover most of the changes made by Dr Harker; but for the grounds of this belief I was mainly dependent on Dr Harker, especially as through some misunderstanding between him & Messrs Crumpton I was not shown the original plans. Dr Harker's own view after seeing a copy of Messrs Crumpton's bill is that it is a "monstrous extortion". Since receiving the bill I wrote Messrs Crumpton expressing my surprise & pointing out absence of details. This defect they have only very partially supplied, sending me copy of original & revised general plan. They assert they stand to lose from £60 & £80, even supposing the £138 paid in full. I dont feel competent to attach numerical value to the extra work, and of course the question must await the Committee's consideration. Meantime I have expressed my willingness to sign & recommend for member of Ctte's signature a cheque for £5·5, & this Crumptons

agree to, without prejudice to general claim.
I have sent more details to Mr Shaw, who is I presume the only member of the Thermometer Sub Committee at all likely to be in this country. No steps so far as I know has yet been taken about the Seismograph. I got estimate & sent copy to Prof. Perry in July but have heard nothing.
The ice merchants after some pressure have reduced their charge from 5/. to 3/. per 100 lbs.
I have not yet made enquiries as to ice machines or as to astronomers' views of sun spot records, as most people are unlikely to be back yet from their holidays. The Office of Works people are to make slight alteration to Library chimney in hopes of curing smoke. Mr Bailey, first hit back a week ago at football & had to be some days away; he is not by any means right yet but doctor knows what he is doing. Instruments for verification seem much as usual; Mr Baker's department has been pretty hard at it. Mr Baker himself proposes starting on 20th for Inspections. At present Messrs Constable, Gunter & W Boscall are on holiday.
I was truly sorry to hear that Mrs Galton's death had been noticed in the newspaper.

Yours faithfully
Charles Chree

f. 340

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No

Kew Observatory.
(Old Deer Park.)
Richmond. Surrey.

Sept 30 1897

Dear Mr Galton

I have got your letter & shall do my best to have things conveniently arranged.

There are several new things turning up for the Committee's consideration. Mr Baracchi Director of Melbourne Observatory has written requesting a loan of magnetic instruments with the view of utilising some opportunities for taking magnetic observations in Australia & New Zealand. He hardly enters in details. The instruments lent the Jackson-Harmsworth Expedition have just been returned. I have written the Secretary of the Expedition suggesting the expediency of the observe

Lt. Armitage taking as soon as possible here, a set of observations with the instruments so as to standardise his polar observations. Thereafter the instruments could be put in order. Mr Hamsworth undertook to have the repairs done at his expense if necessary; at present I am not sure whether anything much is required; i.e. anything worth coming down on Mr Hamsworth for.

A new magnetic observatory has been started at Edessa, & a series of curves taken during disturbances have been sent with a request for exchanges. This is only a circular & whether worthy of Committee's attention I dont know.

We have just had a magnetometer sent for verification, & likewise a vertical force magnet for Mauritius magnetograph. Of course in Mr Baker's absence in Ireland these must wait.

I had a long letter from Dr Harker some days ago, partly in replying to Messrs Crompton's statement of claims. This part I extracted & sent to Messrs Crompton. The rest gave a pretty full account of

what he is doing at the Bureau International. This morning I had another letter from Dr Harker reporting, I am sorry to say, that he has been laid up with dysentery and is likely to be off work for some days yet.

Messrs Crumpton also wrote. Their position is "We have done a good work which is dirt cheap at £138, estimate or no estimate, & we had reason to believe from what Dr Harker said that payment would be all right". Dr Harker's view is that there was an estimate allowing for minor departures, that he regarded most of the changes as such departures, & whilst he did expect from what Messrs Crumpton said that they would make an appeal for extras he thought the claim would be of the order of £5, or £10, and not £50.

By the way Dr Harker's payment when in Paris has occasioned some trouble. The Credit Lyonnais are agents of the London & County but before paying the cheque they

put Dr Harker to a good deal of trouble. To remedy this I approached the London & County who asked me to send them copies of signatures of cheque for transmission to Paris. Accordingly I got Captain Creak to attach his signature to a sheet of paper bearing mine & this was sent to Paris through the London & County, & the Sept. cheque was promptly paid. The trouble is that unless Dr Harker's future cheques are signed by Captain Creak we shall have to get o the signatures sent to Paris.

The "leads" to our resistance box went bad a month ago & had to be sent for repair to Cambridge. They were returned looking very nice but I found them of unequal resistance; so that interchanging them caused a difference of 1°C in the apparent readings of the platinum thermometers. On my remonstrating the Camb. Inst. Co. asked to have them back & they went yesterday; however I daresay I can fit up something temporarily for Sir Douglas Galton, in case he wishes to see way thing works.

Yours faithfully

Charles Chree

2 Enclosures

f 343

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.

Kew Observatory,
(Old Deer Park.)

Richmond. Surrey.

Oct 7 1897

Dear Mr Galton

I enclose summons & the Ctte meeting, also reply received from Prof. Ewing to enquiry about his ice machine. It is clearly too big for us. Do you think I should make enquiries of the Refrigerating Company referred to? Enquiries were made of Sir W. Huggins & Dr Johnstone Stoney as to the Sun spot observations, but they have not as yet replied. All the others asked have answered. The letter of enquiry mentioned that answers would be laid before the Ctte on the 15th, so that all knew about the date. As to my Ms it would I think be premature to mention matter to the Committee. What I think would be

desirable is that I should get some member of the sub-Committee on Terrestrial Magnetism to glance through it first, & there is not time for that as I have not finished it yet.

It is not so much the results of experiments as the statement of conclusions that there might be two opinions about.

Mr Armitage was here Monday & Wednesday, & he took I think sufficient observations to enable me to judge of the probable accuracy of his observations in the north. The magnetic instruments he had are of a somewhat old pattern. Whether I shall have time to try them myself before the 15th remains to be seen. They look a little weather-beaten.

Yours faithfully
Charles Chree

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

f. 345

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.

Kew Observatory.
(Old Deer Park.)
Richmond. Surrey.
Oct 14 1897

Dear Mr. Galton

I assumed you would let me know if you wished me to come up to town to see you before the meeting. There is practically nothing new since I saw you. Prof. Carey Foster seems disposed to pay Crompton's bill, accepting their statement as to its prime cost. The clearest statement made is in Crompton's last letter of Oct 4 2/3 that the invoice from their works department, representing simply labour + material, was £98 for the bridge. In addition there was design, time of foremen, + of the manager, and this

they estimate as really some £70 & £90
while their charge for it is the
difference £8. 2. 6 between the £98
& the full charge of £5-5 (estimate)
+ £51. 2. 6 extras.
The statement is made in a way
I should accept without reserve from
any one of my acquaintance I regarded
as honourable. Of course I know
nothing of the firm, & have only once
seen the Laboratory manager. He seemed quite
straight forward.
My own belief is that the contract
price proved considerably too low
& that the £51. 2. 6 really was got
out by considering the total expense, with-
out taking account of what were really
extras outside the contract. Thus
legally we might very probably find
there was no strict legal claim on us
for the full amount charged, but the
wisdom of contesting it is clearly
doubted by Prof. C. Foster, & I may
add by myself. With the Doc &
Dr Harker at Paris we should be

much hampered.
The Jackson-Hamsworth people have formally asked for assistance in dealing with their magnetic data.
There may be question as to whether when a stranger compares magnetic instruments here, corresponding observations being taken specially by the staff, the stranger should be regarded as necessarily having the question of publication exclusively at his control. In reality in such a case the observatory does most of the work, while the visitor of course has the expense of travelling.
The fact is M Moureaux sent me proof the other day, apparently for the Comptes Rendus if I may judge by size of sheet, of abstract of comparison made here. Before returning it I communicated with Prof. Riecke, the work the view that the visitor certainly had a free hand; whether the Bot had he did not explicitly say.

He referred to his own case in previous years for a precedent. All I wish to know is what the Ctte wish me to do in any similar case in future. Naturally I regard a member of Committee as differently situated from an outsider, & so don't regard what is done in his case as a precedent. Also circumstances differ according to whether substantial work is done by Obsy officials or not.

I regret to report appointment of Wy-clerk, forgotten in agenda.

As to Charlottenburg, I think there is another place in the district mainly devoted to the glass industry where a larger number of common thermometers are tested; I am not sure of this nor am I sure it is under the same direction. Some one certainly stated this in my presence.

Yours faithfully
Charles Chree

P.S. Capt. Creak can not attend; he has sent suggestions.

F 348
36
No XIV

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Kew Observatory.
(Old Deer Park.)
Richmond. Surrey.

Oct 16 1897

Dear Mr Galton

Pending the decision of the Committee I did not have the cheque for Messrs Crumpton written out and quite forgot to have this done when the decision was come to. I thus enclose the cheque book with a cheque filled in for your signature. I also send Crumptons bill. The estimate £55 was paid last month, leaving £83 the amount of the present cheque. Please initial the counterfoil. I am sorry to put you to this trouble

Yours faithfully
Charles Chree

f. 349

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No

Kew Observatory.
(Old Deer Park.)
Richmond. Surrey.

Oct 19 1897

Dear Mr Galton

The cheque book with cheque duly signed arrived this morning all right.

There are several things in the minutes I feel some doubt about. My recollection is that I was instructed to consult the Council of the R. Astronomical Society as well as the Solar Physics Committee about sun-spots, but the latter body only has been mentioned by you. Also I think the application respecting the purchase of magnetic instruments was to be addressed to the Royal Society (annual!) who might have funds other than the Govt. Grant (which you mention), but

I am not well informed on the
question of their resources. I suppose
there is a grant they administer, applications
to which are made in January, & perhaps
a direct grant to themselves.
Nothing is said as to the lending of
the magnetic instruments returned
by the Jackson-~~Harmsworth~~ Expedition,
nor as to the terms in which I should
answer Mr Baracchi (of Melbourne). Enquiries should
I think be made as to competence of
observers, provisions as to carriage
damage to instruments &c.
I had occasion to write Prof. Rücker
yesterday, principally about the account
of Moureaux's comparison, and mentioned
I was somewhat at a loss respecting
the two last mentioned subjects, especially the application.
he was largely responsible for the
suggestions made I daresay he is likely
to be able to assist.
The question as to the £150 put at
disposal of Thermometric Sub Ctte
not being down on agenda, there is no note

in the rough minutes.
My recollection is that the proposal was £10 to provide payment for apparatus, & £50 to provide for payment of £10 monthly to Dr Harker for 5 months, if necessary, after completion of 10 months named originally.
In writing Dr Harker on Saturday I mentioned provision had been made to extend his subsidy beyond the 10 months, but I did not say for how long. I should like your guidance as to the answer to be sent if he asks, as is perhaps probable, what time was specified. It was clearly proper to tell him next payment was not to be the last irrespective of the state of advancement of the investigation.

Yours faithfully
Charles Chree

Eastman

f 351.

Three

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

No.

Kew Observatory.
(Old Deer Park.)
Richmond. Surrey.
Oct 20 1897

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Mr Galton

The enclosed arrived this morning forwarded from Kew Gardens. I have heard nothing of the exhibition nor do I know why Eastmans should be anxious for exhibits of paper not supplied by them but by Morgan & Kidd. The exhibits we lent the Crystal Palace, per Negretti & Zambra, have not yet been returned, though I fancy they must be ere now in Negretti & Zambras hands. If a loan to Messrs Eastman is expedient, I daresay it might be arranged they should get the Crystal Palace exhibits on their way here. We have a picture frame still here showing barographs & thermograms

well, which might of course be lent.
In any case I presume loan would
be on condition no expense fell on
Observatory.
I find that what has occurred about
the £150 for platinum Permometry is
that you have inserted the note
two or three leaves back on a page
belonging to the May meeting. No doubt
the book had been closed & had been
reopened at wrong place.
As to the Jackson-Kamerlingh instrument
the idea was to lend it to the Australian
people in reply to their request.
The request spoke as if there was
competition for several sets of instru-
ments, while the Royal Society were
merely asked to purchase one set.
I fear I must have failed to make
my meaning clear. The return of the
instruments almost simultaneously with
the receipt of the request for a fresh loan
impressed the connection on one.
Of course the instruments returned
are not of the newest pattern, & I am

uncertain of the suitability of the declinometer for use in survey work. It is not provided with the type of reflecting mirror required for sun observations.

Messrs Powell say work for them is to be treated as scientific investigation, data as to glass being at Committee's disposal for publication in a scientific journal. (Italics mine but I limited my suggestion to them in writing Powells)

I have practically completed account of Moreaux's comparison, but have offered to submit it for Prof. Rücker's criticism if he is so disposed. He suggested extension of a ~~page~~ table he & Mr Watson drew up for relation between instruments at British observatories. There is also a somewhat delicate point as to some corrections Moreaux contemplates

(applied in this comparison but seemingly not in his earlier work). I did not know in what light to regard his mentioning the fact to me. It comes in really when one attempts to connect Moreaux's survey of France with Prof. Rücker's survey of England.

If I said nothing I might mislead if I said something I might be indiscreet. I have written Moreaux on the subject.

Yours faithfully
Charles Chree

P.S. Munro's tender for Seismograph I find did not include delivery here, charge for which will be £1.1. There was no explicit reference to delivery in the tender & I thus made enquiry. I did not notice omission until I was writing acceptance; apparently Seismograph sub-Cttee had not noticed it either.

1354

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No

Kew Observatory.
(Old Deer Park.)
Richmond. Surrey.
Oct 26 1897

Dear Mr Galton

I have received as yet no summons to give evidence before the Commission, but if I should be called shall answer to the best of my ability. My experiences of this sort are very limited & of course I can't answer for the views of the Committee, having no authorisation to do so. No doubt Prof. Rücker's presence on the Commission ensures that sight will not be lost of the Committee's point of view. There are two or three departments of the work with which however

he has not, so far as I know, been brought much in contact, viz the work done for the Met. Office & that done for the Admiralty.

After receiving your statement as to the administration no doubt the Commission will have a fair idea of how much the Superintendent may be supposed responsible for.

Having been so comparatively short here my ideas are somewhat lacking in historical completeness.

Having heard nothing either from Prof. Rücker or M. Moureaux I have sent account, guarded where it seemed advisable, of the magnetic comparison to the assistant Secy. Royal Society. I have also written about the application re new magnetic instruments, & daresay it will reach the proper person. It was addressed to "The Secretary, Royal Society". I have written W. Baracchi of

Melbourne for further particulars, & also wrote Sir J Donelly as to enquiry addressed to Solar Physics Ctee.

Yours faithfully
Charles Chree

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

3 enclosures

I 356r
277
No. 111C

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Kew Observatory,
(Old Deer Park,)
Richmond, Surrey.
Oct 27 1897

Dear Mr Galton

I return herewith the three communications from the National Physical Laboratory Committee. The minute books & Reports are readily accessible, though the indexing of the former does not always facilitate consultation.

Probably I shall see Prof. Rücker some day soon, but if I should go up to town to see him during the day I shall inform you as soon as I can

Yours faithfully
Charles Chree

1

?

Enclosed Mr Blaikie's letter & my reply / 1357

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

No

Kew Observatory.
(Old Deer Park.)

Richmond. Surrey.
Nov 12 1897

Dear Mr Galton

Enclosed will pretty well explain themselves. I don't know what to say. I am generally pretty well worked out on Committee days as it is owing to the crush of work. Also there ought to be present here yourself & other representatives of the Committee surely.

Yours faithfully
Charles Chree

XI

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

XI

4

Philosoph: Club

I. 358

No. 288/111C

STATION, POST AND TELEGRAPH OFFICE, RICHMOND, SURREY.

ALL CORRESPONDENCE TO BE ADDRESSED TO THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON GALTON PAPERS

Kew Observatory,
(Old Deer Park,)
Richmond, Surrey.

Nov 13 1897

Dear Mr Galton

I enclose a copy of the particulars I took up with me yesterday. The only documents the Nat. Phys. Lab. Committee actually have of the lot are those giving the test fees. As to the others I mentioned some of the figures & other details in answer to special questions, and the short-hand people asked to have the Nos to refer to. They returned it this morning. I also left specimen copies of some of the certificates & today am sending up at request of the Secretary a copy of the "Description" of the lot for each member.

What I send you is only a press copy of originals that are lost. I prepared this, rather expecting the Ctte would wish the documents on which my answers were based to be handed in. It might interest you & the Committee. I was examined for 1½ hours, mostly by Prof. Rücker who was in the chair.

I had to write you in a great hurry this morning about the suggestion to visit the lot next Friday. In addition to what I then said I thought the Kew Committee might like to meet before the visit & depute some member or members to be present. To show round all the Natl. Phy. Lab. Ctte would engage several people if they want to see details.

If they intended to do the whole inspection in an hour arriving here shortly after 12.30 no doubt there would be time

but certainly it would be very considerably inconvenient.

I am writing the Linde refrigerating Company; it seems no harm to have particulars.

Mr Shaw is looking over the mss on thermometry I mentioned to you. It might have been as well to put in the agenda list a provisional reference to publication, but the matter slipped my memory; so also did the question about the old dip circle which Dr van Rijckevorsel took an interest in. Dover has seen it & there will I daresay be data to submit.

Yours faithfully
Charles Chree

Enclosure

F.359
294
No 111c

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Kew Observatory,
(Old Deer Park.)
Richmond. Surrey.
Nov 20 1897

Dear Mr Galton

I enclose a letter from the Linde-Refrigeration Co. in reply to one I wrote some days ago, asking what their price was for (A) their smallest size machine for making ice from distilled water, (B) apparatus for maintaining at 35° F a chamber of 250 cubic feet. In writing, I expressed the doubts I felt as to any action being taken by the Committee, on the ground of absence of motive power, so as to make it clear it was not worth their while taking serious trouble to give me exact details.

The discussion yesterday left me

very uncertain as to the state of mind of the committee. Prof. Perry dwelt on the importance of distilled water ice for thermometry, but explained that when he suggested consulting Prof. Ewing in June he labored under the misapprehension our ice bill was some £40 annually. Knowing how much less it is his opinion was, I think, that no economy could be expected from using a refrigerator, but the reverse. The question as to expediency of storage was practically put aside, the provision for the cold thermometer test being rightly regarded as of most urgency. At the same time as the idea of combining the two ends was considered rather favourably in June, I should have liked to feel sure as to whether or not the idea was finally dropped. The question of utilising a meat safe had been considered by Mr Constable before the June meeting, a consultation of the Civil Service

Stores Catalogue having then been made. The price however of the article seemed too high, as compared with the probable cost of a special construction utilising so far the cellar walls. I should like your opinion as to whether I should allow this Mr Hopkins to call, or write & say that the attitude of the Committee to the plan was such that I thought an interview would merely waste Mr Hopkins's time.

Yours faithfully
Charles Chree

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

f. 361

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.

Kew Observatory,
(Old Deer Park.)
Richmond. Surrey.

Nov 27 1897

Dear Mr Galton

I heard from Mr Scott about the ice question & have arranged that Mr Constable shall go up to the Met. Office on monday forenoon as proposed. One object will be to prevent Chronometers being jarred during removal or introduction of ice; the question of storage of ice is so far involved, but if we have storage for say $\frac{1}{4}$ ton only I doubt whether any reduction in price of appreciable economy would be introduced. We could not lay in a store lasting any very

long period & it might melt a good deal. Of course if broken up ice is used, it would hardly be of use for any purpose except keeping the chronometers cool.
Occasionally a reserve is useful.
Prof. Rücker wrote me yesterday as to the instrument makers we have knowledge of, as evidence from that class might be desired. I mentioned the principal makers & their specialties.
No intimation of the date of proposed visitation by Nat. Phy. Lab. Ctte has been yet sent, but the Secr promised me early notice, & I told him date of Kew Ctte meeting.

As a new fellow of the Royal Society I don't know whether or not one is really expected to attend the special meeting on 30th November. It seems formal business, & fellows at a distance would presumably simply waste their time attending.

I have received proof of an interesting paper on magnets to be read presumably at the next, or a near, ordinary meeting.

and should prefer coming up
then if at all. The paper
refers to work similar to what we
should do here

Yours faithfully
Charles Chree

f. 363

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No

Kew Observatory,
(Old Deer Park.)
Richmond. Surrey.

Dec 3 1897

Dear Mr Galton

Mr Scott has transmitted Estimates from Civil Service Stores people £36. 15s. The particulars given are somewhat scanty. The size is 5 ft x 5 ft x 2 2/3 The material is yellow deal with a 1" inch inside & outside lining securely fixed.. leaving a cavity of 4" between the two linings, line with brown paper and fill in this space with flake charcoal. Doors to be of ~~fir~~ deal with gun metal hinges &c. The estimate allows £5 for about 20 ft. of drawers.

Postscript says no estimate given for brick Enclosures, as not in their opinion sufficient insulating.

Of course Eldridge's original estimate of £10

related to a simpler plan than that ultimately approved. Do you think it would be expedient now to ask Eldridge for an estimate for the revised plan submitted by Mr Constable? Of course it would not be fair to utilise the Civil Service Stores' plan.

There is another letter in the "Horological Journal" about Kew watch certificates. It refers to both the points, statement of marks on certificates, & dating of certificates. The writer, Messrs Smith, are of considerable weight. Mr Constable seems in favour of the issue of a circular to the principal makers asking answers to 2 or 3 questions, in preference to writing anything in the Horological Journal. He does not see any very special advantage in bringing any changes into operation on Jan 1, 1898. To do so would entail some immediate action, to obtain data for next Cttee meeting. So perhaps if nothing alters the situation it might be best to simply

consult the Ctte in how opinions
should be obtained from the watch
makers, if such opinions are wanted.
I think the question of the marks is
certainly one in which much weight
should be attached to the wishes of watch
makers.
The question as to Dr Hankel's platinum
thermometer work should be considered.
Prof. Carey Foster agrees with me that
if any arrangement is made for his
investigating the means of comparing
mercury thermometers at high temper-
atures with the platinum thermometer
— and comparisons at high temperatures
are becoming increasingly urgent — it
will be desirable to have a distinct
understanding that this does not
commit the Ctte in any way, supposing
that there should in the future be
a regular higher thermometry depart-
ment. Probably Hankel will have
finished his Paris work before the
January meeting, though probably

not before Dec. 17th.
I intend going down to Cambridge
on Sunday afternoon to attend
Founders' day dinner at King's
College; but shall return next day,
and hope to send you proposed
agenda list on Wednesday.

Yours faithfully
Charles Eliot

F. 366/

3 Enclosures

STATION, POST AND
TELEGRAPH OFFICE,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

No.

Kew Observatory,
(Old Deer Park,)
Richmond. Surrey.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dec 4 1897

Dear Mr Galton

I enclose a copy of the letter I referred to yesterday. Today I received letter from Mr Bonnisen of Coventry who finds apparently that makers that are not unanimous in question of marks. He suggests a modification of plan I mentioned to him in conversation, viz to give 50 marks for pass, + 50, instead of 100 as at present, for observed achievement. This is of course the same as leaving marks as at present, adding 100 for pass, & dividing sum by 2. Evidently case for issuing circular is strengthened.

I also enclose copy of Civil Service Stores' estimate. No plan was sent & neither Mr Constable nor myself exactly follows the design intended. I see no provision for sheltering chronometers from rain when ice put in. The door arrangements seem a misconception; it would hardly be convenient to have common locked door to central chronometer space & side ice receptacles. A separate locked door for the chronometer space would be much more convenient. The use of the lattice work I don't understand. The central

space would require ~~Zinc~~ walls on both sides to keep out the moisture laden cold air. I have written Mr Scott suggesting expediency of Mr Constable's going up some day next week to get estimate put straight. Of course Mr Scott would have to arrange this as work would only be done for him as member of staff.

The Secy. Nat. Phy Lab'y. Otter writes to say inspection will not be before X mas.

Yours faithfully
Charles Chree

PS red ink is addition written by Chrees' people, rest was type written. 2d watch letter first discovered & copied

f. 367

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No

Kew Observatory.
(Old Deer Park.)
Richmond. Surrey.
Dec 7 1897

Dear Mr Galton

As to the proposed agenda

3 I wrote Prof Carey Foster asking what form of words he would like & having not heard yet have worded it so. If I hear from him I should assume your approval of my accepting what he proposes. The question of any further arrangement with Dr Hankel after the close of the Paris Comparison, & the question of the comparison of high range thermometers are the subjects I should regard as wanting discussion.

4 I heard yesterday from Mr Shaw that he considered the notes unobjectionable. He made <u>suggestion</u> that instead of publi-

ation in the Phil. Mag., which I had rather in view, the notes should either be a communication of the nature of a report to the British Association (particulars he was willing to arrange) or be published by the Ctte as a sort of private appendix to their Report (not a communication to the Royal Society). He preferred latter alternative apparently. He agreed with me that the matter being rather critical (descriptive) than experimentally novel was hardly suitable material for a paper to the Royal or Physical Societies. Personally I have very little predilection. I suppose I can't do better than write Mr Shaw asking him to write you if he does not find attendance convenient on the 17th. Or I might ask his leave to send you the letter he wrote me.

5 solar Physics Ctte regard observations as "unnecessary"; they do not say "useless"

6 What of an estimate from Eldridge? Mr Scott agrees that Mr Constable had better go up & try to get estimate fixt

straight by "Stores" people.
I I have already written about the letters & what we think might be done.

Mr Horace Darwin came here about 12.40 yesterday & tried to find out what was wrong with the plug in the Cambridge resistance bridge. He has certainly improved it, temporarily at least, but I don't think he exactly knew what was wrong. The plug is a recent patent where defects of course have still to be found out

Yesterday I had postcard from Dr Hankel mentioning that an important part of the Seves hydrogen thermometer had broken, taking probably a fortnight to mend, & so causing delay in the completion of his work. He had written Prof. Carey Foster.

Yours faithfully
Charles Chree

F. 369

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

No

New Observatory
(Old Deer Park.)
Richmond. Surrey.

Dec 10 1897

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Mr Galton

I shall get up details as to atmospheric electricity. I had hoped to have a short talk with you about the watch makers &c. What you wish me to do before the meeting is I presume to put together a form of circular giving alternative plans as to which makers should be consulted. When this had been modified & approved by the Ctte it might be sent out, & answers invited in time for the January meeting. There is not time to get Opinions collected, in a form suitable for immediate action, before Dec 17.

unless the case is put clearly and due time allowed for an answer, we should only get a mass of confusing suggestions from the least responsible people. The larger people would decline probably to move so fast. We would require to give some months notice probably of any change; for me thing the A test lasts 6 weeks & we can't make retrospective legislation conveniently. Thus there seems no occasion to try & arrive at a final conclusion before Jan 1.

The principle of the marks is different from an ordinary examination; it is (say as regards temperature, one of 3 test)

marks = $m(x_0 - x)$;

where m = constant,

x_0 = limiting error (which being exceeded lead to rejection)

x = observed error

mx_0 = total possible

Thus a watch that just scraped through all the tests (which never happens of course) would have vanishingly small marks.

We can easily alter system

putting for instance

marks = ~~x~~ $n m x_0 + m(x_0 - x)$

where n is any multiplier;

or we can have it

marks = $\frac{m x_0 + m(x_0 - x)}{n+1}$,

or try a lot of things.

We could have n = 1, ~~do~~ Bonnikesen ~~really~~ suggests what amounts to

marks = $\frac{m x_0 + m(x_0 - x)}{2}$, which comes to same thing. This would make a pass equivalent to 50 marks to start with, the total possible being ~~80~~ 100.

If we gave marks only when 80 % or over reached, under present system, it would be equivalent to having 1st class limiting men in order of merit, others alphabetically. Similar plan used to be in vogue in some cases at Cambridge.

I had a talk with Mr Griffiths about our plug difficulty; Mr H Darwin was here about it on Monday. Also I had talk

f 371

with Captain Creak our new Compass regulations.

Mr Constable & I went together to the stores yesterday & got the doubtful points, I hope, put clearly to the people there. It means probably however an increment to the estimate. Eldridge has been written to also on the subject.

Yours faithfully
Charles Close

f. 372c

CHARLES CHREE, D.Sc.,
Kew Observatory,
Old Deer Park,
Richmond,
Surrey.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

M.A. (Cantab.). Superintendent of the Kew Observatory. Author of the following memoirs, and of many others on analogous subjects :—(1) "Effects of Pressure on the Magnetisation of Cobalt" (Phil. Trans., 1890); (2) "Stresses and Strains in Isotropic Elastic Solid Ellipsoids," etc. (Proc. Roy. Soc., 1895); (3) "Conduction of Heat in Liquids (*ibid.*, 1887); (4) "A Solution of the Equations for Equilibrium of Elastic Solids," etc., etc. (Camb. Phil. Trans., vol. xv.); (5) "On some Compound Vibrating Systems" (*ibid.*, vol. xv.); (6) "Changes in Dimensions of Solids due to given Systems of Forces" (*ibid.*, vol. xv.); (7) "The Isotropic Elastic Sphere and Spherical Shell" (Camb. Phil. Trans., vol. xv.); (8) "Forced Vibrations in Isotropic Elastic Solid Spheres and Spherical Shells" (*ibid.*, vol. xvi.); (9) "Rotating Elastic Solid Cylinders of Elliptic Section" (Phil. Mag., 1892); (10) "Contributions to the Theory of the Robinson Cup Anemometer" (Phil. Mag., 1895); (11) "Longitudinal Vibrations of Acolotropic Bars with One Axis of Material Symmetry" (Quart. Journ. Math., 1890); (12) "Isotropic Elastic Solids of nearly Spherical Form" (Amer. Journ. Math., vol. xvi).

F. Galton. Kelvin. J. J. Thomson. Robert S. Ball. P. Frost.
G. C. Foster. R. Strachey. R. H. Scott. G. H. Darwin. K. Pearson.
J. Larmor. A. E. H. Love. R. T. Glazebrook. E. J. Routh.
E. W. Hobson. E. W. Creak. W. Ellis.——*J. T. Bottomley.*
J. G. McKendrick. *W. H. Besant.*

F.373

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No

Kew Observatory
(Old Deer Park.)
Richmond. Surrey.

Dec 13 1897

Dear Mr Galton

I received the communication you sent about the Photographic Exhibition. In case it had not been acknowledged I have sent intimation of the fact to Lord Crawford, mentioning date of next meeting. Apparently no change for space is contemplated in such a case.

Do you wish me to come up to see you before the meeting?

I omitted to put on the agenda the fact that the appointment

of the Assistants & their Salaries under the several heads "Tests" "Observations" &c would have to be approved. (This is a fixed annual business).

As to the audit, it might be as well if it were settled what kind of audit their representative should hold. Last year Mr Scott did over again ~~the~~ part of what the R. S. auditor had already done in a much more complete way. As regards mere accuracy, presumably the professional auditor should alone suffice; but general principles of classification he is perhaps less qualified to judge of.

Yours faithfully
Charles Chree

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Enclosure

f. 375

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No

Kew Observatory,
(Old Deer Park.)
Richmond. Surrey.
Jan 1 1898

Dear Mr Galton

Prof. Perry has undertaken the audit on Jan 19th. As to the Cambridge resistance box the Inst. Company asked to have it back & try & find out source of trouble. On having Prof. Carey Foster's approval, & explicit promise the box would be returned not later than Jan 17, I sent it off. It seemed better to take the chance, because on Dr Hankel's return it may be important to have it ready for a comparison.
As to the cause & trouble, I don't think it can be in the brass of the plugs, because that is the common metal, & Mr Griffiths' fine

instance seems to have had no similar trouble. What is novel in our box is the metal of the holes into which the plugs fit. It is a new patent, & so far as I can learn no box prior to ours had it. At the same time if it should prove that only one plug (or coil) is at fault the presumption is that it is some purely local defect. I was considerably annoyed at the time to find a brand new invention had been tried, & that without asking us.

The original trouble was through the plug holders not being separated, so that pressure applied by one plug affected the tightness of the others. ~~In~~ the plugs are quite separated.

I sent Prof. Rücker some days ago a copy of a letter respecting loan of magnetic instruments to Australia of which I also send you copy. It seems very vague. I took the opportunity of reminding Prof. Rücker of my previous letter.

There is of course no urgency about

the thermometer notes; but at the same time one of the chief recommendations of the plan proposed was that it seemed likely to be the quickest way.

The circular respecting watch rating was sent out a few days ago & already some answers are coming in.

Mr Borchgrevink writes selecting Monday afternoon for visit. I mentioned his name in writing Mr Scott yesterday; he seemed as likely a source of information as I could apply to. Dr Kilke I do not know at all.

Thanks for suggestions as to the lunch.

The Sec. in acknowledging my letter spoke in a somewhat uncertain way but said he had communicated with Prof. Rucker. Of course a fortnight hence is ample time to arrange.

Yrs faithfully

Charles Close

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Observatory,
Melbourne.
November 11, 1857.

Dear Sir,

I have duly received your letter of September the 22nd in regard to the loan of magnetic instruments to this Colony, and thank you very much for the interest you are taking in the matter. I have not as yet made any definite plan for the work to be undertaken (if the instruments be obtainable) but I may say that I will take good care that the persons to be intrusted with the observations shall be thoroughly trained and qualified for the purpose. There would be no difficulty, I believe, in making the Royal Society of Victoria responsible for the safety of the instruments, in case that a guarantee of that kind be desired by the Kew Committee. The observations may extend over two years; but I shall be glad to have the instruments for a shorter time, if "two years" is regarded as too long a period.

Very truly yours
(signed) P. Baracchi

Dr Charles Chree F.R.S.
Supt. Kew Observatory

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.

Kew Observatory,
(Old Deer Park.)
Richmond. Surrey.
Jan 4 1898

Dear Mr Galton

Mr Scott referred me to the B.A. Report for 1895 & 'Nature' Vol 52 p 375 for an account by Mr Borchgrevink of a trip to Victoria Land, & mentioned that in the R. Geog. Soc. Journal for 1896 p 205 it is stated that a commercial syndicate has obtained funds for the proposed expedition.

Mr Borchgrevink himself called yesterday. His principal object appeared to be to seek assistance in obtaining the services of a competent physicist to take charge of magnetic (& possibly meteorological) observations. I said all I could do was to bring the matter under

the notice of members of the Ken Cttee,
the ~~plat~~ professional element in which
were likely men to know of young
physicists willing to undertake such work.
Mr Borchgrevink was to write me a
formal letter to submit to the Cttee.
It would however probably be well
to communicate ~~with~~ instant delay with
Profs. Rücker, Carey Foster & Adams &
Captain Creak? Mr Borchgrevink also
wanted advice about instruments. As
to meteorological instruments I referred
him to Mr Scott. If the expedition
is properly backed & is likely to
afford a real opportunity for good
work, then it would be well that
advice as to instruments &c should
be freely ~~given~~ given by the Cttee, and to
make the thing a success time should
not be wasted. A suitable man, of
good scientific training should be got
& specially trained in taking magnetic
observations; he should know enough

of the subject to be able to tackle what may be really difficult work. There are undoubtedly big magnetic storms down there, & it would require a man of some experience & resource to make the best of things. The ordinarily intelligent, but unscientific, observer, unless possessed of unusual resource, might find himself in serious trouble, being unable to follow the standard methods. Apparently the present plan is to have head station near the shore, & leaving principal instruments there to take trips inland – perhaps to magnetic pole – with easily portable apparatus.

It occurred to me that possibly it might be this expedition Mr Baracchi had in view, so, I questioned Mr Borchgrevink (without mentioning my reasons) & found he had seen Mr Baracchi in Melbourne some months ago but had not apparently approached him on the subject. Mr Baracchi he said had at Melbourne some one (Bernecke or some such name) being

trained apparently for the proposed Belgian Antarctic Expedn, & naturally I am wondering whether it is for this expedition for Baraechi wants the instruments.
In my state of ignorance as to the real motive power behind Mr Borchgrevink, I did not suggest his applying for the loan of instruments; but if he has a responsible backing & gets a suitable magnetic observer it seems a strong case. He made a point of its being a British expedition, though he is evidently a foreigner. I noticed he spoke of "Our king Oscar" in his "Natur" letter. He also clearly knows Prof. Nolan; but professes a desire to be as free from "foreign" advice as a patriotic British public might desire. Dr Murray, he assured me, was interesting himself in the expedition.
Presumably there are fellows of the Royal Society likely to know how things stand, but I hardly care writing Prof. Rücker again lest he regard me as a bore of the first magnitude. The thermometers we ordered from Berlin have at last arrived.

Yours faithfully
Charles Chree

f. 384

Enclosure

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No

Kew Observatory.
(Old Deer Park.)
Richmond. Surrey.
Jan 8 1898

Dear Mr Galton

I enclose copy of a letter I have sent to Mr Borchgrevink, which I hope meets your views. It should lead to something definite, one way or the other. I have also written Dr Knott. Dr Buchan probably knows about Mr Bruce.

Mr Bailey brought me in the balance sheet to this morning. It seems that our balance is fully £300 better than at the end of last year, & this notwithstanding our expenditure of about £300 on Dr Hankel's research. The receipts from verifications seem some £300 above any previous years.

Yours faithfully,
Charles Chree

Station, Post and
Telegraph Office,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.

Kew Observatory.
(Old Deer Park.)
Richmond. Surrey.

Jan 7 1898

Dear Mr Galton

Mr Borchgrevinks official letter came 2 days ago but being sent addressed to the "Council of the Royal Society" I wrote him, saying if he wished to approach that body he had better write Prof. Rücker. He writes today saying he intends calling on Prof Rücker & Mr Scott, but that I am to regard his letter as intended for the Kew Ctte. The letter asks the Ctte "to assist in securing some suitable scientific men for my staff. It is chiefly a magnetic observer & a reliable meteorologist that I am anxious to secure ... In case I should succeed in obtaining a suitable magnetic observer I would be glad if an

opportunity be granted him to spend some months at the Kew Observatory."

In my letter acknowledging this I indicated my opinion that information as to salary offered, duration of Expedition, & evidence of its being substantially backed would be desired by any member of Committee before taking any active steps to assist. In his letter received this morning Mr Borchgrevink says the emoluments would depend so much on the qualifications &c that he could name no definite figure; but that in any case he thought the opportunity for doing notable work should count for a good deal. He added that Sir George Newnes was supplying the necessary funds.

If Sir George Newnes is prepared to do the thing handsomely it is a very good chance indeed. Still if the Ctte are to appoint a magnetic observer they must have powers. Of course they could put themselves in the way of hearing of likely men & send a list of in what

seemed order of merit to Mr Berchgrenick
to select & make his own terms. If
an advertisement in "Nature" is not
considered expedient then the only
likely chance will be that some of the
professional members of the admiralty may
happen to know of some one able &
willing.
Perhaps if you were to write me
instructing me to arrange some
definite understanding with Mr Berchgrenick
it would clear the air. If I could say
I had the chairman's instructions who
might greater definiteness necessary in
the request for assistance it would carry
more weight. Of course if a man
is to come here for instruction a payment
should be made; should I seek assurance
on this point?
Another letter reached me this morning on
a similar subject. Dr C.G. Knott (late Professor
in Japan, now lecturer in Edinburgh University,)
wishes to say a Mr Bruce who was at
Ben Nevis Observ also was one of the Jackson-

Hamsworth Expedn is arranging with the Hudson Bay Co to do some scientific work in their most northern stations, and puts the question whether the necessary apparatus for magnetic work could not be borrowed from Kew Observatory. As Mr Bruce apparently contemplates being in Baffin Land presumably there is a good field for magnetic work. I saw Mr Bruce here some months ago, in company with Dr Armitage, & should expect him to prove a careful & competent observer. Doubtless Dr Buchan would know all about him.

I should naturally write Dr Knott, answering some scientific questions put, & suggesting that Mr Bruce should write the Office formally. Assurance should be required that observer would be properly trained; perhaps Dr Knott – who has taken magnetic survey himself in Japan – could guarantee this. Last meeting's

In writing out the minutes I noticed you had by mistake written £250 instead of £150 for limit of Mr Bacall's salary. I have put it £150 in the minute. You could also keep minutes & initial it next time as auditor may want assurance.

Yours faithfully
Charles Chree

2 enclosures

F. 385

STATION, POST AND TELEGRAPH OFFICE, RICHMOND, SURREY.

ALL CORRESPONDENCE TO BE ADDRESSED TO THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON GALTON PAPERS

No.

New Observatory,
(Old Deer Park,)
Richmond, Surrey.
Oct 12 1898

Dear Mr Galton

I enclose the copies you ask for of the two documents you sent. I have copied them myself being uncertain whether at the present stage you would consider it inexpedient that the staff should be aware of the negotiations. I am not personally fond of making secrets; but whilst matters are undecided and outside talk undesirable I judged it well to wait your opinion. I shall look more carefully into the terms of the Jesuit Trust. The original is in the hands of the Royal Society, so why they have not had it examined by their legal adviser I dont understand. One condition explicitly attached by Mr Jesuit is that the services of the Committee of management must be gratuitous. This would be an obstacle for a body constituted exactly like the Meteorological Council. Another condition is that the observatory & the income of the Trust Fund are to be under the entire control & management of a Ctee to be from time to time appointed by the R.S. Council. That might be an opening there for objection, especially if an officer of the Board of Trade have a statutory right to sit in the governing board.

The notices will go out tomorrow probably.

I saw Captain Creak yesterday. He will not oppose the

issue of a special form of certificate for compass cards only if suitable warnings be put on it. Such as

"Certificate of examination for compass cards* only*
tested without their own bowls"

(* The Observatory authorities undertake no responsibility for the accuracy of any other part of the compass. It is strongly recommended that in a compass used as a "standard" the bowl and card be always tested together").

We did not agree on, in fact we hardly discussed, the particular form of words before the 21st. There is I daresay time to get a form printed, but I think this might be premature, as there is no particular hurry. I am not sure as to whether it might not be wise to let Messrs Keatts know that I contemplate suggesting some such form to the Cttee (saying nothing as to probabilities of Committee's action) and saying that I presume it would meet their views. This would only be of course with the view of preventing them offering criticisms later. Of course they might suggest some point, overlooked by me, creating friction unnecessarily. Captain Creak regards the change as an evil, but one which I think he really recognises we cannot very judiciously avoid. This of course is only my personal impression.

Yours faithfully

Charles Chree

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Copy

The Royal Society
Burlington House W
October 10, 1895

Sir

We are directed by the President and Council to forward to you (1) two copies of the Report of the Committee on the establishment of a National Physical Laboratory, and (2) a copy of a letter which has been addressed to the President by the Treasury.

There is reason to believe that the Government desires an answer from the Royal Society by the end of November at the latest, and the matter will therefore have to be considered by the Council at an early meeting.

Since the acceptance of the proposals of the Government must affect the Kew Observatory as at present managed, the Council wish to place the correspondence in the hands of the ~~Chairman of the Kew Observatory~~ Kew Committee and to ask for any remarks or suggestions they may have to make thereon. In particular the President and Council will be obliged if the Kew Committee will inform them as to the conditions of the Gassiot Trust, and indicate any difficulties which might arise with regard to it if the proposals of the Government were accepted.

The suggestion as to a change in the relations between the Kew Committee and the Meteorological Council is a point which will require the careful consideration of the Council of the Royal Society. The President & Council will be much obliged if the remarks of the Kew Committee could be sent to the Royal Society not later than Wednesday October 26th

(Signed) W. Foster
Arthur W. Rücker
Secretaries R.S.

The Chairman
of the Kew Observatory Committee

1) Copy

f. 388

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Treasury Chambers
October 7th 1898

15·166
98

My Lord

You are aware that, after the reception, on the 16th February 1897, by the Prime Minister of a Deputation introduced by yourself, in favour of the establishment of a National Physical Laboratory, Her Majesty's Government appointed a Committee to consider and report upon the subject.

I am now directed by the Lords Commissioners of Her Majesty's Treasury to transmit to your Lordship 6 copies of the Report of that Committee, with Evidence, which has been presented to Parliament and has received the careful consideration of Her Majesty's Government, whose conclusions on the subject My Lords desire to communicate to the Royal Society at the earliest possible moment.

In the first place, Her Majesty's Government are prepared to adopt generally the four conclusions of the Committee, as set forth on page 6 of the Report.

It is however obvious that, as Kew Observatory is at present managed by a Committee of the Royal Society, the second conclusion could not be carried into effect without the concurrence of that body; and the same remark applies, for other reasons, to the third conclusion.

It is therefore the duty of this Board, before proceeding further, to ask whether the Royal Society is prepared to concur in those conclusions of the Committee and to cooperate in carrying them into effect. But before answering this question, the Royal Society will doubtless desire to know what pecuniary

assistance may be expected from public funds towards the scheme recommended by the Committee.

On this point I am to state that Her Majesty's Government agree with the Committee (paragraph 24) that the Governing Body of the proposed institution should charge fees for standardizing or verifying instruments, and that such work ought to be self-supporting. In addition to such fees there would be available the "Gassiot Fund," stated to yield £470 per annum.

Beyond these sources of income, Her Majesty's Government would be prepared to ask Parliament to vote an annual sum of £4,000 for 5 years certain, as a grant in aid of the expenses of the proposed institution. As regards buildings, the existing Kew Observatory would remain available for its present or for similar uses, and in addition Parliament would be asked to make a grant not exceeding £12,000 in all towards the erection of additional buildings. In view of the proposed grant, it would seem reasonable that the present subscription of the Meteorological Council towards the Kew Observatory should be discontinued.

Upon these explanations I am to express the hope that the Royal Society will add to the already great services rendered by them to the Government & public of the United Kingdom by consenting to undertake the new responsibilities now sought to be imposed upon them. Should they do so, it will probably be convenient that details should be discussed between the Council of the Society and the Officers of this Board; and at the present stage it is only necessary to add that My Lords are disposed to suggest that the arrangements might be generally similar to those in force with regard to the Meteorological Council.

I am &c

(Signed) E. W. Hamilton

F. 390r/

STATION, POST AND
TELEGRAPH OFFICE,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No

Kew Observatory.
(Old Deer Park.)
Richmond. Surrey.

Nov 24 1895

Dear Mr Galton

I enclose copy of notes sent to Captain Abney with the view of opening the campaign as to the photographic test. For all I know, Captain Abney may have simpler tests to propose all along the line, than Captain Hondaille; but the latter seems to have given much time to elaborating a test, & the test seems to have been put to actual practical ~~test~~ trial. On his p 2 I understand Hondaille to say that his method & apparatus has been adopted by the "Société francaise de Photographie", a body likely I presume to know what it is about.
In the notes I failed to notice that Hondaille has a test equivalent to determining the curvature of the focal surface (i.e. the imaginary surface answering to the locus of the best foci for points scattered all over the (plane) object). I have supplied information on this point in my letter to Captain Abney.
In the rough "minutes" you represent one of the conclusions of the Ctte to be that I "should enquire about a moveable wooden rim". My recollection is that the discussion of this point

was merely general talk. Some one suggested that such a room might do, & one one else knew of some shops supplying such things. A room of the sort might be modified so as to suit, but the modifications would probably be somewhat extensive. To take photos. one would require special lighting arrangements; the whole roof might require to be taken off & replaced. Thus one could hardly get from any price list more than a very rough idea of the probable cost. Not unlikely it would be cheaper to have a moveable room, or rooms (one dark), specially made - the special arrangements being if necessary entrusted to a different firm. Do you know where one would be likely to get a price list of the kind of room? it is not the sort of thing that has ever come under my notice & I did not catch the name mentioned in connection with it. The devising a photographic test, & making preliminary experiments on the subject, is a thing that is pretty sure to come useful sooner or later; but I think, as before, that embarking on a special room or appliances at the present moment is doubtful policy. Captain Abney seemed more disposed to take up the question of the test than he has ever been before within my recollection, and it would of course be a pity not to have the advantage of his special knowledge.

I see the R.S. Council in their report describe the Nat. Phys. Lab. scheme as practically an accomplished fact, of which only the details remain to be settled. If they are not unduly optimistic this would suggest that the new regime will be on us before we could get a photographic test going. Leaving the subject of lenses, I wrote officially,

f. 392 r 3

STATION, POST AND
TELEGRAPH OFFICE,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.
New Observatory,
(Old Deer Park,)
Richmond, Surrey.
189

as directed to the R.S. Secretaries about the Drake-Gorham light electric railway. My letter has not yet been acknowledged but I suppose that implies nothing.

The Manila Observatory has sent copies of two or three recent magnetic curves during a disturbance asking exchanges. I had hoped to get some general guidance from Prof. Rücker on Friday; but seemingly he had no programme to suggest. The subject came up at the magnetic conference at Bristol & I rather suspected it would tend to promote requests for curves.

We had slight earth tremors shown on the seismograph record of Nov 17; I sent tracing to Prof. Milne.

The Golf Club Secretary has again written respecting the grazing inside the enclosure. I suspect we have misunderstood one another & that he supposed that the matter was to be brought before the Cttee ere this. Mr Anderson's tenancy lasts up to March 25 & I did not think it time to settle further ahead.

Profs. Cleveland Abbe & Marvin of the U.S. Weather

Bureau have written about my paper on Aneroids. It seems that they find the results obtained from aneroids sent up with kites are difficult to interpret owing to the after-effect. By the way, the nature of our present aneroid test & certificate is one of the things that has considerable claims on the Ctee's attention. There is no question that very erroneous conclusions may be drawn from our present certificate, when the aneroid shows large after-effect.

I propose examining Baddeley tomorrow week.

We seem unable to put Nichls two thermometers right so I have written him on the subject.

Yours very truly
Charles Chree

P.S. Very extensive new electric tram scheme of London Tram Co appears in last nights local paper just brought in. The advertisement states intention of applying to Light Railway Commissioners in present month.

I have written Secs. Royal Society enclosing cutting & marking envelope Immediate. Lines to Twickenham, Isleworth (worst of all), Hampton Court, Teddington &c.

C.C.

c/o. The Master of Trinity College
The Lodge
Cambridge
Francis Galton Esq. D.C.L. F.R.S.
~~42~~ Rutland Gate
London
S.W.





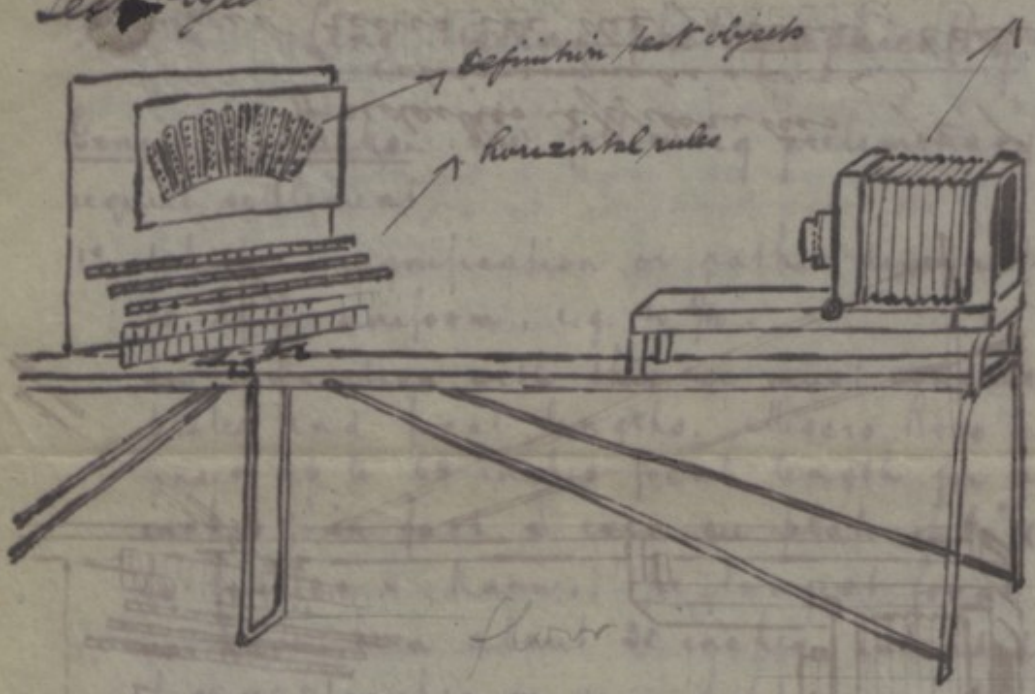
V = velocity per sec
a = depth of aperture in shutter

$$V = v\frac{l}{d} \qquad \frac{a}{V} = \frac{ad}{vl}$$

$\frac{1}{V} = \frac{d}{vl}$ fixed amount for

bld be $\frac{1}{10}$ $\frac{2}{10}$ ... $\frac{9}{10}$

f.339v



Houdaille's apparatus pr 7
(diagrammatic sketch)

Test object runs on the tram line
Back of camera fixed, front can be
pulled forward as required.

The above shows only some of the rules, & omits all details practically.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

f.330
UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Lens testing photographically.

General remarks. The following preliminary points would require settlement -

1° Whether magnification or rather diminution of object is to be uniform, e.g. to 1/10.
In connection with this we must consider size of plates and focal lengths. Messrs Ross advertise lenses up to 65 inches focal length for plates 43 x 35 inches; in fact I even see plate of 60" x 40" quoted. So far as I know, the longest focal lengths sent us have been about 30 inches, intended for plates of 18 x 22 inches or so. Suppose we took this last as an example.
Supposing we reduced to 1/10 then photographic object would have to be over 18 feet along its longest side, & the distance between it & the image would be over 30 feet. To provide for this we should need a very large & lofty room. Even if reduction to 1/5 adopted, following Houdaille, we would need a good deal of space & a large object. It would be very short-sighted policy to make provision only for short focal lengths. This might meet Thornton-Pickard as they speak of back focus of 10" to 13" as their most common kind; but presumably we must provide for others also.

2° What limits are to be allowed in different sorts of lenses as regards definition, astigmatism, &c.

3

3° How many photos to be taken & with what stops.
4° What exposure is to be allowed & how variation in brightness of day to be allowed for.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
22a/3

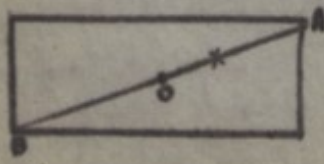
UNIVERSITY COLLEGE LONDON
GALTON PAPERS
1.332

4

Definition.- In our efperiments here we have obtained apparently satisfactory results with objects of a cross shape - two pairs of straight lines cutting orthogonally.  For instance we have had each line drawn in ink 1 m.m. wide, the white space between two lines being also 1 m.m.. We have then put the objects so that the image was reduced to $\frac{1}{10}$ (or if f focal length, object at distance 11 f, and photographic plate at distance $\frac{11}{10}$ f from their respective nodal points). In the photographic image the lines are thus 0·1 m.m. wide & separated by 0·1 m.m. interval if definition perfect. So long as both pairs of lines are separable we regard definition as that answering to separating power of 0·1 mm.

The lines are placed at 45° to the principal focal lines. We have had larger objects, with 2 mm., sometimes simultaneously in use. A variety of widths would be necessary if we wish to assign a numerical measure to the definition in all cases. If we wish merely to say that definition has attained a certain standard throughout the whole, or a specified part, of the plate one size of object would suffice.

A rule would have to be laid down as to focussing

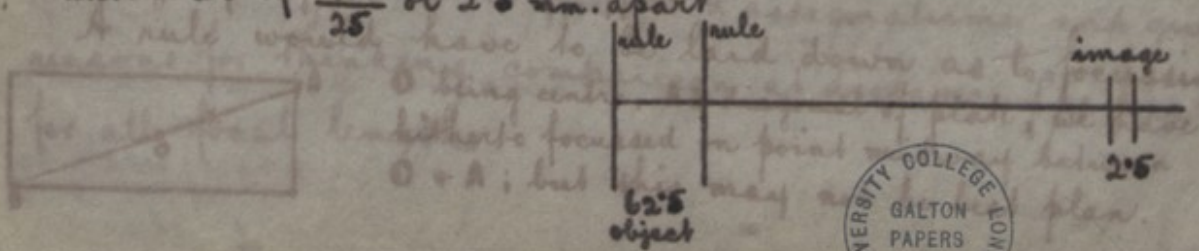


O being centre, AB diagonal of plate, we have hitherto focussed on point midway between O & A; but this may not be best plan.

Houdaille uses circular disks ⁘ really white on a black ground; and reduces the object to 1/5 only. If we have large plates to deal with a large reduction means a very large area of test object. Houdaille has the small objects scattered over circular sections occupying a large part of the field. Is this necessary or would it suffice to place them at intervals along one or both diagonals of the large (rectangular) test object?

Astigmatism.. Is there any means of obtaining a numerical measure of this with an object all in one plane?

Houdaille uses 5 ||l rules which are parallel to the large test object but are in different vertical planes at horizontal intervals of 62·5 mm.. On these there are vertical lines close together || say ½ mm. wide + ½ mm. apart + likewise horizontal lines ═══. The photograph shews where the vertical lines are separated + where the horizontal lines are separated. Houdaille uses a reduction of 5 so that using the formula $\frac{1}{v}+\frac{1}{u}=\frac{1}{f}$, whence $-\frac{8v}{8u}=\left(\frac{v}{u}\right)^2=\left(\frac{1}{n}\right)^2=\frac{1}{25}$, the foci for two consecutive rules would lie at a horizontal interval of $\frac{62{\cdot}5}{25}$ or 2·5 mm. apart



UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

6

Thus Houdaille gets what he calls a "focal volume" for the vertical lines + for the horizontal lines separately.



In figure (Cf. Houdaille's p.54) the thick — EBE' and DAD' limit the focal volume for horizontal lines, while the broken lines - - - - - FBF' and GAG' limit the focal volume for vertical lines.

within the shaded part CAC'BC common to the two focal volumes both sets of lines are separated.

Now what Houdaille does is to take the distance between the two bounding lines AD and AG at a distance $\frac{\text{focal length}}{4}$ from centre of plate as a measure of the astigmatism; he seems to claim that the distance between AD + AG is practically the same as that between two surfaces one midway between AD + BE the other midway between AG + BF. In practice he finds this I think too complicated, and goes on assumption that AD + AG are both parabolas say $xy^2 = 2px$, $xy^2 = 2p'x$.

If $x_1 + x_2$ abscissae (measured H^L + AB) for same ordinate,

$x_1 - x_2 = \frac{y^2}{2}\left(\frac{1}{p} - \frac{1}{p'}\right) = \frac{y^2}{2p}\left(1 - \frac{p}{p'}\right) = \frac{(f/4)^2}{2p}\left(1 - \frac{p}{p'}\right)$ at distance $f/4$ from centre plate.

He calls $1 - p/p'$ the "coefficient d'astigmatisme" and gives reasons for thinking comparison at distance $f/4$ fair for all focal lengths.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Diameter or Surface covered with definition up to a certain standard.. Houdaille gets this by observing the images in his photographic plate of a number of the small definition test objects placed on the five parallel rules referred to in connection with astigmatism. I suppose that having these rules at slightly different distances provides for the possibility of a difference between visual and photographic foci.

Houdaille says that

Area of plate over which definition reaches certain standard varies, in a given lens, as the diameter of the stop.

Thus observation with one stop suffices.

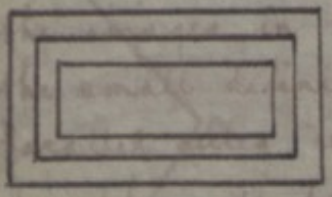
Illumination of field.. Can this be done satisfactorily photographically, or should we adhere to present photometric way of getting law of diminution of illumination with inclination to opticaxis. If we adhere to present method we require urgently better & stronger source of light. At present we use paraffin lamps. According to the observer the fixed light is never nearly strong enough for small apertures & variability is troublesome.

UNIVERSITY COLLEGE LONDON GALTON PAPERS

F 336

8

Distorsion.- This could I suppose be determined by measuring sagittae of images of lines $\perp^{r}$ to the sides of the plate. But to provide for all possible conditions this would necessitate a large number of lines.



Houdaille's idea might be better. He simply uses a measure on which centimetres & millimetres are clearly marked, & compares the lengths between each the successive cm. marks in the photograph at different distances from the centre of the plate. He defines the "coefficient of distorsion" at a distance l from the centre as $\frac{1}{l}$ [distance between 2 consecutive cm. marks at distance l from centre less the distance between two consecutive cm. marks at the centre].

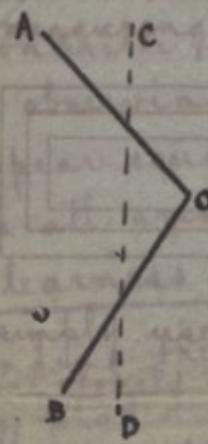
He says that numerous experiments prove that the coefficient so determined is independent of l. In other words the shortening or lengthening in the interval between two consecutive scale divisions in the photo. is proportional to the distance from the centre of the plate.

Once this coefficient is known the droop or sagitta answering to any line drawn parallel to an edge of the plate is determined at once by a simple mathematical formula.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

9

Achromatism.- If I rightly understand, Hoadaille gets a measure of the difference between the visual focus and the photographic focus (for black + white) as follows. He has rules OA, OB, inclined to the plane of the test object; this plane being perpendicular to the plane of the paper through CD. On OA + OB there are a variety of the small test objects used in the definition test. The focussing is done visually so that the best visual focus is at a certain point on OA (or OB) - or rather he takes mean of positions where visual focus seems equally good - + then one sees where the separation is best on the photographic plate.



Mr Galton has suggested coloured objects placed on the large test object.

I am not sure that we can improve on the present optical method - always supposing strong daylight obtainable - of using coloured plates. This is on the hypothesis that we continue to make as at present a direct optical test of focal lengths and not substitute a photographic method, such as Hoadaille's, making use of the magnification.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

F.338

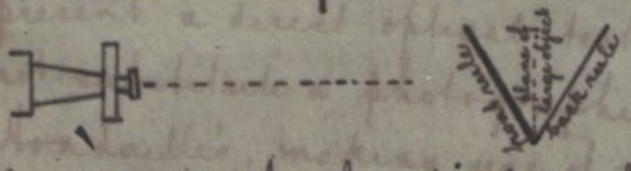
10

Defects of mounting, centering and homogeneity.
Houdaille gets at least general idea of these defects by observing whether the small definition test objects appear equally clearly separated in the photograph in all azimuths.
blearness of glass.. Houdaille gets this I think by finding the lengths of exposure which give same tint to plates taken through the smallest stop with & without the glasses of the lens. Houdaille has also tests for "Pouvoir reflecteur", "Rapidité des obturateurs" and "coloration des verres".
curvature of focal surface. Houdaille seems to have no separate test for this.
Depth of focus. Houdaille apparently determines the depth of the field, & then uses formula

(depth of focus) = (depth of field) ÷ n^2

where n = (object/image)

He gets depth of field from photo of two rules inclined to the plane of the object, covered with the small test objects. The arrangements are shown diagrammatically in Houdaille's p.28 as below



Theoretically he allows that depth of focus depends only on diameter of stop and focal length.

In practice the theoretical depth requires multiplication by a factor which Houdaille has found to vary from 0·88 to 0·98.

UNIVERSITY COLLEGE LONDON GALTON PAPERS

Dear Sir

We do not seem to have any agreement with the Auditor as to length of notice; I could tell him that I understood you wished to have the pay inside the enclosure & in March & have understood you. I mentioned the matter to the Chairman of Committee, and he agreed that I had better explain generally the difficulties in the way of any definite agreement at present.

You are I believe aware that a Govt Committee appointed to consider the question of a National Physical Laboratory made their report some little time ago. They

F. 341

[illegible] in favour of the scheme [illegible]
[illegible] that this place, from
[illegible] proposed institution.
I may say, that there seems but
little doubt that something will be done,
but this is pretty sure to be a large,
possibly a total, change in the manage-
ment of the place. You will thus I
think understand that the present
Committee of management must necessarily
avoid meantime entering on any permanent
arrangement. If you thought fit, they
might not unlikely make some tempor-
ary arrangement, to be terminated on a
few days notice, but they would probably
prefer to wait until January or February
before doing anything. There is likely to
be a Committee meeting on December 16.

Yours faithfully
Charles Close
Superintendent

[illegible] meeting
[illegible]ary
[illegible] Surrey Golf Club

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

I. 342.5

802.

No XIV

STATION, POST AND
TELEGRAPH OFFICE,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

Kew Observatory,
(Old Deer Park,)
Richmond, Surrey.

Dec 18 1898

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Mr Galton

I enclose letters from Mr J White (patentee of Lord Kelvin's compasses) & Captain Creak. Our regulations are that the period must lie between 28 & 38 seconds, & the deflection angle (i.e angle through which a similar magnet situated at given distance, is deflected) must not fall below 12°. In the particular compass referred to the period was 41 seconds, the deflection angle 7°. Captain Creak suggests apparently that we issue our certificate, merely calling attention to the fact that the period & deflection though conforming to the maker or patentee's specification do not come inside our limits. If we adopt this alternative I should not issue a certificate but merely a state-

that they were in reasonable conformity with the patentee's specification. We could only charge a half fee, but if Whites would take this it would hide over the difficulty pending a reconsideration of the rules. We can't help it's being a very tight place.

I may add that I suspect we shall presently have trouble over the deflection angle limit even with men-of-war cards. The compass are being made lighter apparently than at first, & consequently for the same deflection power as at first the period becomes smaller. The probable consequence ere long will be that to keep the deflection angle up to 12° and period above 28 seconds will be very difficult; Scylla & Charybdis will come too close.

Next as to Dr Hanker. He says in postcard received this morning that railway Co. have agreed to his luggage going grand vitesse. In a letter forwarded this morning by Prof. Foster he asks if we could do anything about letter he could claim customhouse. As he does not specify exact price I think I can not do more than I have already done in sending him an open letter on Saturday asking all

ment, as I sometimes do with special
Rheommeters for which ordinary rules are
unsuitable. If we adopt this
plan it seems to me tantamount to a
confession that our present regulations
are not applicable to the merchant service.
Mr White's contention is that for men
of war the armour pulls down the
acting magnetic force & so raises the
period; so that for them cards are
necessary whose natural period is shorter
(& so deflection angle greater) than is necessary
for the Mercantile Marine. If Mr White's
contention is wrong we ought to stick to
our present regulations & simply reject
his cards; if his contention is right
then our present regulations require
modification.
I should deduce from
Captain Creak's letter that he admits that
Mr White's contention is so far right, but
that he thinks the period ought to be
somewhat shorter than Mr White makes it:
but that at the same time he is not
prepared to stand up against the opinion
of Mr White's Scientific adviser (Lord Kelvin).

I had a feeling of insecurity, abnt the vibration & deflection angle limits, simply from general ideas as to the great variability of circumstances that must prevail at sea, but I have absolutely no practical experience to fall back on. We sent copies of the regulations to Mr J White months ago, and I even took the liberty of speaking to Lord Kelvin on the occasion. He only remarked that Mr White having our regulations would know what he had to do to satisfy them. In fact we took all reasonable precautions to elicit criticisms of weak points. If we failed, it was presumably due to White's supposing it would never be necessary to send us compasses intended for the mercantile marine.

Supposing we follow the plan of issuing a <u>statement</u> to Mr White, we cannot logically act otherwise with others. I could issue a "failure form" bearing on it all the particulars a certificate would contain, specifying that the cause of failure was that the period 41 secs. & the deflection angle 7° were both outside our limits; but adding

5

f. 344

STATION, POST AND TELEGRAPH OFFICE, RICHMOND, SURREY.

ALL CORRESPONDENCE TO BE ADDRESSED TO THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON GALTON PAPERS

No.

Kew Observatory,
(Old Deer Park.)
Richmond. Surrey.
189

Concerned to secure the safety of instruments whose security was deemed of much importance by this Observatory.

I had hoped the Ctte on Friday would seriously consider the situation. The position is as follows:

The S.W. upper room is the only room now in the Observatory which we have to fall back on for such purposes as auditors examination of works, toy-clerks examination of stray experiments & so on. Bringing in clinical thermometer people will add to the somewhat congested state of the building.

There is of course the small inner N.W. room, but access to it being only through the S.W. room it is not very convenient.

2° The present platⁿ thermometer room is very small, & it would be a very tight fit to have two resistance boxes to set up in it. It would be probably impossible to have the Gas thermometer in it.

3° according to latest report from Prof. Richter the gas thermometer according to its maker was to be ready in January. Evidently however it is hardly expected then at the Reichsanstalt.

4° For the comparison of the platinum thermometers K_2, K_8 & K_9, required to complete Dr Harker's work at Sèvres, we shall I am almost sure require new apparatus.

To fit up the gas thermometer for use we must have I think fresh room & as now situated this can only be got by using the clinical thermometer room. To move the clinical thermometer work inside means an expenditure of fully £30. If new buildings go up, & we decide to move the clinical thermometer work (the S.W. upstairs room not being ideal for the purpose), much of that £30 will be thrown away.

From what I have seen of the delaboriness of German work I am inclined to defer the fitting of the clinical thermometers to the very last minute, & try to make the platm thermometer work do; but Dr Harker is almost certain to push for immediate extension.

I wrote Messrs Few, on Saturday respecting the watch, saying I thought the Ctte would prefer an apology &c to a prosecution, & explained the situation to the best of my ability.

The Ctte on Friday dealt so summarily with the latter part of the agenda that the fact that no auditor had been appointed was overlooked. It being expedient to arrange at once with Messrs Keen as to date I thought I might take it on myself to write and ask Prof. C. Foster to act. He was appointed last year but could not come. He has not yet replied.

Yours very truly,

C. Shree

P.S. I think I shall write Lord Kelvin & compass; Captain Creak seems to suggest this

cc.

STATION, POST AND
TELEGRAPH OFFICE,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No

Kew Observatory,
(Old Deer Park,)
Richmond. Surrey.

Dec 20 1898

Dear Mr Galton

I enclose copy of a letter which I sent yesterday to Lord Kelvin. Today I have written Mr J White stating that if he thinks our regulations wrong I should be glad to know exactly wherein he considered them in fault; that as long as regulations were unappealed it was my duty to apply them, except in a very exceptional case when I might with the sanction of the chairman suspend them pending an appeal to the first Ctte meeting. I have said that the simplest thing for me to do would be to issue a "failure form" giving all the information that a certificate would contain, so worded that Mr White's client could see whether the compass was in accordance with his contract. If Mr White pushes for a "statement", so as to avoid appearance of word "failure" on the document, should I accede either unconditionally, or conditionally on his appealing to the Ctte to re-consider the regulations on Jan 20?

I heard this morning from Messrs Frew. They wish to know the exact circumstances under which the watch Mr Holland sent was bought. They also say

"Do your Committee think it is a case for them to take up rather than for the general body of Watchmakers"? In writing Mr Holland respecting the first point I also referred to the second, stating that I did not suppose that the Kew Ctte would object to waiving any prior claim they might have to prosecute in favour of any responsible body of Watchmakers, especially as it was apparently somewhat uncertain whether the Ctte had at present any legal locus standi, whereas any purchaser to whom fraudulent representations had been made was almost certainly an aggrieved person in the eyes of the law. The fact that the Ctte derive no personal advantage from test fees might make it difficult to satisfy the law that any one suffered from fraud which merely affected the value of Kew certificates.
I understand that there is no strong central Watchmaking body (equivalent say to the Goldsmiths), the nearest approach being the "Horological Institute". Mr Cuntable thinks that is some Liverpool association, but it is hardly likely it would move unless Mr Holland's feelings are shared by a considerable number of the most influential members.

Yours very truly
Charles Chree

f. 347c 1

Copy.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Kew Observatory
(Old Deer Park)
Richmond. Surrey.
Dec 19. 1898.

My Lord,

You will I hope excuse my troubling you with respect to a difficulty connected with the verification of your patent ships' compasses. Some time ago we got our regulations a copy of which was sent to, amongst others, Mr J. White (Glasgow) and which, you may remember, I once showed to you at your house. Two of the rules for 10 inch compasses were that the period must lie between 28 & 38 seconds, and that the compass in Gauss' A position must deflect an Auxilary magnet, at a distance of 9 inches through at least 12°.

The other day Mr J. White sent a 10 inch compass card for which :- period 41 seconds, deflection angle 7°—
The period marked on the card being 40 seconds I could not understand how Mr White, with our regulations in his hands, came to send it. On my writing him, he says that it is exactly after your usual pattern for the mercantile marine & that all the previous compasses sent here by him were for foreign men-of-war. (This one has 3 pair needles only.)
Now I claim myself no practical experience, but our regulations were got out with the most helpful aid of Captain Creak. R. N. who was of course aware that we did not intend our regulations exclusively or even principally for

6000 ℔ per h
6/100 per min
1.6 per s
160
1000

f. 347v

for men-of-war. We wished to benefit our own mercantile marine not foreign war ships.

A suggestion has been made as to a compromise, we issuing a statement giving results of examination & explaining that the period & deflection are consistent with the patentees' specifications though not in conformity with our regulations.

This would not I think be a satisfactory basis for a general future policy, being at best a temporary expedient to tide over a difficulty and I should very much like to know what your views are as original patentee of the compass card.

If our present regulations are unsuitable for the mercantile marine, then the sooner we change them the better; but if the standard current in the mercantile marine is really too low then we ought to do what we reasonably can to raise it. Any treatment we apply to one maker must be applied to all, and if we give way on one point it would be difficult to meet the contention of any maker or patentee whose views differed from ours on any other item. The dominant view of our certificate is that it specifies the attainment of a standard in conformity with our views. Except in the case of government telescopes it is not a mere warrant that the instrument is up to the makers' specification.

Of course though the present difficulty is connected with a 10 inch compass it probably extends to all sizes.

I enclose a copy of the regulations to aid in explaining the situation.

I am
Yours faithfully
(signed) Charles Chree.
Superintendent.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

The Right Honble
Lord Kelvin. G. C. V. O., F. R. S.

STATION, POST AND
TELEGRAPH OFFICE,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS
3/3/3/15

No

Kew Observatory,
(Old Deer Park.)
Richmond. Surrey.
Dec 22 1898

Dear Mr Galton

Prof. C. Foster has agreed to act as auditor.
I have got your letter returning the letters from Captain Creak & Mr J White.
I am not sure that I altogether succeeded in explaining the situation to you.
Mr J White asserts, & Captain Creak seems to assent, that in war vessels the armour pulls down the magnetic force. In consequence a compass has a longer period on board such a vessel than on land, or on an ordinary merchant ship. Captain Creak would pass for the Royal navy, if I understand

him aright, a compass having a period of 38 seconds on land. On board ~~the~~ a war vessel such a compass will have a longer period; Supposing this to be 41 seconds. Then the compass is in reality on a par with one on board a merchantman having a period of 41 such as W Lukes compass had. I do not know what is the amount of the influence exerted by the armour on war vessels nor whether in fixing 38 seconds Captain Creak allowed for an average or for an extreme case.

I have not as yet heard from Lord Kelvin.

Dr Harker turned up yesterday. Six out of seven cases he was bringing here have arrived. One did not turn up at Victoria; but the authorities there promised to enquire & forward it here.

Prof. C. Foster has offered to come

out some day & decide the situation.

I shall probably be 2 or 3 days away from the Observatory but not out of Richmond I believe – probably Friday to Monday. I have arranged with Dr Harker that he start work on Monday Jan 2 after a trip home. With best wishes for Christmas & New Year.

Yours very truly,

C Chree

Enclosure

f. 351r

827
No XIV

STATION, POST AND
TELEGRAPH OFFICE,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Kew Observatory,
(Old Deer Park.)
Richmond, Surrey.
Dec 27 1898

Dear Mr Galton

I enclose reply received from Lord Kelvin to my letter about compasses. Evidently he is prepared to stand up for his compass as usually made by White. Apparently he considers it a virtue that the period should be as long as 40 or 41 seconds on board ship, and claims that 23 years experience in the merchant service confirms this.

In some parts of the globe the horizontal force is more than double what it is here, so that a card vibrating here in 40 seconds may be exposed to conditions in which its period will not exceed

and the friction is so small as not to influence appreciably the card's Equilibrium position, then I do not see the occasion for more. Suppose however the pivot to fall off after rest, & increased friction to come in, the probable error arising from friction tends to increase, and this is more serious the weaker the needle (or the larger the weight). Now I supposed that experience had shown that it was well on this ground to look to the strength (or magnetic moment or deflection angle) of the card's needles system. At Hamburg, I think it is, particulars as to the card's moment of inertia are given on the certificate & there would be useless if the period is alone of importance.

Our prismatic compass regulations have also a rule as regards deflection angle.

Yours very truly
Charles Chree

28 seconds. On the other hand the
hor. force becomes absolutely nil, & so
the period infinite, at the magnetic
poles, and it is at least very considerably
smaller than here in navigable arctic & antarctic
regions. Again the time of roll of a
vessel varies I presume largely with
the load & with the build. I have had
little experience of sailing & so have very
vague ideas of the ordinary limits.
The armour varies so enormously in
men of war that Captain Creak, even
in fixing limits for the Royal Navy,
must have had to provide for very
varied conditions. Also he is better
situated for hearing absolutely
impartial accounts of the behaviour
of compasses by than Lord Kelvin, &
presumably officers of the Royal
Navy are better educated & more
critical than those in the mercantile
marine. I have written Lord

Kelvin asking whether he ~~has~~ is really prepared to recommend that no deflection angle test is ~~now~~ expedient & explaining more exactly the situation.

I do not attach any very great importance to the criticisms about the limit of weight two grains. We did not suppose for a minute that it would be of any value as regards light cards of Lord Kelvin's pattern; it was meant to knock out old fashioned, unduly heavy cards. On the other hand the deflection limit was likely to affect only the light cards of Lord Kelvin's pattern.

As regards the deflection angle limit I do not myself see that it could serve any useful purpose supposing the pivots to keep their original state. So long as the period is such that the vessel's rolling or pitching is not likely to set up sympathetic vibrations in the compass,

F 353r

Three

No

STATION, POST AND
TELEGRAPH OFFICE,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Kew Observatory,
(Old Deer Park,)
Richmond, Surrey.

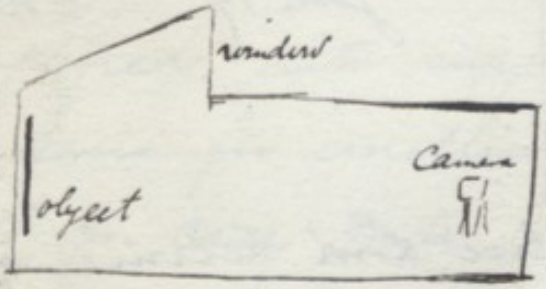
Jan 19 1899

Dear Mr Galtn

I enclose Lord Kelvin's reply to queries (the replies will I think explain the queries, reference being made by you to the regulations), & Captain Creak's notes thereon. I do not suppose the committee at large are likely to listen patiently to an explanation of the points at issue, but unless they do I cannot well see how a conclusion can be reached. Supposing the question shunted on to a sub-ctte it would have a delicate task. I am disposed to recommend giving up the attempt to make period & deflecting power criteria for passing. Lord Kelvin's answer is

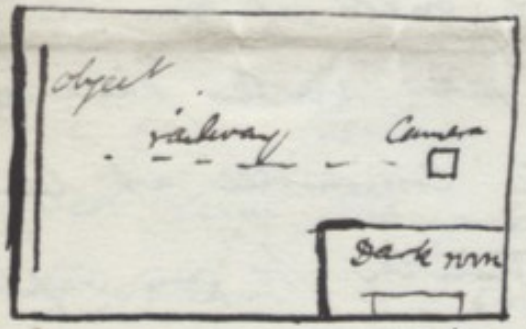
This is not quite the same. I asked Dr Hasker to write me letter stating the case which can be tabled tomorrow.
I got letter from Mr Holland we waited yesterday & sent it on to Messrs Fear.

Mr Hugo's general idea



Elevation (north & south)

→ N



plan

→ N

window with northern exposure to throw light on object.

This would mean object fixed & camera moveable.

I daresay builder would object to flat roof; but Mr Hugo does not much care what the roof is like, so long as he can get the light on the object & not on the camera.

Yours very truly
C Chree.

P.S. Dr Hasker will be in reserve tomorrow at Met. Office.
cc.

my 3° is tantamount to saying that a card with great deflecting power is inferior to a lighter one of less deflecting power but equal period. Whether Lord Kelvin has any facts behind his belief I know not. Lord Kelvin's idea about appendix, if applied into supplying advice, might be basis for conciliation.

Prof. Cary Foster occupied himself over the accounts most of yesterday; and evidently regarded it as waste of time to discuss building plans until Dr Hanker's return from Berlin. I took him round & showed him the site; I have got measurements taken. I enclose (see last page) rough sketch of Mr Hugo's suggested form of lens testing room; he is not a draughtsman & I had some difficulty in finding what he meant. Captain Abney has been written to.

The total number of instruments

Verified in 1898	is	24982
There were in 1897		23957
" " 1896		21200

Clinical thermometers are mainly responsible for increase in 1898.
Thus a number of instruments so greater the equivalent in fees is less, owing mainly to reduction in number of watches from 688 to 497.
I have without hesitation added the cost of transport of apparatus from Sevres – as paid by Dr Parker – to the amount of his cheque; and I have expressed my opinion that the Ctte were practically certain to repay him any necessary travelling expenses incurred in his journey to Berlin. He has sounded me further as to whether the Ctte would repay his own personal travelling expenses in his last journeys, both to & from Paris. In his first sojourn there he figured as an independent person receiving a subsidy; but in his second sojourn he figured as ~~personal~~ special assistant to the Superintendent. Of course an ordinary assistant's travelling expenses on Ctte work are paid for him; but

F 355r

STATION, POST AND
TELEGRAPH OFFICE,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No

Kew Observatory,
(Old Deer Park,)
Richmond, Surrey.
Feb 14 1899

Dear Mr Galton

I got your letter this morning and also Humphrey's catalogue; I am having letter sent Messrs Wmich & Son. I have no news of Oxford. I enclose copy of letter from Société d'Ophtique Paris (sent also to Captain Abney) also copy of my report re testing magnetometers (sent to magnetic Sub-Ctee). I expect Prof. Carey Foster & Mr Shaw, possibly Prof. Rücker, here on Thursday forenoon to consider gas thermt. question. Meantime Dr Harker is considering question, & also getting out estimate of accessories which Prof. Rücker is willing to submit to Sir A. Noble. Fuess' charge for gas thermt. itself, excluding carriage from Berlin, is about £ 60.

Yesterday morning's tide was the highest since I came here; the water came across the path just beside the entrance gate to the enclosure, & also came close up to the N. W. corner of the garden. The cellars were flooded. All the N. W. corner of enclosure was under water, & various golf flags suggested buoys.

About 6.35 p.m. yesterday the Dines pressure tube recorded two gusts of wind about 65 miles per hour, the

highest yet recorded. There was a sort of little isolated patch of high velocity, lasting some 10 minutes or so. These gusts brought down one of the three trees to the immediate north of the obsy which Mr Hyde at one time used for distant object in lens testing.

The astronmer Royal has offered loan of copies of certain Greenwich magnetic curves about a time when a curious discrepancy occurred in the Kew & Greenwich records. If the phenomenon observed is real it is a curious one, viz rise of .0017 c.g.s. units in a quiet 24 hours at Kew & fall of .0002 c.g.s. units at Greenwich. It ought to be investigated by some one.

Mr P. Baracchi Melbourne obsy sent letter (copies sent to magnetic sub-Ctte), supplementing letter from New Zealand Govt. about proposed magnetic obsy. Mr Baracchi did not transfer instruments lent him to Mr Borchgrevink, having handed them over to a Mr Farr for work in New Zealand before he knew of our arrangement with Mr Borchgrevink. We really left choice entirely to Mr Baracchi & in his opinion what he has done is the better alternative in any case.

Yours very Truly

C. Chree

P.S. Of late years it has been customary to send watch list to hortological journals without waiting for its appearance in R.S. Proc. Following this practice I am sending list to Horological Journal which wishes to publish list in March number. I could bring list with me on Friday, so as to have it formally before Ctte c.c.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

~~Copy.~~

Société L'Optique (seems really Company)
Siège Social : 101 Rue de Richelieu.

Paris - Feb. 11, 1899.

Sir.

Confident that it will be agreeable to you, in the interest of science, to show to the world – at the Paris Exhibition in 1900 – the best specimens of Celestial Photography obtained by you or by your Observatory, we beg to inform you that we shall put at your entire disposal, for that purpose, the rooms and projecting apparatus of the Optical Palace, in which is to be placed our Giant Telescope of the Exhibition. (Mirror, 2 met.; Object-glass, 1 met. 25; Focal length 60 metres.)

We would be greatly obliged if you would kindly forward us a list of the photographs which you may judge most interesting for the public. Should you have but one single proof of these photographs, please let us know upon what conditions you would agree to offer, lend or even sell us copies of same, which we should be glad and proud to shew as advantageously as possible for the good renown of your Observatory.

Trusting you will be kind enough to send us a reply as early as convenient, owing to urgency,

We beg to remain, Sir, with our highest consideration,

Your most obedient,
Le Directeur
René Dubois.

G. M. Whipple Esq.
Royal Observatory
Richmond
Sussex, England.

(1)

Horl. Force & Declination

Desiderata (without any increase of knowledge)

I Correction of formulae in so far as concerns neglect of quantities, such as squares of small quantities, not always negligible. [To reach highest perfection in formulae, however, further experiments probably expedient.]

II Increase in number and variety of experiments determining constants & testing behaviour of instrument: –

Object	Present number Expts.	Minm. number desirable	
Determination temp. Coeffs	usually 2	2	
" Induction Coeff.	" 1	2	
" moment of inertia	" 2	3	unless agreement of first 2 specially good
General test of behaviour & to determine 'P'	Horl. force 1	Horl force 3	
	Decln (gbb) 1	decln. 1	
To test material of box etc with use either of standard magnet or standard magnetometer		Horl force 1	
		Decln. 1	

III Introduction of regulations for rejection, for causes other than bad workmanship. Following defects should lead to rejection: –

1 unusually small magnetic moment per unit volume.
2 unduly large temperature coefficients (certainly).
3 " " induction coeff. (probably).
4 " " value of 'P' (probably).
5 variability in diameter of auxiliary cylinder.

UNIVERSITY COLLEGE LONDON GALTON PAPERS

III Contd. 6 magnetism in box &c.
7 Excessive difference between results obtained with instrument & curves (standardised by standard instrument).

Desiderata (to increase present knowledge)
Experiments are wanted on:-

a) dependence of temp. coeffs. on rate or direction of temperature change, existence of hysteresis &c.
b) dependence of induction coeff. on temperature, magnitude of force, existence of hysteresis &c.
c) whether present method of finding moment of mistra can be improved (e.g. by use of standard cylinder, direct determination of temp. coeff. &c).
d) whether "P" correction is always satisfactory (have suspicion that large "P" sometimes means want of symmetry in magnets or in position of suspended magnet relative to zero of scale).
e) elimination of torsion, especially in declination Expts.
f) most suitable kind of steel, on best preliminary treatment, & on best method of magnetising.
[Ideal steel should give large & constant 'permanent' moment, small temp. & induction coeffs., & small "P"]

UNIVERSITY COLLEGE LONDON GALTON PAPERS 222/2

General remarks

With present staff and amount of work it is doubtful whether any appreciable further time can be given to magnetometer tests or investigations. The object of the above proposals is to show what improvements are desirable in the future, supposing sufficient staff-time available.

The analyses of the formulae and of the past records which I have already made is in my opinion abundantly sufficient to show the expediency of the above recommendations.

Before, however, regulations for rejection were finally settled it would no doubt be desirable to attempt to elucidate the causes of discrepancy between several magnetometers already tested at Kew and believed to differ decidedly amongst themselves.

Charles Chree
Feb 13, 1899

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

f. 360c

Francis Galton Esq D.C.L. F.R.S.

42 Rutland Gate

London S.W.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

f. 361

STATION, POST AND
TELEGRAPH OFFICE,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No.

Kew Observatory.
(Old Deer Park.)
Richmond. Surrey.

July 8 1899

Dear Mr Galton

As you propose leaving on Thursday or Friday, & are likely to be busy, I had better get Mr Scott to sign the July cheques. I see by the half yearly balance sheet that the comparative value of the work done (i.e day work returns) is as follows.

Half year	1898	1897
Verification	£915. 13. 11	£931 3 8
Rating	£255 3 0	£254 0 10
Totals	£1160 16 11	£1185 4 6

This is on the right side, though not much. Owing mainly to Dr Hankin's salary & expenditure on plant. Symmetry, our outgoings are considerably greater than they used to be, and at present we do little more than hold our own.

I notice that you have asked Prof. C. Foster to act as chairman in your absence.

further elaborate special investigations into the validity of the several tests.

How we are to give the proper attention to all the magnetic instruments now about to be constructed is a serious question. Mr Baker alone is at present up to the work, & long training (for which no senior or junior assistant seems to have time) would be expedient to fit an assistant for the work. Then testing compasses requires the magnetic house more than used to be the case.

As you have said nothing respecting Prof. Milne, I presume I am to act as if he had not criticised our foundations.

It is proposed to start work on the "Sunroom" next Thursday. The work will probably occupy nearly 3 weeks.

I came across an absurd thing in our temperature test for magnets. I saw the present test was faulty in theory, & thought of a way of putting it right by modifying the apparatus. On investigation it turned out that the apparatus was really built to allow of what I desired, but some one in prehistoric times had put in a piece of wood preventing the requisite moveability. So for 15 + x years the inclination of the two magnets used has had an average error of some 6°, in individual cases perhaps as much as 16°.

Yours very truly
C Chree

There ought to be some programme got out as to utilising Dr Harker. But you mention that the Nat. Phys. Lab. Governing Body has been appointing Committees & I wish to know what relation I am to hold to these Ctees, or members thereof, or to Mr Glazebrook in the mean time.

Supposing the Thermometer Sub-Ctee meet, the chances are that Prof. Rücker will be too busy to attend, so unless Prof. C. Foster & Mr Shaw know exactly what is expected something might be done which would not fit in with the future programme.

To secure continuity it is desirable that the future director should be aware of what is being done, and it might even be advisable to consult him on certain points.

I have not succeeded in learning what has occurred respecting electric trams. If some arrangement has been come to, it seems a pity that my time & that of Mr Bailey should be

bestowed unnecessarily on reading
local papers &c.
Another point troubling me is as
regards the testing of magnetic instru-
ments. There is a phenomenal boom in
progress. I know of about 15 Lumpians
& as many dip circles ordered, or
about to be ordered, all intended to
pass through our hands. We have in
fact been explicitly consulted respecting
that number & in some cases asked
to suggest the pattern. Then people
getting new instruments are all showing
anxiety to get the information necessary
to reduce their readings to those taken
with our own instruments. In other
words, the era has passed when
people took for granted that all
'standard' instruments necessarily
agreed. Our present examination still
belongs to the old era, and to adapt it
to the new era means increased time
devoted to verifying each instrument, &

f. 363r

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

25 Mount Ararat Road
Richmond Surrey
July 8th 1899

Dear Mr Galton

It would appear that the secrecy to be observed respecting the choice of director of the Nat. Phys. Lab. has not been taken so seriously by some of the other members of the selection Committee as by you.

This afternoon a friend calling on my sister proceeded straight to the subject. She had seen a newspaper account giving

a biographical sketch of the
director selected, the part of his
election & the salary he is to
receive. I had fortunately not
delayed to avail myself of your
to take my sister
permission, otherwise it would
have been extremely awkward.
Judging by the rate of leakage
in the final result, I have
little doubt that a variety of
things have already come out
of which my ignorance is as
yet complete. If I am asked for
instance the circumstances of
my candidature for the post
it will be rather a difficult
question to fence with. For all
I know my name may not have

been considered in that connection. I suppose all I can say is that I do not feel in a position to talk on the subject. At present I do not know that the newspaper account may not be "contradicted" as "premature". Seeing so few people I do not know whether only one or two papers had the news, but doubtless one is enough.

Yours very truly
C. Chree

P.S. It is the question of the staff that is most pressing. I suppose if asked by one of them explicitly whether report is true or not I had better own up. C.C.

f. 365r

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

STATION, POST AND
TELEGRAPH OFFICE,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

1

No. 377
C 3.

Kew Observatory,
(Old Deer Park,)
Richmond, Surrey.
Nov 7 1898

Dear Mr Galton

I have given a fresh consideration to the question of the reasonableness of the grant, £400, at present made to Kew observatory taken in connection with the Gassiot Fund. On a separate sheet I give 3 extracts from the Gassiot Trust deed, containing what seems to me the essential features.

In the first place it seems to me that there is no evidence that Mr Gassiot considered the magnetical & meteorological observations as in any way fundamental. He mentions them as being a prominent part of the work of the place as he knew it. He couples this observational work however with physical investigations - whose character he does not specify - and leaves it to the governing body to determine from time to time what is the work which it is most expedient to do under the conditions existing when this question is considered. Supposing for instance magnetic work rendered useless by electric trams & meteorological observations rendered valueless by building operations, the Gassiot money ought I think to be paid over provided other physical investigations were in continual progress and were approved by the governing body. In short I do not think it is correct to regard the money as ear marked

for either magnetic or meteorological observations.
Again supposing a large extension of magnetic work were deemed important I see nothing to prevent the governing body setting aside the whole of the Gassiot income for that purpose.

I mention this to show that in my opinion the Met. Council are not justified in the belief that meteorological work at Kew Observatory has any necessary claim whatsoever upon the Gassiot fund. In my view the question simply is whether £400. is a fair payment for the work now done by Kew Observatory if it were done by any other institution.

As however my opinion respecting the deed may be wrong, or may at least be judged so by the Met. Council, I shall merely for the sake of argument suppose that the Council is correct in regarding meteorological work as an essential condition of the payment of the Gassiot Money. It is clearly left to the governing body to determine the nature of such work. They might either reduce it to what they deem an absolute minimum, or they might go in for investigations of a character not included in the present programme of the Met. Council. In neither case would the data exist which the Met. Council now receives. As to the reduction of the work it should be remembered that at present we tabulate only 5 days magnetic curves a month, & that even this amount of activity is of comparatively recent date. If we do not violate the terms of the trust in leaving the magnetic curves unworked up it surely follows that we might do the same with the meteorological. Thus even if we granted the

STATION, POST AND TELEGRAPH OFFICE, RICHMOND, SURREY.

ALL CORRESPONDENCE TO BE ADDRESSED TO THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON GALTON PAPERS

No.

Kew Observatory,
(Old Deer Park,)
Richmond, Surrey.

189

Contention of the Meteorological Council, and further assumed that they were entitled to any data the governing body chose to collect, we should only deduct from the expenditure on meteorological work charged to the Met. Office the minimum sum (G) requisite to keep the self-recording meteorological apparatus in action and to develope the photographic curves. It will come to the same thing as regarding the payment made to the Observatory by the Met. Council as amounting to £400 + G, where G is the above mentioned money (portion) of the Gassiot income. (Estimated value at 80) Also to simplify matters we need consider only what the Observatory does beyond what is done at ordinary 1st class observatories, the payment made to which is now I understand £275.

The following are the items of extra work & responsibility

A The running an electrograph 50
B Inspection of 1st order stations 50
C Liability to send assistant on an emergency to put up apparatus or tide over a difficulty elsewhere 25
D Supplying scientific advice 15
E Special observational work, wholly unpaid for } 15 +50 -15 (in Room 80)
F " " " for which assistants' time paid. (£10)

→ Total 195 80 minus £G

From the supposed Met. Council point of view the Observatory would be over paid or underpaid according as the mean annual value of items A to F fell short of or exceeded £125 + G.

It is very difficult to attach definite figures to any of the above items. We have been accustomed to regard item A as representing £50, & this is certainly a low estimate, taking account of the time & trouble spent in trying to keep the results up to the mark.

B represents a months time of two assistants whose monthly salaries average some £44, and as their absence is of course to some extent a source of inconvenience - causing over time to other assistants - we may put this also fairly at £50.

C It is difficult to attach a value to a right only rarely made use of - one could hardly put it at less than £25.

D Claims on Superintendents time have been light during the present year, but much heavier on some previous years. On an average since 1893 I should put this at about £50.

E & F fluctuate very much. During the last 18 months these have been light, prior to that, observations on Earth thermometers occupied a good deal of time. It has also to be taken into account that we may do more in such cases than the Met. Office might think absolutely necessary, through feeling an independent interest in the subject. Leaving out of account all fully paid for work - such as instrument testing - I think I should put the cost of this to the observatory at from £10 to £20 a year - or say £15. This leaves wholly out of account such things as improvements of electrograph or experiments on that subject made without any suggestion from the Met. Council, but bearing directly of course on the value of work done for them. Such "uncalled" for work would represent quite £50 a year.

Leaving this last item out of account, our estimate for expenditure under heads A to F amounts to £190 a year. The accountant reminded me that we frequently pay for small items part of which strictly speaking should be charged to the Met. Office, and would put this at from £5 to £10 a year. For item C Mr Constable's independent estimate is just under £80. Taking the figures £190 & £80 we should deduce over payment of £15 on the Met. Office view. From my point of view the underpayment would be £65. The "probable error" is of course not small.

Yours faithfully
Charles Chree

Francis Galton Esq D.C.L. F.R.S.

1.367r

Three

STATION, POST AND
TELEGRAPH OFFICE,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE SUPERINTENDENT.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No

New Observatory
(Old Deer Park.)

Richmond. Surrey.

Dec 21 1899

Dear Mr Galton

I daresay you may wish to hear how we have been getting on. The various formalities as to winding up the Kew Ctte have been observed so far as we at least are concerned. The Kew Ctte has been asked & has consented to go on until about the middle of January, so as to tide over the holidays. The Nat. Phys. Lab. Executive Ctte has formally asked the staff to transfer their services to them on the existing terms; and the staff have consented to do so on the understanding that this creates no prejudice against any future application for

'Report' as usual. Two naval officers had a 3-weeks magnetic course recently, & a Capt. Fraser R.E. – in charge of a magnetic survey contemplated for India – has been making some experiments here.

Prof. Rücker has I believe advised the India Office to have Capt. Fraser sent here for a more extensive course than usual, & I think he contemplates transferring to us the responsibility of advising Capt Fraser which seems to be proving too heavy. The captain has, perhaps unfortunately for us, imbibed a number of new ideas which he is anxious to try. My paper on platinum thermometry was read at the Royal Society last week. Messrs Callendar, Griffiths & Heycock were there in force, but there was less of a fight than I expected. The Harker-Chapman paper is not yet through the press. Of late we have been having a sad time over gun-director telescopes. There have been about 4 patterns under review, & we have been asked to advise more than I altogether relish in absence of practical experience at the front. Mr Glazebrook has taken a house in Richmond & expects to be here about Jan 8th. Wishing you a happy Christmas & New Year I am yours very truly

C. Chree

revision of salaries. Dr Harker has also been asked to continue for a year certain at the rate (£200) presently paid him. I had a personal letter from Lord Rayleigh asking me to stay on. It recognised my past services handsomely enough but was quite indefinite as to what was to happen in the future; i.e. what kind of work I should be expected to do, what the salary or prospects of increase would be. In my reply I expressed a desire to have a forecast so far as possible, but Lord Rayleigh's reply to this adds practically nothing to my knowledge. I suspect he really does not know. In fact I am even doubtful if the Executive Ctte have yet got the length of deciding where to wield. Personally I do feel that the being unable to forecast the future at all is a hardship. The appointment made to the Glasgow chair makes me feel that I have lost an

excellent chance there, simply through having my hands practically tied by ignorance, & until the Executive Ctte - continue to get fully under weigh presumably this state of uncertainty will continue.

The senior assistants, like myself, feel that the small market there exists for such special experience as they possess places them very much at the mercy of the Executive Ctte. They are not however content with their present salaries, & unless they are reconsidered within a reasonable time there will be grave discontent. I have represented to them that at the present moment the Executive Ctte are not in a position to deal with the question, but that presumably it will come up when the additional staff that will be required has to be engaged. This at least is my own view of the situation.

Mr Kemp was appointed liquidator for the winding up: but he has got Mr Keen (the R.S. auditor) engaged to do the work. It is intended to have an annual

KEW OBSERVATORY INSPECTION . OCTOBER 16 & 18, 1899.

The Staff employed is as follows :-

Superintendent.... C. Chree Sc.D., F.R.S.

Special Assistant to Superintendent..J. A. Harker D.Sc., Platinum Thermometry

Chief Assistant.... T. W. Baker, Magnetic Department, Telescopes, Sextants, (absent on inspection duty)

Senior Assistants (wearing red ribbon)
E. G. Constable, Meteorological Observations and Rating
W. Hugo, Photographic Lenses, Higher Thermometry, Anemometers
J. Foster, Barometers, Hydrometers, Thermometers etc.
T. Gunter, Thermometers
W. J. Boxall, Sextants, Telescopes etc.

Junior Assistants (wearing white ribbon)
G. E. Bailey, Accounts and Library
E. Boxall, Meteorological Observations and Rating
G. Badderly, Clinical Thermometers

Boy Clerks (wearing blue ribbon)
A. C. Cooper, Meteorological Observations
B. Francis, Clinical Thermometers
F. Hiorns, Ordinary Thermometers
A. G. Williams, Sextants, Telescopes etc.
C. R. Dafforne, Clinicale Thermometers
A. May, Library, Postages

Caretaker..... M. Baker

Housekeeper..... Mrs. M. Baker

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

DESCRIPTION OF ROOMS

The rooms Nos. 3 to 18 are divided into 5 groups. Visitors may begin their inspection with any one of them, but the several rooms in each group are to be visited in their numerical order, to avoid obstructions in the narrow passages.

It is not thought advisable to exhibit the mechanism of any of the self-recording instruments or otherwise to interfere with their working, thereby spoiling the trace for the day.

The details of the mechanism have been published [Encylopaedia Britannica (Terrestrial Magnetism by Balfour Stewart) and Meteorological Committee's Report for 1867.]

The names of the assistants shewing the different rooms are appended to the description of the contents.

UNIVERSITY COLLEGE LONDON GALTON PAPERS

MAIN BUILDING.

Ground Floor.

1. Hall (Refreshments)

2. Computing Room (to be used as the Reception Room)

Group A. Ground Floor.

3. East or Barometer Room,
   Watch Rating..... E. G. Constable
   Barometers, Hydrometers, Dividing Engine etc..... J. Foster

4. West Room,
   North part - Thermograph, Electrograph, Chronometer Oven
   ..... A. C. Cooper
   South part - Ordinary Thermometer Testing..... T. Gunter

Group B. First Floor.

5. West and North-West Room (occasional use)
   A. May

6. Superintendent's Room

7. East and North-East Room
   Telescopes, Marking, Whirling Apparatus..... B. Francis

8. North Room
   Library and Accounts..... G. E. Bailey

Group C. Second Floor and Roof

9. Lens Testing Room, Anemometers etc..... W. Hugo

10. Roof, Sunshine Recorders, External parts of Anemometers
    ..... C. R. Dafforne

f. 371c

PROCEED DOWNSTAIRS INTO GARDEN.

Group D. OUTSIDE BUILDINGS.

11. Platinum Thermometer Room..... Dr. Harker
12. Clinical Room and Workshop..... G. Badderly
13. Experimental House, Instruments on lawn etc.....F. Hiorns
14. Magnetic House in Garden and Compass Apatatus..... W. J. Boxall

RETURN TO MAIN BUILDING THROUGH SOUTH DOOR.

MAIN BUILDING.

Group E. Basement.

15. South Hall, Vaults, Cold Chronometer Chamber..... M. Baker
16. Sextant Room..... A. G. Williams
17. Seismograph Room
18. Magnetograph and Photograph Rooms..... E. Boxall

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

f 371v

Chree

1899

f 372
135
II

Three

No

STATION, POST AND
TELEGRAPH OFFICE,
RICHMOND, SURREY.

ALL CORRESPONDENCE TO
BE ADDRESSED TO
THE DIRECTOR.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

The National Physical Laboratory,
Old Deer Park,
Richmond, Surrey.

June 27 1900

Dear Mr Galton

I return Mr Kempe's letter herewith. I expect to be here until the end of July; clearly if a month's notice of the meeting is required it cannot well be earlier than the date (30th July) proposed. I understand Mr Kempe to say that he will have all necessary notices sent out & that consequently I need not concern myself with that matter.

I suppose you or he will

F. 373

let me know whether my presence,
& that of mine perhaps, is wanted
or is unnecessary. I have had
really nothing to do with the
accounts for some months & if
Mr Kempe understands what the
situation is it certainly is more
than I do. There have been a number
of contradictory instructions from
Mr Kempe, Messrs Field &c; but I
daresay in such a case as the
present it is not of much real
importance whether all the legal
technicalities have been strictly
observed. Since the formal handing over
of the management to the National Physical
Laboratory the accountant has consulted
the director on any instructions sent by
Mr Kempe.

Yours very truly
C Chree

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

25 Mount Ararat Road, Richmond Surrey
March 15, 1902

Dear Mr Galton

In reply to your postcard I enclose particulars of marks of first 3 in a series of exams.. ~~I have typed for~~. I presume that nothing will be published that would serve to identify source of marks, as I am uncertain that authorities concerned would approve this, the marks not being published in most cases. The ordinary M.A. & medical preliminary exams. at Aberdeen are pass exams., & the better men need not exert themselves, 60 per cent being as good as 100. In a good many cases I mention results from individual exams. as well as totals based on a variety of papers

Aberdeen Medical Preliminary.
Here all individual exams
A = arithmetic, A' = algebra
E = Euclid, D dynamics

	1st	2nd	3d	number candidates
A	100	78	77	51
"	100	100	100	38
"	100	95	94	52
just A	95	94	87	69
A'	100	99	80	67
"	91	90	79	47
"	100	98	92	50
"	66	64	62	37
"	100	96	93	62
D	95	94	81	60
"	76	71	67	53
"	75	72	71	64
"	65	65	63	63
E	100	95	85	53
"	82	80	78	52
"	93	92	91	54

above are from exams. held during 3 years (twice a year mostly).

Aberdeen ordinary M.A.
M = mathl., N = natural Phil. (Physics) exams
T total of 2 or more exams.
Exams. in same occasion bracketed

	1st	2nd	3d	Candidates in
M	194	170	169	104
N	134	104	101	
T	298	286	253	
T	496	377	360	49
M	101	90	88	58
N	80	78	70	
M	125	113	88	69
N	85	73	68	
M_1	117	78	77	47
M_2	153	120	117	
N_1	82	78	75	
N_2	132	131	101	
T	415	375	369	
M_1	101	90	88	58
M_2	166	154	147	
N_1	157	117	116	
N_2	80	78	70	
T	426	413	408	

Aberdeen
Mathl. Honours
M mathl. pass
N natural Phil
T Total
Candidates 6 first case, 5 second case, 7 third case

	1st	2d	3d
M_1	179	154	144
M_2	106	88	
M_3	274	264	146
N_1	133	130	102
N_2	136	96	79
N_3	199	135	127
N_4	121	87	78
T	951	951	800
M_1	156	139	117
M_2	226	140	122
M_3	262	255	177
N_1	135	115	85
N_2	227	150	100
N_3	165	135	85
N_4	229	98	83
T	1383	980	838
M	101	99	92
N	135	95	90

"May" Exam[n]. at Cambridge
all papers maths, M.
T total as before

	1st	2d	3d	Candidates
M_1	127	123	102	28
M_2	96	80	65	
M_3	92	87	80	
M_4	136	133	120	
M_5	133	128	91	
M_6	125	111	87	
T	612	605	540	
Total for 2 or 3 papers	398	290	190	14
M	170	161	132	12

5 candidates
Scholarship Exam

1st	2d	3d
118	105	87

Boy Clerk Exams. at R.O.
A arithmetic
T total of all papers

	1st	2d	3d	Candidates
A	340	272	260	12
T	761	656	593	
A	148	89	58	4
T	335	252	245	
A	150	84	66	5
T	331	218	207	
A	236	136	104	6
T	463	417	417	

Total 60 sets

Can a separate sheet I give a list of the marks obtained by the first 3 watches on the Kew list from 1885 to 1901 inclusive. I give in this case only the totals.

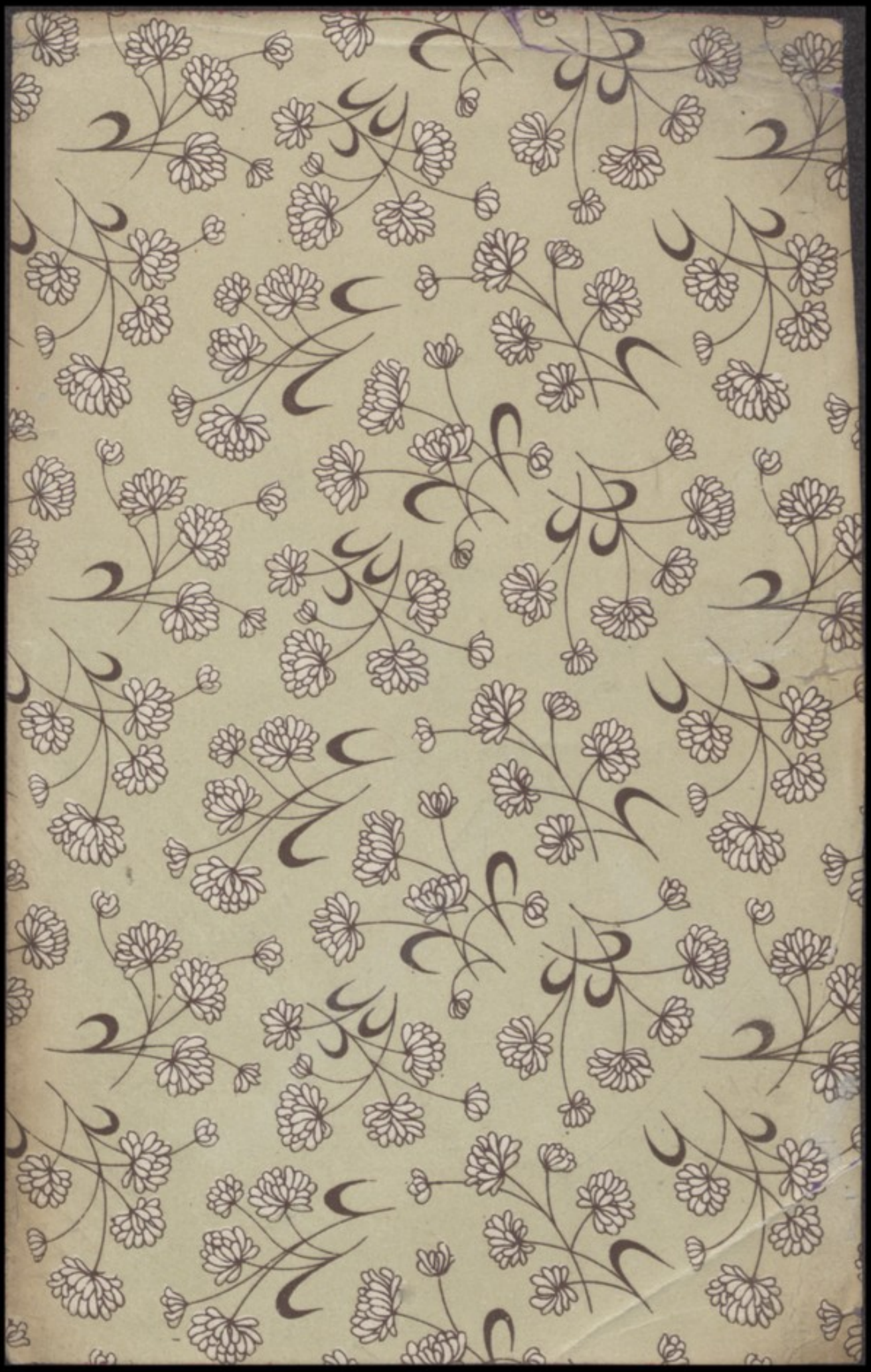
I have specified the number of candidates in each case, as you suggested you were not absolutely clear that might not be useful. A more exhaustive search would no doubt enable me to put my hand on some more figures, but I thought you might consider my delay in replying considerable as it is.
It only needed a few minutes to get the facts as to the watches, & it seemed absurd to put an assistant on overtime for such a trifle.
I daresay I could get some Cambridge men to send you some more ample figures, but probably you have already applied to the sufficiency of sources. I have really not had time to read mathematical biological work, beyond a mere glance at some things of Pearson's & others in the R.S. Trans. or Proc., & I don't even understand the phraseology. If I did go in for it, I have a suspicion I should not find it a path to peace. Hoping you are quite well

I am yours very truly
C Chree

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Year	Total marks 1st	2nd	3rd	number wakkas entered for class A
1885	86·1	84·4	83·2	254
6	86·7	84·1	83·6	436
7	88·1	85·1	83·1	463
8	89·0	85·8	85·6	569
9	89·1	89·0	86·6	483
1890	86·2	86·9	85·4	450
1	91·6	87·5	85·4	468
2	91·9	86·0	84·6	414
3	88·0	85·6	84·9	376
4	88·8	88·4	87·3	378
5	87·4	86·5	86·0	435
6	89·4	89·3	89·1	400
7	88·4	88·0	87·3	492
8	89·2	89·0	88·6	383
9	88·7	88·2	87·9	362
1900	90·1	89·3	88·7	320
1901	91·3	89·9	89·8	305

In all cases full marks here were 100.



Any Reply should be addreſſed to the Secretary

Cannan

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/16

The Clarendon Preſs
Oxford

14 May 1907

My dear Sir,

The Vice Chancellor orders printing if & so for as the Board admits, so the Board pays the printing bill & takes half of any profits & the whole of any loss.

I can only ask the Vicechancellor to give the order & the Delegates to publish: there will be no objection taken by the University to your reprinting the lectures hereafter at such a time & in such a way as not to interfere with

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

the sale of it in pamphlet
form, and the Delegates can
give permission for such reprinting
upon application

It is generally found
best to print up the lecture
before delivery and publish it
at once after delivery. Will
you say if I am to proceed?

I remain

Yours very truly
F. Galton

Francis Galton Esq.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/17

Sir John Clark

f. 1r

TILLYPRONIE,
ABERDEEN.

Tuesday Septr 29. 85.

My dear Sir,

Curiously enough I had yesterday morning charged an intelligent Aberdonian, Mr. John F. White the great Flax Spinner of the North, to endeavour to discover some, and kindly acquainted with the habits of the Fishermen, to put me in contact with him on your behalf. —

He suggested the Minister of Footdee (Torry) the

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

I think it will help me to
get for some of the information
you want in March.

But in both of these
first forms, the Contents
Bindings Index for pressure
with the letter I sent down
and got a Copy of the Diary
Village with them & kept
extract for yourself the
information at its Source..

One habit of the Fisher folk
which I omitted mentioned was
the, that, at the very age
days Settlement, a Family
is vital to the life Estate.

out of a fisherman, a woman
is never married until she
holds Thursday:- of the
unborn child the murder,
but upon by common
consent & custom is held
free!-

Thereupon without
doubt Frik Trol the
sentence of the Fishermen
was in least due & accord-
ing nature & custe - to the
sanctity of the marriage
bond among their people -
& the safety during their
doing & preaching in com:

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

TILLYPRONIE
ABERDEEN

: pany with a few words of
your Writing.-

We shall now have
however just at first and
a Calvert's Carr hand
from mine, as soon as I
can get a good name for
you.-

I must say Fit if
you should come
down we shall be most
happy to see you at
any time before Xmas or
soon after Xmas.

Mean Very Glad to hear
that your Journey Southward
was Safely performed.—
Lady Clark reciprocates
Julia's & your Mrs Talbot's
Christ Xy Compliments &
Ever, I am Very truly Yrs
Edwd. Clark

P 966

f. 4

Any Reply should be addressed to the Secretary

Cannan

The Clarendon Preß
Oxford

23 May 1907

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

My dear Sir,

Please send the MS to me, not to the Vice Chancellor.

The size of your plate should be sufficient to get in Demy octavo size. The letter press is 3¾ × 6¼ but the plate may be larger, if necessary, as I can predict the exact 4½ × 7½ number of your lecture: it will depend upon such accidents as the weather

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

JJ f.51

but why not have somebody to hand at the picture to each person entering: then the remainder will be clean and can be used for the book.

We should be inclined to print 500 of the letter press & keep the type standing for a little.

I am afraid that the Americans will shamelessly pirate the lecture, if they want it. But if you desire to keep copyright

in that country, you
must postpone publication
here until you have
got it set up on that
side & published there
simultaneously.

Yours very truly
C. Lanman

Failing this
I think it would be best
not to give a magazine the
lecture until the copies have
had time to get to America;
~~you cannot~~ at any rate not unless
the magazine will pay a fee

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/8

Clerk Maxwell

f. 16

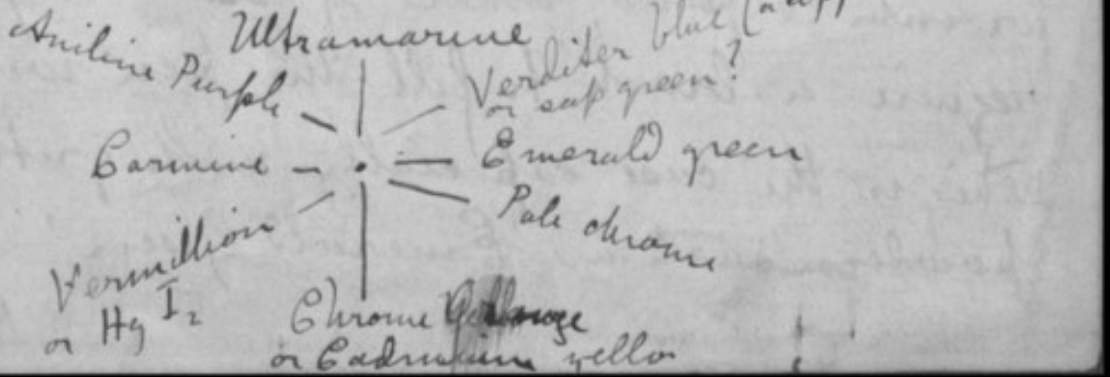
Glenlair
Dalbeattie
1879 Sept 4

My dear Sir

I have just got your letter

I am not quite sure whether your principal object is to get 8 colours each well distinguished from the others (This is the diagrammatical selection) or to have them chromatically balanced so that you may deduce conclusions from a general and confused view of the map.

In either case I would not be restricted to the spectrum, but would indulge in one of the best aniline purples, which has no match in the spectrum.



Are the ships tracks to be continuous narrow lines of uniform breadth, changing colour as the wind blew or the waves rose during the voyage?
If the ground is white, the changing colour of the lines will not be very striking unless you look for it carefully. Also what mark is there for a harmless breeze.
I could conceive of a splatch of colour about the size of a wafer being put down wherever the ship encountered a storm proof that exist, without any conspicuous line for the ships track for I do not think the course of the ship is of any value to the mere meteorologist.

I would if possible stick to colours known to the trade. Some are adapted for inks & pens, others if used in pens require a brush to fill the pen with This is the case especially with gritty powders such as "Emerald green"

which makes very good lines in diagrams

But if you mix a heavy pigment such as vermillion or emerald green with a light one such as gamboge the gravity will effect a separation and you will never be sure of your tint except by inspection

Gamboge being transparent, and having its own law of absorption the colour of what is painted therewith depends on the thickness, being when thin of a pale greenish yellow and when thick of a reddish brown. It is better therefore to use the chrome yellows or cadmium yellow.

Iodide of mercury is the brightest of all scarlet colours and keeps very well if mixed with nothing but gum water, but it turns yellow when heated as I suppose you know well It reflects as much light of line D

as a bit of chalk so that in sodium light it is as white as chalk while vermillion is darker than dark oak. or old calf bound books.

Yours very truly
J Clerk Maxwell

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

f. 1r

68. Redcliffe Square,
London. S.W.

9.2.97.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS
3/3/3/19

Dear Mr Galton,

You are very kind in procuring me such an immediate and satisfactory reply to my troublesome query.

I will, on the first oppor-

tunity examine the curves
in Phil. Trans. referred to by
Professor Clerk.

I ought to have done
so long ago, but I had
forgotten their existence,
and relied too implicitly
on Prof. Balfour Stewart's
dictum that the "sun had
been caught in the act"
of disturbing the earth's
magnetic system.

Mr Ellis's remarks in

"Nature" however showed me the necessity of revising my ideas, particularly as they have been countenanced by Lord Kelvin's authority.

I cannot but think, nonetheless, that the reaction against the solar potency in this respect has been carried too far.

With sincere thanks
yours faithfully
Agnes M. Clerke

Sir Hugh Clifford

f. 15

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS
3/3/3/20

Queen's House, Colombo.

July 14th 1904.

My dear Sir Francis,

Will you let me join with your other friends at Home & abroad in expressing to you the great pleasure with which I read your name in the Birthday Honours Gazette & received by last mail - I expect



it has been a busy week,
but I suppose in two
days one out. to glad
when any public tribute
is bestowing to genius
such as yours, & to work
such as your genius has
produced.

You sir of course have
been inundated by a flood
of congratulatory letters
from all over the world,

but I wd. ask you to
believe that no delicate.
Voice that you read
reserve will be more
cordial & more sincere
than mine sh. I subscribe
& offer to you.

I shall remember me most
kindly to your sister.

Believe me
sincerely yours,

Hugo Arnim.

Prof Galton f. 1c

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/21

3, BARDWELL ROAD,
BANBURY ROAD,
OXFORD.

1 Feb^{y} 1896

Dear Galton

Any microscope maker would I should think be able easily to supply you with a small microscope which would do what you want

I may mention

Ross new Bond St – {near Oxford St. End

Rk. Beck 68 Cornhill

Swift. Tottenham Court Road west side about half way along the street

Possibly you might find second hand one which would answer your purpose at Baker's 244 High Holborn

The numbers & names attached to their lenses by opticians do not give much information, and are not even definite, but perhaps the following results of some trials I made at the Laboratory yesterday may help a microscope maker (Beck in particular) to supply the required instrument

Your conditions are nearly realised by a Beck's "2 inch objective" combined with a positive eyepiece for which the web would be 1/4 inch from the field-glass the length of the body being 2 3/4 inches. A little power of adjustment of the eyepiece in the body would give you the means of obtaining

exactly the magnifying power 10. This microscope would have a total length, I should think, of 5 1/4 inches and the distance of the object glass from the object would be about 5 m.m.

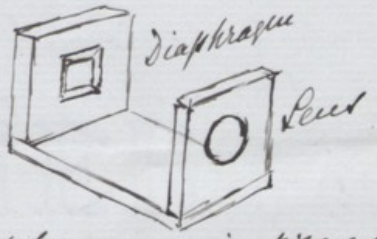
The same objective combined with what is I believe one of Beck's A negative eye pieces (but the eye piece is not marked) and a body 4 1/8 inches long gave very nearly the result you want - the exact result would be obtained by a slight adjustment of the eye piece in the body

This microscope would have a total length of about 6 1/2 inches and the distance of the object

from the object glass would be about 5/4 m.m.

It is however necessary to go to the expense of a compound microscope for the purpose which you have in view. I should think a simple lens would do just as well or better. A little instrument is sold in manufacturing towns to enable dealers in woven goods to count the number of threads to the inch. A very similar observation to that you seem to want to make. I have heard their instrument called a "linen prover", and I think it could be recognised by that name

It consists of a small lens mounted in a little frame at the other end of which is a brass plate having in it a hole 1/4 inch square. This rough sketch will give you an idea of the form of the instrument



UNIVERSITY COLLEGE LONDON
GALTON PAPERS

The diaphragm is pressed against the fabric and then is then at the right distance from the lens to be distinctly visible - the number of threads in the 1/4 inch square can be counted with the greatest ease

The frame is made to fold

to as to go in the waistcoat pocket.

One I have, when folded, is only 1" × 5/8" × 1/4" - a very small affair. It magnifies 16 times linear and defines quite well enough to make the counting of the threads easy.

I tried it on my first finger and found, starting from the middle of the central oval, 13 1/2 ridges in the 1/4 inch

Of course you could have one made with a circular diaphragm (12 mm diam²) if you prefer this form and size

If the lens has a focal length of 1 1/3 inches and the diaphragm is about 1 3/16" from the lens

you will get a magnifying
power of ~~about~~ between 9 & 10

I dont know where you
would be likely to find
"linen provers" kept in stock
in London, but probably most
of the opticians in Manchester
keep them. Perhaps Baker
might have some.

For your purpose I think
it might be well to have the
diaphragm closed by a plate
of thinish glass to press the
finger surface flat

Excuse a rambling letter
written with many interruptions

Yours sincerely

W. Bolton

(266)

United States Express Company,
M. A. HIGGINS, Agent,
222 Wyoming Ave.,
Phones: Bell 4010.
571 Com.
SCRANTON, PA. 191

2

of accidental experimentation., & that I
" "
call - the main mark. I reduce effects
to their lowest terms - to get causes.
dissolve elements to the elementary.
The result has been gratifying.
I beg to say that I have found
the physiological relation of the body
to the mind: the basis of memory &
the cause of association. (both physical):
the secret of the cell, of ex, of the
law line of evolution, & home of the last
& closest secrets of Nature, on which
Evolution is built. I have found the
physical relation of vegetation to the mineral -
& the physical relation of the animal &
vegetation. I have discovered the secret

M. Claire.

Harmony - Tenby -

Dec 29th 1910.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Sir -

Will you kindly give me a critical opinion of my new book - (in a new line) - called "Biological Mechanics"

Book F.

Psychology as a Natural Science"

It is in cheap print.

I have made important additions & a few unimportant corrections. The print is clear enough. I may say, that I am not well known - but am, so to speak, what my old friend John Burroughs called "a new man". My method is Analysis. I am not a laboratory psychologist - but a field psychologist. I have always been close to animals & Nature. I never use mechanical experimentation - but make use

(266)

United States Express Company,
M. A. HIGGINS, Agent,
222 Wyoming Ave.,

Phones: Bell 1010
571 Cons.

SCRANTON, PA. 191

UNIVERSITY COLLEGE LONDON GALTON PAPERS

f. 21

Mr. Clerke.

Garrett

Sarcastic

Author of "A Cadenus & Vanessa"

4.

I am an absorber – in quite the same way as are the adepts of India – but I do not know much of the Cult. I was born with a certain ability – to fathom causes, & an intense desire to find ends.

I may add that I am an Idealist & am not an anatomist nor a "physics" man. I am acquainted with the literature on the matter. I nevertheless, am personally interested in both chemistry & physics: —

I know the secret of magnetism & accidentally mentioned it in my book. It is too simple for belief almost. Will you do me the honor to give me your critical opinion?

3

of "life", of registration, of "emotions", of "feeling", of consciousness, — all of which follow as the law of evolution.

I beg to present my discoveries to you, as an Expert. My work is now before Prof. Titchener of Cornell U. N.Y.: — of G. Stanley Hall of Mass.: of Dr. Carus of Chicago: of Dr Judd of Chicago U: of Prof Dewey, of N.Y. — & of Lord Critchton-Browne of England, — & the Medico-Psychological Society of Great-Britain. Also, before eminent Frenchmen, & Swedish.

As I have said — my recent discoveries are very important — & describe the magnetic laws of the nervous system — & how it acts.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

the Wounds of days assigned to
Search for the woman, he
dug up the corpse one night, cut
it into sixteen pieces; left
the remains of her unborn
child (his child) in the grave,
& flung the rest into a
torrent which runs through
the wood close by; where they
were found three days after
Wm was arrested, he admitted
having stolen his Bible
& has ever since been carefully

till the wretched idiots in the
Lilliput town talk upon us a
Dumb. & it is well known that
if he is tried by a Dog jelly
Jury he will not be convicted,
Unless he confesses his
Crime! Authors name which
he must have made for
poor Sarah Hughes some
Verses preceding on a Farm
Where he & she worked
together _ was Edmund

been found —

I think this kind of crime
~~Should~~ more nearly akin to deliberate
& cold-blooded barbarity — & the
perpetrator ought to be
some strange monster of a
man — Undoubtedly a Lover
of animals & of women
& no doubt is —

Hope this will
find you & Address
in my next Thursday

Galton's multiple causes &
his merits? Will kindly
remember me &
my kinds regards
from me —

Yrs truly &

Francis Power Cobbe

Aug. 24

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

f. 1r

TANLLAN
LLANELLTYD
DOLGELLEY

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS
3/3/3/23

Dear Mr Galton

I am returning herewith
the two sets of V—
Soldiers. I was interested
in finding the V- specimens
very much alike. Indeed like
to write all my letters about
about it - but I will not trouble
you with them now -

I enclose a photo I made

Your elections which I think is very curious. I am to make out from it the "group of criminals" to which the original belongs. The man is a very Welsh farmer, industrious, steady, extremely pious — a member of the Independent Church, sturdy Liberal

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

- à Jacob. Be careful speak
Enquire as to your cousin associates
with bad characters: his
relations big by respectable
& his own class - A good worker
keeps he married & sustains
parents daughter who has
been under child -
His mum + Cadwaladers
James + Mary Ann Jones
Marriage of a woman
of indifferent character

[illegible] Dolphy - would be to
come & his home as right
when his wife was absent -
He would perhaps by chance
see Ludwards & come [illegible]
by [illegible] as we [illegible] to
Dombey & see [illegible] by
lunch - At this moment he
[illegible] was waiting for us
near the main house - I
before [illegible] he had turned his
visit - For [illegible] unless always
he went about his business
& [illegible] [illegible]



EVAN OWEN, DOLGELLY.

f. 5r (M)

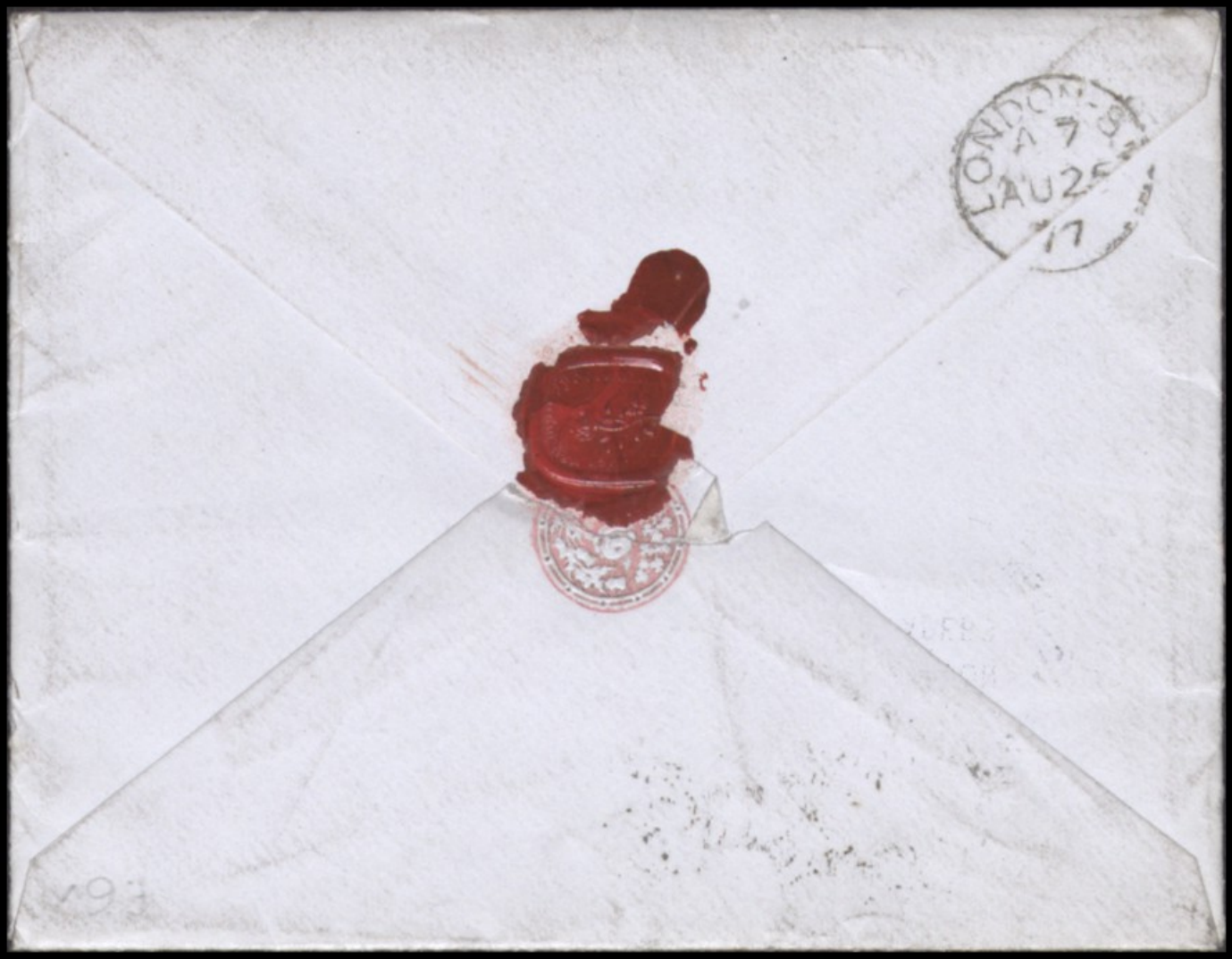
Cadwallader Jones
Sent me Aug/77 by Miss Cobbe

Murderer. – most cold blooded. –
also sober industrious & extremely
pious. A very wealthy farmer
with no bad associates.

He had been married some months
& murdered the girl to whom he had
previously promised marriage, having
first dug her grave. There was
no quarrel – quite the contrary.
Illegitimate offspring by both women
2s. the wife had a child a little
after marriage & the murdered girl
was with child by him

UNIVERSITY COLLEGE LONDON
GALTON PAPERS


1877
UNIVERSITY COLLEGE LONDON
GALTON
PAPERS
AUG
77
Francis Galton Esq. F.R.S
42. Rutland Gate
London. S.W.


LONDON
AU25
17

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/24

5 Priory Road.
Bedford Park.
Chiswick. W.

June 5. 1887.

Dear Sir.

I have just been reading your book "Inquiries into Human Faculty & its development" and cannot resist writing to you on one or two points that have struck me.

The Composite portraits - with me at least. the first impression of a face would greatly resemble a composite of similar ones - thus I think that "first impressions" of a nation are often more correct than the life-long experience of natives. because familiarity causes the mind to forget the generic & appreciate more the specific characters.

It is very remarkable - also - how it is almost impossible to distinguish between single certain specimens of certain Lepidoptera & Mollusca - yet when a large series of each species is viewed together they appear abundantly distinct. In this case I think the mind constructs a "composite portrait" which is the type of each group.

One of the great difficulties in psychological enquiry seems to me to be the entirely different view people take of things - the mental colour-blindedness - so to speak. And again - one's own mental conceptions are not always fair - as compared one to

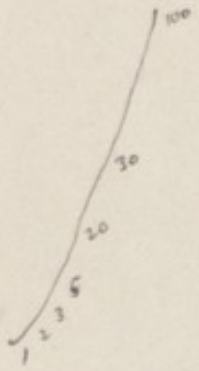
another. I remember an experience of mine that struck me a good deal at the time. It seemed a good type of similar instances. One evening we had a number of people in for a sort of party - and among them three sisters - whom I will call A. B. & C. Afterwards when we came to talk it over - we discussed the appearance of these three - & what they had on. and to my amazement I found I could recollect perfectly the exact appearance of A. & C. though I had hardly spoken to them - while though I had talked almost the whole evening with B. I could not remember her appearance until reminded of it by others - although I remembered the whole of our conversation!

I do not know whether this experience is peculiar or common - but I think it illustrates very well how one may quite unintentionally look at similar things from different points of view.

Mental Imagery & Visualisation. I think I have an exceptionally strong visualising power - though it lies rather in developing things I have seen than imagining new things. for instance I very often imagine the completion of some series of events of which I have actually seen the beginning. In my experience - visualisation is much more vivid during wakefulness than in dreams.

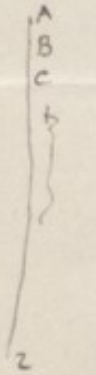
I do not easily remember faces.

as to the number forms. I always think of numbers as going upwards & away from me with a backward slant. slightly to the right. so:—



Perhaps I have made the line slant a little too much. I do not imagine higher than about 120.

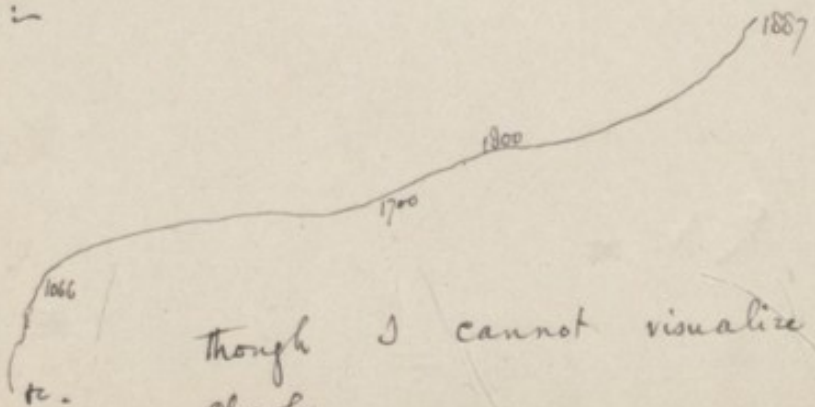
Letters of the alphabet, strangely. go the other way!—



UNIVERSITY COLLEGE LONDON
GALTON PAPERS

beginning at the top.

Time - in its relation to Historical events goes somewhat so:—



&c. Though I cannot visualize this so clearly.

Prayer. I think your arguments on this head are rather fallacious. Though your conclusions may be correct. Nobody ever seriously prays for the Queen & Royal family I imagine! it is merely a formality. It could not have any influence. I would write you more about this only I need to think it out more completely. The paragraph at the bottom of p. 301 is exactly what had previously seemed most likely the true explanation to me. Why should not an analogy be drawn between the "immortal & cosmic mind" as related to the individual, & the individual mind as related to the cell units?

I define happines as "the consciousness of harmony" - and it seems to me that the good of mankind is only to be attained by the harmonic combination of individuals - thereby allowing greater and greater differential development each serving for the good of all.

I have written a summary of my notion of this & its relation to the cell-theory in the "Commonweal". I enclose the cutting - as it may interest you.

Forgive me for writing you such a long letter. I shall probably soon be going to America & if I can there conduct any experiments or compile statistics to work in with your enquiries I shall be most glad to do so.

Yours faithfully.

Theo. D. A. Cockerell.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

5 Priory Road.
Bedford Park. Chiswick W.
12th June 1887.

Dear Sir.

You will wonder why I have not before answered your interesting letter & thanked you for your paper on breeding moths.
I am off to Denver - Colorado - in about a fortnight - and that is why I have been too busy & too much concerned with other matters to sit down to anything like a letter.

As to my theory of happiness - of course I use the word harmony in its widest sense - and so far as I am concerned (and after all - one can hardly judge otherwise than by oneself) I have found no case in which my definition did not perfectly apply.
In my note-book I have it crudely thus :-

Harmony.
Happiness = The consciousness of harmony.
Misery = " " " discord.

Happiness arises from (1.) harmony in the individual mind (harmony of cell-units)
(2.) harmony between different minds = sympathy. (harmony of soul-units.)

(a.) Sympathy with the real. characterised by stability - dependent on knowledge.
(b.) " " " ideal. " " instability. " " imagination.

Then there arises the whole question of the nature of life - & the influence on growing organisms of what I call "soul-force" - for want of a better expression - I have worked out some theories under this head - and bearing upon the origin & nature of the human feelings & emotions. but as you may imagine - it is not very easy to come to any satisfactory conclusions - and at present I do not think I need trouble you with my embryo ideas.

I am very much interested in the Insecta - and specially the Mollusca - but although most of my systematic work has been with the British Mollusca - I take a lively interest in all instances of variation & kindred subjects.

I shall be living rather a wild sort of life during the year or more I spend out in Colorado (I have got to get cured of Phthisis - or considerably mended before I return) and so I fear that any experiments so careful & so continuous as yours in moth-breeding will be impossible - but I mean to do as much scientific work as possible & will all the while have your enquiries in view

I send you word of anything that seems likely to interest you. If I can I will get others to take up the experiments - and so further confirm the results obtained in England.

I have been thinking over the "freaks of memory" - and so far at least as the instance I gave you is concerned - I express the process by a sort of law as follows:-

The number of things perceived by the mind within a given time remaining constant. the number distinctly remembered varies in inverse proportion to the intensity of the recollection of any one of them.

Thus. suppose I converse with someone for a while. and am not interested. an hour later. I shall remember the appearance, conversation, surroundings &c. of that person. but in a day or two I shall have completely forgotten it as regards its details.

Suppose - on the other hand. I am very much interested in the conversation. an hour later I shall remember nothing distinctly but the conversation itself. but the memory of that will last at least for a considerable time. and that I did really perceive the surroundings &c. during the conversation (though not remembering them) is

proved by the fact that the same surroundings instantly recall the conversation afterwards.

Yours very truly.

Theo. D. A. Cockerell.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Mrs Coleridge

f. 1c

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/25

12, Cromwell Place.
South Kensington. S.W.

Ap. 25

Dear Mr. Galton.

Had it not been for the anxiety of which you spoke so kindly, I should have written before to thank you very much indeed for your sweet letter. It was such a gratification to my Father, it brightened a dark morning for me.

Of course it is a great honour
that you should like the
translation – & if you care
to put my name, I shall
be delighted. I hope to look
it over & to send it back
to you in a day or two.

Eve is such a comfort
in this trouble. But then,
when is she not a comfort?

Yrs very sincerely,
Mary E. Coleridge.

M E Coleridge f.25

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

12, Cromwell Place.
South Kensington. S.W.

May 16th.

Dear Mr. Galton.

Thank you so very much for your letter, & for this delightful present. My father seized upon it at once - he was just wanting a book that would interest him - & he is deep in it now so I have not had a chance to begin, but "everything comes

to him who waits" so I shall wait patiently. I cannot tell you how much I value such a gift from you.

How well the little pamphlet looks in its new dress! I could not quite make out what word Dresemann was quoting from you when he used "Selbstverwaltender" in in- verted commas.

I have looked up the
passage, but it does not
seem to be there.
Will "those who have how
to deny themselves" which
I have substituted for
"self-denying" do?
We look forward so much
to Wednesday.

Yrs very sincerely,
Mary F. Coleridge.

—

CHURCHFIELD,
EDGBASTON.

Oct 31st

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/26

My Dear Sir:

Since receiving your kind present I have read it through twice carefully, making notes where suggestions ideas occurred to me.

Thinking you might possibly be interested in them, I have written them out, & enclose them herewith.

If they afford you any
pleasure I shall be
gratified.

I deeply regret my
inability to follow the
mathematical parts
of a book which has
deeply interested me.

With Kindregards.

I am.

Yours sincerely.

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS
3/3/3/26

Page 15. Would not a more recent authority than Priestly be better, in a science which has made such giant strides as embryology during the last quarter of a century? Such for instance, as in Quain's Anatomy. 1882:— "The existence of a distinct circulation of blood in the foetal & maternal vessels of the placenta, discovered by the Hunters, has long been placed beyond doubt by the experimental investigations of all those who have injected the two sets of vessels with sufficient care & success."

Page 16. "The connexion between the unborn child & the mother is hardly more intimate than that between some parasites & the animals on which they live."

Would not the belief (by some only, it is true) in "maternal impressions" suggest that the foetal independence is hardly so great as here described?

Pages 22-3. A generalization on the similarity of all forms of governments is very well put in Mr. Spencer's Principles of Sociology Vol I. 464.

Page 53. Could not "Q" have a suggestive name given it? In my own case the bare "Q" seems somewhat to hinder a current of thought: it causes an involuntary pause — a sort of double full-stop — to think what it is, before again proceeding.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Page 110. Personally, I should have been grateful for a little fuller explanation of the "Squadron of Statures". Doubtless owing to my ignorance of statistical methods.

Page 114. "Fig 13." (twice). Should not this read "Fig 15." ?

Page 124. "It is not possible to produce an increased efficiency in some one particular without detriment to the rest." Was not "increased efficiency" without "detriment" "to the rest" gained by the adoption of condensing engines; & again, by the "explosive" method of using steam?

Page 157. "Some slight disinclination to marry within the same caste." Does not the fact of many (?) marriages (I have in mind one or two) arising from the couples meeting in artistic circles, & consequently being of similar tastes, imply more than a "slight disinclination" to marry, among the remainder to counter-balance these marriages which arose in this way?

General Queries.

Would it not be worth while, although it would increase cost, mounting the more used tables as "fly-leaves", as in Darwin's Orchids, so that the table might be before ones eyes at the same time that the matter is, & so save the inconvenience of

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

F.5
3

of referring to a table printed vertically, after reading horizontally?

"Definitions" would it not be well to devote an early page to these? including such terms as "Q" "Particulate", "n". ?

would not "F.R." - family-records. be a good abbreviation for the trinity R.F.F. ?

f. 10

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

April. 29th

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Madam:

I have just discovered what seems one of the most important points in our finger print work so far, & should be glad for you to let Mr. Francis know as soon as you can as he cannot but be pleased to learn it.

It is that finger prints

of sons & daughters bear
a much greater resemblance
to the mother's family than
to the fathers. i.e. there are
more mothers patterns
than fathers in children.

So far I cannot see that I
have made any mistake
so hope that further work will
bear me out.

In haste

Yours sincerely,

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

f. 6r

CHURCHFIELD,
EDGBASTON.

Dec 13th

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Mr Galton:

From the kindly interest you took in the question of my literary work, you will I am sure be pleased to learn in what direction it is tending, altho' it is not for the present in that direction which you were so good as to point out.

For the sake of the material

good which I believe it will be to scientific workers generally, an opinion most strongly endorsed by all to whom I have spoken of it, without one single exception, I have decided to undertake the compilation of a subject-index to the "Royal Society Catalogue of Scientific Periodicals."

In an interview with Sir George Stokes, he said that in case the library committee of the R.S. (? who are they) decided not to go

to the expense of printing
& publishing — the only
conditions on which I will
undertake the work — he
thought possibly the University
of Cambridge would under-
take it. So that it
seems fairly certain that
it will at last be under-
taken, after, I am told,
the failure of "three or four
attempts".

I can only trust
that undertaking this
matter will enable me to
unearth some valuable
paper on heredity which
you do not know — a diffic

problem doubtless, but to solve it would give me the very greatest pleasure, as in some way returning your kindnesses, which will remain a pleasant memory for many years to come.

Yours sincerely,

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

A packet of
Miss Yates's letters elsewhere ? 1892 f. 81

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Sunday Evening.
Dec 14th

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Mr Galton:

My first night for 10 days (!) at Rugers!

I commenced to attack the Lews by carefully seeing that the authies & my numbering were correct: The result was that I altered 5 to more appropriate places. I then commenced to check the total sheet with the 2 detail sheets & there found the error. I had copied a wrong

detail sheet. I have now entered the correct one & you will see the two join's totals together. I have also corrected your scheme of 2p. loops & quasi-loops.

As I quite agree about the necessity of the foundations being strong, would you be so good as to work through the 75 impressions to see if they are correct.? & if I may

be considered qualified to proceed?

I have checked the total sheet with the other detail sheets, so that they may now I think be taken as correct + "according to" "Cocker".

I sincerely regret the error cannot imagine how it was done.

Do you think the figures now tally as they ought?

Yours sincerely.

F. Howard Collins.

Roll sent by this post.

f. 12r

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Sept. 18th 92.

My dear Galton:(If we have known each other long enough for this somewhat less formal mode of address.)

It is quite a pleasure to be able to carry out my inclination of the last ten days and to be enabled to really write a letter to you and not merely send one of those horrid little scraps which time forced me to when returning the revises.

I despatched the last page and preceding sheet to you last night, and must congratulate you upon the whole book it seems to read so very much better than I had expected when I went through the MS. What a lot of work and labour you have hidden in that 200 pages! I used to think my Epitome was fairly full of ''meat'' but now it must hide its diminished head when your "prints" comes out!

Many thanks for your letter of this morning it is a most interesting psychological study: and makes me wish I was not so woefully addicted to clearness of thought— I would drop a good deal of it to be able to think in symbols. It would give me so much pleasure to be able todo mathematics even miles distant in capacity from my friend. This is however hopeless: and compels me to stick to the easier work of ''jelly-bagging ''for those friends who want clarifying.

I am very pleased to hear that you will soon be in our neighbourhood, if you will only promise that I shall have fine weather, it is so long since I have been at Leamington that, I will come over to the Regent from Saturday to Monday and we can then have a long walk to Guy's cliff or elsewhere on the Sunday & a chat about what you think of doing when the book is quite out of hand, and also whether I shall be able to assist you in it: I am free to confess that I hope you may have a small corner left for me to work at in whatever work you have decided to take up next: I hope my character from my last situation will be good enough for you to employ me: if it is, it will save you the trouble of writing it, which may be another inducement!

I have not had time as yet to tell you what I did in Switzerland here is the list in case you care to see the peaks that I bagged in the vulgar language of the alpine world, and cols that I crossed: Weissthor, Weissmies, Alphubeljoch, Monte Rosa, Finsteraarhorn, Jungfrau & Monch (in the same day), Schreckhorn, Monchjoch, Wetterhorn, Strahlegg pass, Lauteraarhorn, Matterhorn, Theodule pass, Mont Blanc from Courmayeur to Chamonix. in addition starting for four others. And the result of this is that I never felt better in my life for the seven weeks while I was doing it, and fortunately can say I never have felt so well since I returned from the trip. I do indeed hope you will be able to say the same when you both return from your holiday.

With kind regards to Mrs Galton and to yourself,

Yours sincerely,

F. Howard Collins.

P.S. We will leave this as small amount as we must. F.H.C.

f. 13c

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

23.9.92.

Dear Galton:

Where on earth you get your ideas from I dont know: I wish to goodness I did, and could go there myself for some now and then. Your letter this morning is quite clear, as you seem to think may not be the case, and I am truly charmed with the suggested work you think of undertaking, the true centre round which you say it points will be such a grand one to clear by statistical methods, and I am quite longing for the time for us to talk it over, and for me to get some ideas of how you think of working it out. At present I am free to confess that I cannot see the track at all.

In the meantime will you think over the question of the advisibility of my working up mathematics a little so that I should possibly be able to see more of what you do when you engage in those regions which are at present a terra incognita to me; or had better be satisfied with my unmathematical mind (which I certainly have) and stick more to the role which I have so far taken in my work with you ?

This weeks NATURE contains a note of Macmillan's publications, in which both Finger-prints, and Hered.Gen. are mentioned, they will not come out for a month or so , probably ?

The "solving of Motives" reminds me very much of the view I had on a cloudless day from the summit of Mont Blanc where EVERY single peak was as clear as day. When one began to look at the view, one was perfectly overpowered with its vastness, and the difficulty of knowing where to begin to look at it !

Yours sincerely.

F. Howard Collins.

f. 43v

Norberg
Gravelius a Wingh
Satisfy Obstinacy
Difficulties Failures
Act of Persuasion, diffidence Suicide
Love
Glory — abhor Ambition
Sanctuary
Methods Comment ideas

Berwick Britain Ibids Wingham 1.151

Collins

f. 14

CHURCHFIELD,
EDGBASTON.
BIRMINGHAM.

29. IX. 92.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Galton:

what do you say
to calling at the Regent
Hotel on Saturday at 3. 0.
by when I shall have had
lunch (coming by the 12-20) & a
smoke, & be ready for
a walk wherever you suggest,
returning for dinner, which
you must have with me?
This will enable us

to start the ball of
"motives" rolling, & after
sleeping over it we might
discuss on Sunday any
ideas which had hatched
out under the warmth
of the bed clothes.

I sent a letter to Grantham
saying how minutely
I liked the subject you
suggested, & shall be delighted
to go into it when we meet.

Au revoir.

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

f 16

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

7.X.92.

Dear Galton:--Andrews address is Achworth, near Pontefract, and his style and title merely Mr. You should I think send a copy for review to THE HERALD, Birmingham. It has a distinct circulatio among the surrounding gentry, and rather flatters itself upon its literary news, although mainly agricultural. When writing to Macmillan please ask them to send me 6 copies and also the new Hered. Genius, and I will give you a cheque as soon as you know the price it will be published at. There are a few old friends who take such a real interest in what I do that I feel I must pass these on to them, or they will think something is ''up!'

If Lady Welby sends any particularly unique reply, please let me know, as I should like to see in what way our criticism strikes such an intelligence: it was really very awkward to know what to say.

That talk with Spotiswoodeon the error law has not left my mind yet. Do you know of any book, or article in any dictionary, where one could pick up the surroundings of the subject ? If not you will have to add another to the list of prospective works, and write one yourself! !

MOTIVES. Do you know Charles Booth, who has done so much statistical work about life and labour in London ? If so it occurs to me that he might be a very valuable aid in the preliminaries. Would not also Matthews Duncan's FERTILITY etc. be very likely to give us some information about marriage motives and allie subjects ?

Can you tell me the title of the work of the American you mentioned on composite photos ? as I should like to see it .

How would it be to teach Randall to enlarge the prints by photo. so that you could then say that the whole process could be carried out by any intelligent man. A VERY grand thing if you want to show its feasibility as a method of identification.

In a few days I will return all the print material still remaining with me--I am now trying to get over a bad cold which kept me in the house in the early part of the week.

Yours sincerely,

F. Howard Collins.

f. 17

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

10. X. 92.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Dear Galton:

Could you drop me a postcard saying whether you know of any Statistical treatment of the belief held by some that:—

The children of young couples tend to be male, while older couples tend to beget females.

f. 18

In haste.

F. G. C.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

f 19

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

11.X.92.

Dear Galton:

I was delighted to get your letter so full of energy, and clearly showing the good your holiday had done you. Many thanks for the promise of the books, but why you should underline the of course about sending them to me I dont know: you ought to sell so many when you get the chance !

As to dearth of motives data, you will have to start rather sooner than you expected, and get the data: you must not think of g giving up such a splendid subject. the more I think of it the more it seems to be a really grand opening. If you still find data a difficulty, what should you say to looking over Mulhall's Dictionary of Statistics ? I have purchaced a copy lately, asit seemed so full of likely matter to lead up to subjects. My copy is at your service if you will let me know whether you would like to turn it over quietly at home.

It has already found me an opening in a remark it makes that it is observed that young couples are more likely to have boys than older couples. Last night I tabulated some 114 fathers from Debrett's Baronetage (so as to escape the evils you point out in Her.Gen. of the peerage.) and found on dividing them up into those of 30 and under. and over 30 that there really seemed something in it. I enclose the totals and should be glad to hear if you think it would be worth while to go further into the subject while you are motiving-- or shall I say locomoting ? I must take the peerage to get both ages of Fathers and Mothers: so far I have only taken fathers.

My cold I am glad to say is better: Leamington had nothing to do with increasing it: it seemed decidedly better while there, and only became really bad on my return to this balmy(?)air.

Yours sincerely.

F. Howard Collins.

f 20c

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

16.X 92.

Dear Galton:

Many thamks indeed for the copy of HER. GEN. which arrived with just two inches of the outside cover to hold the address on (I mention this as formerly you took me to task for not properly safe guarding papers I sent to you) and for the sly ''dig in the ribs", so dextrously concealed in the new chapter, you have administered to me. In all good humour you will I trust allow me to reply to it on the first favourable opportunity— an opportunity which may not be so long in arriving, as the day before! the book came I had a letter from Spencer anent a proposal of mine to establish a committee to investigate pure and simple the question of inheriting acquired faculties. Your allusion to the matter will find me a very fine text to preach upon. Do you know the names of any one who would be willing to join such a committee and would not object to work ? If so, the suggestion I made in NATURE some time since, that a committee should be appointed, seems nearer of fulfillment than I had hoped .

I have extracted the Baronetage now, and hope in a day or so to add up totals and to see how the matter stands, when I will write you further, in the hope that you will give me the benefit of your advice about continuing the investigation, and the way it should be done if not decided to continue it. The Peerage will be little use They all marry before thirty — judging by the first twenty or thirty.

I am extremely sorry to hear that you have been caught by the prevailing cough epidemic, and trust you will soon pull round as for myself an addition of uric acid to my blood has in some way put me wrong for the last few days, fortunately a good prescription seems on the way to leave me right in the course of a day or so. I do trust that Mrs Galton has still the benefit of her improved health from your holiday.

I have written for cuttings of H.G. and prints to Romeike and will send them on to you as they come.

Miss H. writes to say that she has some dozen or twenty TWIN prints shall I ask her to send them on to you, or wait untill she has say fifty ?

Yours sincerely.

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

CHURCHFIELD,
EDGBASTON.
BIRMINGHAM.

18. X. 92.

Dear Galton:

I am very sorry to hear such a poor account of your cold--but they really are dreadful things there's no denying it.

The Baronetage and Peerage must wait a little, or rather not go so quickly-- I am busy now preparing a reply to your jaw remarks, and as it will entail a search for authorities I may not be able to send it to you for a week or more: When it arrives I pray you will regard it as smashing ! !

The totals of the Baronetage, and nothing more have I yet been able to work out, are as follows:--

No. of F's.	30 & under F's age			Over 30		
	Sons	Daughters	F	S	½	D.
348	770	753	252	458		505

Unfortunately I cannot get the mother's ages here, they will have to await my tabulating the Peerage, when I shall be able to get many. Do the above figures convey anything to your mind ?

Yours sincerely.

F. Howard Collins.

how funny this accident looks - I did not intend anything significant.

P.S. If your cough is troublesome, have you tried "Soden mineral Pastiles" Sometimes they are simply wonderful.

P.S. I am so delighted at you telling me to do the jaws "thoroughly".

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

20.X.92.

We won't be any the less friends, I hope, because we fight in this instance with a will!

Yours,
F.G.

Dear Galton:

Again, we do not all live in London!! What chance is there of my seeing a traveller in these parts? All I can do, is to study their writings at which I am hard at work. I am coming to London from Saturday to Monday with

that object.

I may have time to call & see you on Sunday morning for half an hour but not longer. about 10-30 or 11.0. But do not wait in for me I am so uncertain. The British Museum reading Room will hide me!

The enclosed cutting just amongst "prints" for a new Ed. I found it in hunting.

Yours sincerely

F. Howard Collins

F. 24

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

27.X.92.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Galton:

Herewith the
1892 Statistics from Burke.
You will notice how much
less prolific the ordinary
marriages are now than when
you took them into account.

By all means do not
let us trust to measures of
"not less than 10" as Macalister
thought sufficient in his B. Assn
address, & I in my pamphlet.

I wish you could find time to draw out a good list of:— Hard eating tribes

Medium — —

Soft eating —

and when I am next in town I will go to the Coll. of Surgeons & measure all their jaws I can get — with you standing by to see fair play if I can!

If you were to glance through their printed Catalogue when making the list it would enable you to judge of the number of Skulls they have of each race. Many Skulls have no jaws so please make a long list.

Yours

J. H. L.

P.S.

awful miles of fearfulness
from Lady Welby this
morning !!

F. G. C.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

f 96

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

30.X.92.

Dear Galton:

The question of working up the heiress marriages opens up rather a large field if you think a good paper could be made out of it, for their remains to be gone through the Landed Gentry of Burke containing some 4000 families, in addition to those already tabulated from the Peerage and Baronetage. (it was most strange that when the totals were added up they came EXACTLY to 100 cases).

If you think the results could be read before a GOOD society it might be worth while going through the 4000, but otherwise I am afraid my patience would be exhausted before the results were obtained. What form of publication were you thinking of ?

As you do not think well to carry the jaw question as far as figures will take us (much to my regret) perhaps the matter had better slumber for a little. I cannot let it die!

I return Oxenholme's letter with many thanks, it is as you say conclusive enough. Herewith also a cutting about H.G.

Trusting that Mrs Galton is now better,

Yours sincerely.

F. Howard Collins.

f 27c

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

2. XI. 92.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Galton:

If you have nothing — absolutely nothing — to do, while waiting for "that confounded book" you may like to look at the enclosed.

There seems "something" in parents' age & sex of children, and I should be glad to know whether you have any suggestions to make about the form it should take. If

"notices" still hang fire,
pray do not hesitate to
tell me if you would
like to utilize these data—
either for a paper by you
or a joint paper. I am
willing for anything you
may like.

I shall have a
go at Steiness (sounds bd
for a bachelor!) and see

what may come out.

Those I have selected

~~to~~ do not contain any

such as you mention; as those containing
I eliminated the factors

you named in my

selection.

Five husbands were only

children & their progeny

were below the average —

but of course this is not

enough to judge by.

Trusting Mrs Galton
has now recovered

Yours sincerely

F. Howard Collins.

P.S. I am surprised at
you sitting in the Athenaeum
smoking room! I thought
you disliked smoke.

F. H. C.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

3.XI.92.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Galton:

On returning
home today your handsome
present of Sir Cossis
Grigor's "Grigor Print" awaited
me. Very many thanks
for it. As we have so
recently discussed it
seriatim I cannot
say more now than

I hope it will interest others ~~in~~ who read it, as much as it did me ~~who~~ in aiding you in some parts of its compilation.

It is a larger looking book than I suspected.

Yours sincerely

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

P.S. What about only daughters. I am beginning to think whether they will have to come into my net as being possibly less fertile.

F. H. C.

f. 31

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Nov. 10th. 92.

Dear Galton:

The facts about jaws are so beautifully in accordance with my theory that I have decided to send an account of them to NATURE, but so that you may see them first--and demonstrate that there is no ill-feeling on such a purely academic question -- I send the letter herewith for your inspection. When you have read it please put it in the envelope, ~~and~~ post it, and pray that the Editor may put it in !!

I enclose some reviews of H.G. and also the first that has come to my hand about finger tips.

Also the scheme of husbands and wifes ages, and children made at your suggestion. Alas. I cannot see any chance of those lovely sloping lines coming in to connect the whole into one mass of beauty. Can you ?

If motives still hang fire and you want something to work at, I should strongly recommend Heiresses; but with this addition, the ratio of sons to daughters. I have now three hundred of their marriages tabulated, and think there is a fine future for any one with a strong statistical sense, who would take up the whole question.

I am shortly going to enlarge the house as I cannot stop Lady W. and the manuscript -- well, piles is not the word for it. ~~and~~ I cannot believe that in a few short weeks there will be breathing room where I formerly spent many happy hours.

Yours sincerely.

F. Howard Collins.

f. 32, c

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

16. XI. 92.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Dear Galton:

The best thing you can do is to send some of the "bolters" down town to straighten them out. And drill new ones in between stories meanings. Is there any work in tabulating for "the Discourse" hindering you? if so send it on & I'll do it.

Its a nuisance about

age & sex. Of course it is only <u>one</u> factor. I wish we could get another, one might possibly arise from heroines.

as to the jaws. Why not take the <u>weight</u>. Of the whole skull, it is not a bad way of roughly estimating thickness — I do not know how much age would influence weight.

as to sex they are practically all males. But I must go into this — a fact which occurred to me, but then slipped my memory.

The enclosed two reviews are the best yet for creating a sale among the populi. Does the book sell?

Yours sincerely

F. Howard Collins.

P.S. What are the Mathematical Tables you use?

F. H. C.

we know from a certain
learned author that
scientific men of eminence
are energetic. I should
like, while on this track,
to find the prolific-ness
of F. R. S.'s. Could it be
done? we. hence might get
another factor in Sen. we
should want:-

J. C. G.

Age J.
" M.
Sen Children, & number of each

f 34r

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

20.XI.92.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Dear Galton:

Many thanks for your sympathy. It seems to be a "law of nature" that the inheritance of acquired characters shall not take place in public!

As to your criticisms the jaws are all male with two exceptions both occurring in australians so they do not influence results.

The best way to take the thickness of skulls would be to take its displacement in a vessel of known size with the usual number of seeds, deducting its cubic capacity

from this meanne. But
my life wont be long enough
to do 40 skulls thus with a
doubtful result if it were
done!

Thanks for list of maths.
tables. It is very useful. & I
am getting them.

There is a note in Venus
logic of chance about the
ratio of m. & f.
ratio of children, to which
any figures give a clue,
I am thinking of writing
to Venus, but should like
to know what sort of man
he is first. When next

writing – don't write on purpose –

could you tell me?

Yours sincerely.

F. Howard Collins.

f. 36c

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

25. XI. 92.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Galton:

Why are young mathematicians like transgressors? Because "their way is hard."

Since my work with you has ceased, & since I also hope to renew it at some near future. I have been trying to get lessons in mathematics, which will enable me at least to see what ~~the~~ such phrases as —

Law of frey. of Error, Method
of Least Squares. Prob.
bility — means, so that
I might at least see
what you are driving at
when up in these, to me,
clouds.

I have interviewed four
men, two the best in Brim.
& two they recommend, the
result is — no one knows
anything about the
calculus treatment of
probability in this district!
One says I must go to Oxford,

another to Cambridge, & so forth, to get any one. Well I can't go! so therefore am obliged & forced to remain in that state of crass ignorance which prevents me being of any use to you — there subject. Is not "the way the land"?

I was so looking forward to picking up enough, by the time I am next your assistant, to be able to follow you.

How is the revision of Human Faculty going on?

Yours, UR mathematically to the end,

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

27.11.92

Dear Galton:

Thanks for your two kind letters. As Spencer had not seen my letter at all, when it was returned by NATURE I sent it on to him knowing the interest he takes in the question. Judge of my surprise when by return came a copy of his letter to Lockyer blowing him up for not inserting it ! That L. will long remain in ignorance that the bias is before his very eyes, seems to me very doubtful. If there is no bias, how is it that NATURE will insert any letter on any subject I choose to send it, and yet always declines one when it treats of this one subject, However its not worth bothering about.

Many thanks for the scrap about twins which I return. Should ladies be advised in consequence not to go to balls after impregnation, for fear of ''blastomere-ing '' ?

I will get Watson's paper on probability. It does seem hard that one, in a population of 400000 can get no instruction in the calcular treatm ent of probability. I read Quetelet from the library, at least the first hundred pages but found it so rudimentary, that I dropt it, Jevons in his Prin. of Science has a little to say about it but alas not enough. If Whitworth only went farther in his "choice and chance" that would be the book, but he does not. so far it seems an admirable work. I have had a try at Merriman's Least Squares but it is much too advanced for a muff like myself. At the present time I am working through Procter's "Easy Lessons in the Calculus," it will give me some idea of the kind of thing.

I think I shall drop a line to Venn about a note he has upon the proportion of the sexes, curiously enough, turning his figures round, the ratio follows my idea of daughters after thirty. and as he gives the instance as an illustration of pure chance it seems worth mentioning. especially as he seems to be getting out a paper on the subject--at least one can so interpret his remarks.

This post will carry a quietus to Lady W. it is quite impossible to go on befogging oneself with her metaphysics, about which she knows no more than the man in the moon--probably not so much.

I see you write from the Athenaeum, if at any time you should be wanting something to do there, you might turn through the candidates book, and then let your charitable feelings have full play when you come to a certain name which you will see shortly.

Yours sincerely.

F. Howard Collins.

P.S. By the bye, what is the date of my nomination?

F. H. C.

I have just returned from a walk during which I met a breeder of race horses, who says "old sires get colts" - "young sires fillies." & refers me to Weatherby's Stud book. Can you tell me how I can get a copy? It would be interesting to tabulate a few hundreds & compare with Burke's Peerage.

F. H. C.

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

3. XII.92.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Galton:

Herewith two more reviews — of as much value to you, however much to the ordinary reader, as the former ones.

I lent Pmits to a friend of mine G. Matthews (who was 7th wrangler) & he points out two misprints:—

first & foremost the odds on p. 101. are not "adverse"

but "in favour" – If this be
not so, please write me such
a letter that I can forward
it on to him – what he says
seems right.

Page 40. "(Plate 3 fig 4." should
read "Plate 2"

And he suggests that the
pages of each plate – or rather
~~between~~ the page which the plate is
opposite should in every case
be put. He says it is so

impossible to find the plates.
When you are reading page
40 it does seem a long
way to have to turn over
more than 100 pages to
find the plate referred to!

I am getting on slowly
with Heredity marriages, the
collection of the data is so
laborious. However, in a
few days, I shall hope to
send you the results of some
500 marriages.

Yours truly,

F. Howard Collins.

f. 41

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

7. 12. 92.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Galton:

It is easy to see, from your last letter, that you are over head & ears in work.

So only a line to say that the enclosed is the result of my heiress investigation; the enlarged data seem somewhat to minimise your results. Don't look at it till you have leisure, as there is no particular hurry.

With kind regards.

Yours sincerely.

F. Howard Collins.

P.S. When I can help you "imaginatively" you will of course write me.

F. H. C.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Collins

Heinlein

Miss H. is to bring some tunes tonight. [illegible] 43r
about which I will write afterward.

F. A. C.

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

7. 12. 92.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Galton:

Alas! There is no "exact principle" which I could state in so many terms. I had to use my judgment. The following principles were followed:—

"An Heiress" is the individual described as such in Burke, he does not define the word, altho using it. Similarly "coheiress".

"Age of Parents" rarely obtainable.

age of wife, very rarely mentioned indeed. All the ages that are mentioned are entered on the card of each couple — I used correspondence cards so that they could be sorted with little trouble were any re-arrangement of the data thought desirable.

— Marriage of widows excluded.

— 2nd & 3rd marriages excluded.

— Divorce after marriage excluded.

— Age, when known, taken

into consideration, a woman
over 40. "Including, generally.
altho, " circumstances alter
cases" all the way through.

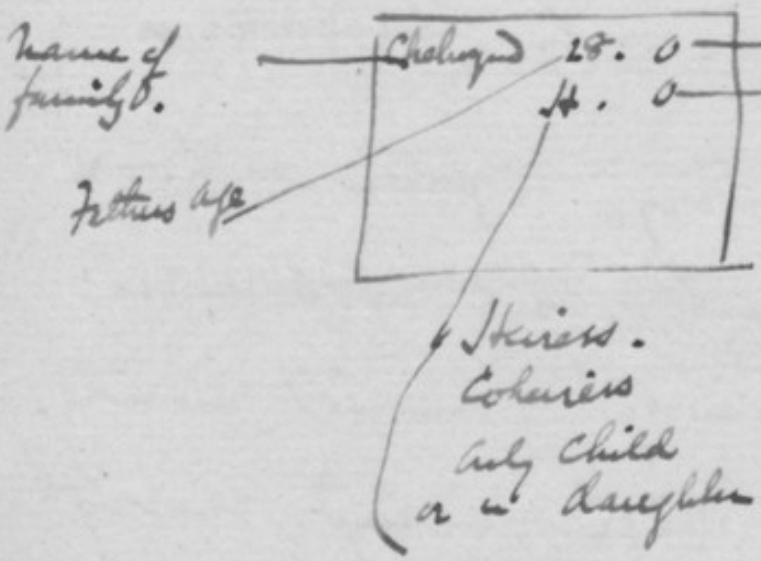
" ~~the~~ Heiress = only daughter"
entered as only daughter.

I am sorry to give so poor
an account, but such case
had to be judged on its merits.
Thus, the wife dying shortly
after marriage, & thus prohibiting
children, included — a somewhat
common case.

In case you like the grouping
of the figures I enclose you

my tables, but do not trouble to read them if you are busy.

If you care to see the cards they are in this form:-



UNIVERSITY COLLEGE LONDON
GALTON PAPERS

They are taken from Burke's "Lineage" not being sufficiently instructed in the Peerage etc. living now.

I have got as far as "Clifden". Not the first three letters of the alphabet!

f:45

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

12. 12. 92.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Galton:

Herewith all the term's prints which the district possesses, or at least which Miss H. can get.

She called last night, I said she should be very glad to do any other work for you which she could.

You will doubtless write

her, if any turns up.

Yours truly.

F. Howard Collins.

P.S. I saw a curious thumb the other day a 3d bit patch had been cut off 20 years ago & put on again immediately crossways. the lines even now are cross!



The possessor of the thumb is named Holiday, & is a lawyer in Bonn?

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

F. G. C.

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

14.12.92.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Dear Galton:

When next writing to you I was going to ask if I should send you "the Cartwright-Lectures" on their Embryology! Osborn has kindly sent me a copy. They seem good.

Venn's letter enclosed seems to point that the question

of male parental age
would be worth working out.

Think it over please!

When you are attacking
Heiresses - no hurry - look at
the enclosed sheet. It seems
that age does something.

Yours sincerely.

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

16. 12. 92.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Galton:

Plenty of time!

don't hurry!

As Süsing has apparently (I have sent for a copy) cut the ground from under me, & as ~~consequently~~ there does not seem much prospect of work ahead, I have had another "go" at the R.S. & the Indian, having written to Foster

about another matter.

He may possibly ask you whether the work I do is good, bad, or indifferent; Speak the truth, & shame,

Yours sincerely.

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

18.12.52.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Galton:

Many thanks for your kind letter. You say "what I have done will stand." When you come to consider it, I should be glad to know whether it may be worth publication, & if so, where?

I have been trying today the problem of "first-borns" whether m. or f. & if they have

any relation to age of
Zaltan Moltan
^ ^ a years between
each. While males
preponderate in the ratio of
5 – 4; I cannot see
anything else as yet.

I quite thought Foster
had mentioned the index
to you, I only asked
about sex thinking it
might be as well to have
his opinion in addition
to your valuable one. He

says he knows nothing about it. I quite agree with you about Foundations & the sea problem — it will be something to get over.

As Mr Matthews has asked me to the alpine Club dinner next Tuesday, I am coming to London for it, on my way for a fortnights holiday at Ryde. I shall only sleep there on Tuesday night, & so do not propose to call & see you, as you are so busy. If however there

is any thing you want
to see me about particular-
ly — I might manage
to see you on Wednesday
morning, if you send me
post-card here by return,
do not trouble to write if
there is nothing you want.

The Indian would be about
the most useful thing I could
do, it seems to me, altho'
a laborious one — very.

Yours sincerely

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

R.V.Y. Club.
Ryde.
23.12.92.

Dear Galton:

a line to thank you for your good "altruistic" wishes. The dinner was a great success. I sat between Matthews & Edward Whymper, & had a very pleasant chat & dinner.

Thanks for your offer to speak about the Indian to an officer R.S. The point is this:— To get a subject widen made. If the R.S.

Still do not see their way
to undertake it, I am
willing to give some help
to get an index independently
compiled. Preferably with, say,
two F.R.S's assistance. A sort
of small sub-committee such
as this would free me of the
very heavy responsibility of doing
it all alone; which I should hardly
feel inclined to do; the work is
two onerous for one like myself.

With best Xmas wishes
to yourself Yrs. Galton.

Yours truly,

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Collins

R. V. Y. Club

Ryde

28. 12. 92.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Dear Galton:

Herewith the best of all! As you are fond of statistics, how many times has "the charm of your literary style" been referred to in previous reviews? If not often, I shall put myself on the track in a quiet sub-rosa kind of way — and trust you won't see it!!!

Many thanks for your good

wishes, and the same to you &
to Mrs Galton.

Who on earth is pitching
into the R.S. in the Times today.
I suspect you know?

Ryde is doing me good, but
I am beginning to find that
changes do not work such sudden
transformations as they used 10
years ago — I suppose I am
getting more "leathery".

Do not trouble to answer
this, which I have kept short purposely.

Yours sincerely,

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

f. 56

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

F. I. 93.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Galton:

a few more
cuttings — the *Spectator's* is
much too rough for that paper!

I have been much too
busy yet to "return to my
muttons."

Is it not about time
for you to be sending the
draft of your discourse for
me to look at — that is

F 57

P.S. I am hoping to "unconsciously celebrate" Heroines while thus engaged. F.M.L.

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

16. I 93.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Dear Galton:

Herewith three more reviews – one a long one from the Saturday, & calculated to sell the book.

The last few days I have been going heart & soul into Düring's figures & find that, much to my joy, they yield in every case support of Young Fathers having more boys, Fathers over 30 more girls. to my theory. As a result

I shall endeavour to throw
all my evidence into
a paper, a brief one &
possibly suited for some
society or other.

It will however take
some weeks as I am
collecting fresh data, or rather
hunting for it. When done,
I shall do myself the
favour of sending it for the
inspection of your Eagle Eye!

Trusting this weather is not
affecting you with Rheumatic pains
& Mrs Falkner.

Yours sincerely.

F. Howard Collins.

P: 59r

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

19. I. 93.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Galton:

Many thanks for letter, & herewith a cutting or two more.

I "am busy" with Diving, but ~~that~~ not in the way you think. I have been picking out the likely places with my German master of last summer.

I cannot spare the time

to go all through it by
myself, if I had the
capacity?

Hurrah for the lecture!
As you say, truly, it will
not read such careful
writing as a book & my
looking over it is ~~[illegible]~~
superfluous. I shall be
very interested to read it
when published, it sounds
so "taking".

Thanks for keeping your
weather eye lifting on the
R.S. How good you are!

I have been taking
a new study today: I am
asked to shoot in Berkshire
next week, & my cousin
that I never shot before
not being accepted, I have
had an hour at "clay
pigeons" to get my eye
in. Fortunately it is
nothing like so far out as
was to be expected, for I killed
nine dozens. If you do not

know what they are, you
may learn in fewer words
than a palæonosher! They
are like saucers made in
pitch, are thrown up by
a spring trap, & then, broken
or not by the gun's discharge
while in mid-air. They are
much better sport than
this description would lead you to think.
I not bound to Berkshire
love. I should so much have liked
to hear your discoveries.
Are you writing Human Faculty?
Yours truly.
F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

f 61r

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

22. I. 93.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Galton:

I am a crushed tittlebat, nearly expiring by the weight of superincumbent cards, which till now formed to me an imposing structure, erected during the last 3 months by myself. Isbing apart, Düring has "wiped my eye" with his bibliography.

It seems a pity, while so little is known about the theory, that

all my labour should be
washed. Do you think
a popular-ish paper, taking
for text the recently published
"Peerages," & showing that
old fathers are moved by them
to have more daughters, would
be inserted by Knowles in the
~~Six~~ Ch.? If I made up
a two or three page account
of it? From the interest
several people have displayed
in it, it does seem to me
worth consideration.
What say you? & do
you ever see Knowles to ask him
his ideas?

Many thanks for the shooting "tips". I will try to bear it in mind, & will tell you the result.

How about "a háfirlte of tar" & the ships, in the R.S. key? The abbreviated form suggested will be nice for the man who wants say the November meters of 1875. He will have to turn through thousands. to get what he wants — this is not exaggeration but sad fact, the result of experience! However, I shall be delighted to hear that the thing is at last underway.

in whatever form may be finally decided. I am still perfectly willing to help, but the specialists will do it many times better than I could hope to. The Editor ought certainly to live in London — there will be so many queries constantly arising.

What do you think — I have been awarded a silver medal by the Royal Victoria Yacht Club for a lot of work I did a year or two ago in regard to the International Gold Challenge Cup (£500) for which an American has just challenged.

One is never satisfied — I should have liked it for my scientific work, not sporting! Perhaps I'm better at the latter, tho' I may not like to think it.

Yours sincerely
F. Howard Collins.

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

12. II. 53.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Dear Galton:

I have read with much interest the two nature extracts from your lecture, & they have made me thirst for more. If there is any chance of your having a proof in extenso of the whole lecture would it be asking too much for you to let me see it?

Have any of your correspondents drawn your attention to what is, I believe, a fact, namely that the telegraphing dot business has been done before? I have been trying to cudgel my brains where I read it some ten or 15 years ago!

I am still "jawing"! and have found out the Eatables used by the following races, but as you might from

your infinitely better geographical knowledge, object to my authority (last Ed. Chamber's Encye.) I should be extremely grateful if you could tell me which races are "hard cakes" soft. do. & medium cakes - e.g. Australians Chinese, English. I do not wish to prove (?) my argument & then be told that my facts are all wrong.

New Hebrides
New Caledonians.
Annamites
Chinese.
"Nègres de Darfour"
Caffres.

F. 64v

Equatorial Africans (i.e. Bambara "mandingo" "Gabon")

If you are too busy do not of course trouble to reply, but if you are not, well many thanks!

Sir John Evans & the subject index is taking up some of my time — I do hope they will go on with it now — it is the fourth attempt.

Yours sincerely,

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

F. 65r

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

23. II. 93.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Dear Galton:

What a capital letter you do write — If I had learnt nothing from doing finger prints with you (which I have) it would be an ample return, to be able to look forward to your letters when I am getting a little out of my depths.

— all my figures contradict

the idea that the moltais age has any influence on Sex. Likewise, that the relation of F. & M. age has any influence.

It might be worth taking it into consideration again, if "snowballing" were adopted, but then as you say the female likes her age to be kept dark, & thus we should decrease on returns to a large extent.

As I am very busy just

now, I shall think it over only for the present.

If you see at the R.S. next Thursday, I may possibly see you, as I have arranged to have a chat with Sir J. Evans about the Cata.

How interesting to sit by Skeptchen! Even now he is spoiled by guides — the Alps as the fastest walker, they have known. Many guides would not go with him — he went too fast even for them!

I am collaborating a work on the I. of Wight — Tides

with a friend — going to
represent the tidal streams
graphically — It takes some
work, but is interesting, &
would be much more so if
one could only see the
raies d'Été in every case,
for the really Extraordinary
abnormalities.

Yours sincerely
F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

10. 11. 93.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Galton:

A thousand times
health & happiness to yourself
& Mrs Galton in the approaching
holiday — If my wishes had
any weight with the arranger
of these things you would come
back Leviathans indeed!

Many thanks for the
"just perceptible" I shall go

through it with great
interest.

I have a fearful amount
of work just now in getting
out, with a friend of mine,
a book on the I. of Wight Tides.
Confound them, it they must
be done by May 1st!

Yours Sincerely.

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

193 f.69

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

May 21st

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Galton:

I write somewhat hesitatingly not being sure whether you ~~meeting~~ surprise at Inman's finding the day of the week an event occurred upon was caused by ignorance of his method, or at his capability of doing the sum in his head.

If it was the former the enclosed may interest you as showing a method for doing

the problem. It was given me by a friend, with whom I had been talking about Inanda's skill — I have not tested its accuracy.

You received, I hope, a big budget of press notices last Wednesday which I sent you.

Au revoir. till June 7th when I shall hope to see you at Burlington House — the R.S. having kindly invited me.

Yours sincerely.

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

To ascertain the day of the week upon which any date occurs — ~~retrospective~~ prospective

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Table. January 3. Feb. 6. Mar 6. April 2. May 4.
June 0. July 2. Aug 5. Sept 1. Oct 3. Nov. 6. Dec 1.

Example: March 3rd 1891.

a Put down the two last figures of the year 91.
b Divide (91.) by 4 omitting remainder 22
c Add the day of the month 3
d. Refer to "Table" & add months number 6

Total. 122

Divide by 7. = 17·3

The remainder "3" gives the day Tuesday (Sunday 1. Monday 2. Tue. 3. Wed 4. Thurs 5. Friday 6. Sat. 0)
When there is no remainder the day is Saturday.

Example II. Jan 17th 63.

a 63.
b 15
c 17
d 3

7) 98.
14·0 = Saturday.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

F. 72c

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

May 27th
93.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS
3/3/3/76

Dear Galton:

You are, I know, the last man to deny that one good turn deserves another! You introduced me to Lady Welby, allow me to introduce you to Strickland!

If you can find time to read the enclosed, I wish you would tell me what to reply to — Some year or so ago I sent a brief statement

of his on the Eye Diary
to Nature which was refused
admittance, hence his con-
cluding bitterness about that
paper. Is it worth sending
the letter on to any botanist;
& if so, to whom?

He seems to have a
great capacity for work,
considering he is heir to
a baronetcy & £10.000 a
year.

Do not bother yourself
about it, but if you
can recommend me to
do anything I shall be
grateful.

Yours sincerely,

F. Howard Collins.

F. 74r

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

June 4th
93.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Galton:

Very much to my regret I have had to write an annoying letter to me- to a friend of yours. Will you forgive me?

The moment I saw the casts the verdict was "Unsuccessful." I showed it to 5 others in our works hoping they would see their way to say something had been overlooked in my inspection, & that

it was practical. Alas!
I could not persuade any of
them to say the reverse, while
all agreed in saying that it
was most ingenious, & the
result of a clever designer:
but there are so many things
submitted to us when this is
said, & that always fail,
that the only possible course
open to me was to
Darwin, & in short to let him
that for commercial purposes
he had better drop it. I gave

him the names of three other firms to refer it to, if he cared so that he might see whether ours was the right opinion. The two great objections are these, it would be more expensive to make them than now in use & answering their purpose in every way - I speak of the better class - & the form is too great a departure from achnowledged styles, for it to be at all likely that the somewhat conservative people who buy them, would take it up. There is so much competition in this special branch of trade

that unless a new caster does all the old ones do, & is cheaper, it cannot be sold.

You would be surprised how keen the competition is – in latter years it has been such that Caster-making from being a branch of Iron-founders work, has now become a speciality, except in those cases where a quasi-monopoly as to quality & finish exists.

Yours sincerely

F. Howard Collins.

P.S. Shall you be in Switzerland between July 15th & August 30th? If so where?

F.H.C.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

f. 76r

93

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

August 23rd

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

My dear Galton:

Here I am at last after a pleasant journey & hasten to forward on to you the accumulated cuttings which came while I was away.

My climbing, while not so great in quantity as last year, was much higher in quality - some of the peaks

I could not have done
at all last year, & none
of them with the comfort
& pleasure arising from a
feeling of at-homeness which
seems now to have come
to me. That I go fairly on
the mountains now, you will
see when I say that my
second guide told my own
"that he would take me any-
where he could go himself"
I should not repeat this compliment

but for the fact that you know Swiss guides - at least the first rate ones — are not given to over praise their "Herrs" usually.

Five peaks one pass only fell to me an account of the weather during the first three weeks which was so bad as to prevent anything high being attempted at all. The Eiger, Dom, Aiguille Rouge at Arolla, Dent Blanche & Weisshorn, were the mountains & the cols d'Herens & Bertol the pass. Two of them were the first ascents this year - the Rouge & the Dent Blanche which I crossed from Zermatt to

Zermatt, taking 20 hours
& 20 minutes each ds. It was
a glorious day, its is said to be
the hardest climb in Switzerland
& its certainly was the toughest
that has fallen to my lot — it
was splendid!

And now about yourself, what
are you doing? how are you?
Drop me a line if you can find
time & I shall be only too delighted
to learn something about you & Mrs
Salter. to whom please remember
me.

I called at 42 when passing through
town, but alas! you were out.

A Pleasant & healthy holiday
to you both. Yours truly
F. Howard Collins.

Now my hand has got out of writing!

f. 78r

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Oct 11th
93.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Galton:

I am very pleased that you have decided for the present only to simmer over the question we have been discussing. It seems a difficulty — a logical one surely — in my mind, that you cannot compel the operation upon those who object, & upon those who do not object, it would have valueless results. The more I see about it, the more strongly seems the repulsiveness

of everyone to entertain the
idea. I shall be interested
to learn what final views
you form after reading up
all that is to be read about it.

Billings Cats. is certainly
admirable. Why cannot
we have one for general
Science like it? I have
been putting my shoulder to
that wheel for some years
now, but, alas! what a
rut it has got into!
Many thanks for thinking of

Sir J. Evans. The point is this:—
He was afraid that a sample
Index-list on my plan was to
be printed so that it might
be criticized & generally pulled
to pieces. They — the R.S. — have
had my "copy" for some ~~two~~ 3 or 4
months now, but yet there are
no signs of a proof, & doing it
in the way I did, it is most
important that the proof
should be carefully revised before
printing. I am not busy
now & could thoroughly &
comfortably do it — if I had it
but I haven't — hinc illae lac.
I should have liked to have had
it all finished for the R.S when they met.

Now this brings me to another point. Are you busy, or do you want anything to occupy you, "the ideal State" going on the shelf for the present? If so, what should you say to taking up the question, a very important one for the founder of an ideal State, that, namely, of the propagation of the species, from the point of age. You will remember I have a lot of matter - undigested - about it, & nothing would please me more than to work it out with you - I, of course, washing the bottles, while you manage the general druggists business entailed. Or if you have any other bottles which require more to be washed than these I shall be most happy to

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

f. 80r

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

2

do my best to help you in any way I can.

How is the handwriting & figures getting on — is there anything ready to publish about it? I am interested to see how you will treat it.

As for myself, I am thinking of doing a set of Tidal charts for the west coast of Scotland like those in some degree of the S. of Wight. Otherwise I have

for the winter
no very definite plans. Of
course what I want above
all things is to start the
R.S. Cata, & to get such
way on it that it wont
run off the lines & suffice in
a quagmire of ~~mountains~~ ambitions, Tho
putting this on one side there
is only the sea-fronteria
quarteria, & the tides left,
unless you can suggest any-
thing further we might
collaborate over ourselves.

I shall be glad to learn
what the mighty dear
thinks of, when he can find
time & inclination to write
to —

Yours truly,

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

F.H. Collins

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Oct 77

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Galton:

Your letter was like a "smell of the briney" to me, so full of ideas, things to do, & energy to carry them out. It was a fact quite a tonic in the midst of this fearfully depressing moist & muggy weather!

By all means send me "the other" paper when ready

I shall, as you know, be delighted to look through it. Why do you always excite my curiosity by never telling me the subject of your papers until they are in my hands to read – I fancy naturally you must be rather fond of teasing!

As to Psychometrical work, has it ever occurred to you to systematize & weigh up the exactness the issues can be brought to by practice? E.g. a tea taster will value tea by tasting to one farthing a pound – he is no good if he cannot tell you, for instance, if

the sample of tea he is tasting has not been wrapped up in tin foil during the preceding night & thus acquired a certain flavour which the bulk has not. There are many other examples which I have thought of, & which might be worth talking over when we meet. This brings me to the point of the letter. If I am in London on Sunday would it be agreeable for me to call on you & discuss the "public school" question which seems a good deal in my line & is certainly one I should like to help you with, if we can see our way to a probable good result.

I should like to see your "handwriting" results so far as you have at present reached, as it seems to me another instance of your "uniqueness" shall I say.

W.M. Conway lectured here last night, & lunched with me today; it is very likely he sends me the proofs of his new Hindoo Kush book to criticize before publication — it will be interesting for my mountaineering taste to have its appetite whetted in the middle of winter.

Yours sincerely

F. Howard Collins.

P.S. Many thanks indeed for keeping "your weather eye lifting" on the Indus F.H.C.

UNIVERSITY COLL
GALTON
PAPERS

F 84r

1893
Nov 6

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Dear Galton:

a line to
congratulate you on the
appointment of the
committee to consider the
question of Berkhamsted,
Privilege, etc. If I can
be of any service you
know how pleased I shall

be to further your aims
in any way I can.

I returned on Saturday
from a weeks shooting
in Lincolnshire — "Allah
was not kind to the birds"
you will agree when I
say that our total
bag was 501. Lead for
5 days with an average

number of 4 guns only
per day. I was surprised
with the little practice
I have had how easy
shooting is — it seems
now that I have got into
the knack — at least
5 pheasants fell to six
shots in about as many
minutes — two of the
shots being voted "good" by
loafers on who proverbially
see most of the game.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Yours &c

F. Howard Collins.

Have you heard anything of a young Meinertzhagen who is at Harrow, & who Mrs Webb (Miss Potter) tells me is an enthusiastic Ornithologist? Could anything be done to give him a lift in that way — if he is as good as I hear it would be worth giving him introductions to Newton & Cambridge.

F. to C.

The R.S. are still discussing the plans of the Indian — this has found me some work also!

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

F.G.G. Jan 21st 94.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Galton:

a long chat with Walker. Beraut upon the subject of the changes made by "Author's Correctors" by printers, led him to finish up by asking me if I would write a paper on them for the Author, of which he is Editor, I declined

at first, but as the matter seems to have "incojitated" itself by now into some kind of thaga I am going to have a turn about, to see what can be done.

But before my theory is worth anything it must be compared with facts— must be compared with old proofs & the prices charged for the corrections made upon them. Have you any such

proofs that you could send me, to tabulate, I will only keep them long enough to work up, & you shall have them as soon as ever I have finished with them — they must contain what you were charged for corrections.

How are you getting on, & what are you doing now? I shall be quite glad & an excuse to hear from you & about you!

As for myself I am at work on a new Edition of the Epitome — 5 added chapters — which has been called for by

– & all people – the French!

I am also getting out
by myself a set of 12 charts
for the sides of the west
coast of Scotland – the
difficulty of finding out what
the Admiralty mean by their
books is stupendous – badly
worded, badly arranged, & some
parts no amount of thought
can get at the meaning – I have
had to send some of the information
up to the admiralty to know what
it means!

With best wishes for the New Year
if not too late – to Mrs Salter &
yourself – Believe me
Yours truly.
F. Howard Collins.

f. 88r

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Jan 23rd
94.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Galton:

You do not know how glad I am to learn that Miss Fisk are turning out such wonderful trumps! And how interesting reading your letter was to me. I only regret that I have not been able to assist you more in it lately. Moreover if I had helped ~~if~~ it would have been impossible to get a better result apparently.

The point which strikes me most in your remark "that

you expect hitches before the scheme is established." What plans are you laying to bring these down to the lowest minimum? Because plans must be thought out so that future workers & that class of intelligent may learn how to do it— & the more these are thought out, the fewer hitches there will be. You must write a sort of "Grammars" primer for these people, carefully beginning with the three types, thoroughly explaining them, & then going on to differentiate the varieties of these. Or are you going to have a school

& teach them yourself? Either
way will produce very interesting
psychological matter for thought.
I am led to lay the foregoing stress
upon method from a very peculiar
experience that has just happened
to me. Last week I began to
play the Comet for the first
time, & found at exercise books
without — a with but very little —
good for two days. Thinking the
matter over I saw that what
they called the straight exercises were
the very reverse — I consequently
began at the end of the book &
work backwards practically, and
in two days played a tune —
how badly I will not say, but still
it was recognized by others, whereas
if I had stuck to the so-called

"Easy" exercises I should not have played one by midsummer's day! So if you are going to teach, begin on psychological principles first – begin with what can be seen, the simple, & then advance to the complex as the mind gets used to thinking in the new world. I am as silent as the grave until the report is published!

Until I had read that paper on Budapest babies – most probably it has ruined all the matter which is tabulated lying in my bookcase waiting for me to work up – I shall look forward to getting a copy of it.

Yours sincerely.

F. Howard Collins.

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Jan 30th
74

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Galton:

many thanks indeed for the enclosed, which has given me much pleasure to see than you probably suspected. Thinking the matter over psychologically this morning I came to the conclusion that an unexpected result dug out from chaos as this is, gives me as much pleasure as anything.

The whole of my m. & f. children statistics are in 50ths of a book — If, while you are at this work, you would care to turn it over drop me a post-card.

I am rather anxious to know whether Körösi has any notes of m & f. children in his papers — If you are writing to him, would you ask, as had I better?

I hope you will send me a copy of the full paper when published, it is so extraordinary

Yours sincerely.

F. Howard Collins.

P.S. I wish you would write a treatise on Statistical methods. It would be invaluable

F.H.C.

F. 92 15

H. Collins

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Mar 4th
94.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Galton:

I was delighted to
get your letter, & to learn that
you were bound for a glorious
land of sunshine & warmth.
When it came I was only
getting over a troublesome
attack of Laryngitis which
had kept me in bed & the house
for a couple of weeks, so you
may imagine how very dear

the proofs were! Fortunately I am getting all right now, & have only the blessings of a hillish throat to enjoy!

While I was laid by I was much interested, & the time passed more quickly, as Conway was sending me his proofs of "Climbing in the Karakorams" to look through. My endeavours to add a little "polish" to them, kept me from thinking so much about myself. The book will be interesting to travellers & climbers, but it contains a little too much of the diary form — One does not

always wants to know the exact minutes the party awoke, breakfasted, & started! Parts of it are well written, & the engravings will be extremely numerous & good I fancy.

So far, I have seen no announcement of the Com^rs Identification report — Government is proverbially slow.

I had a very nice letter from Potter the Admiralty Publisher the other day, asking me to undertake a set of tidal charts for the North Sea. That there is something in it you may gather from the fact that he pays half expenses himself, finds me all

material in charts etc. &
gives me carte blanche for
details, limits, & general
matters. The Trinity Pilots
have been asking for it; so it
looks as though I were doing
some good — it will take some
work.

My book of Western Scotch Tidal
charts, is going through the press
now, will soon be out.

The R.S. Indeed has been quiet,
so far as I am concerned, the
Com^e are trying a plan of their
own, which I have the hardihood
to affirm is not half, nor a
quarter, as good as mine. Nothing
like conceit, is there?

f. 945

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

2

Castors. Thanks for your idea, but is it not simply a perfect example of what mechanics call "rolling contact" – at least so it seems to me?

I wonder what you are doing while you are away? You cannot be idle, for have you energies gone to this time?

When you came back to

England, we must have
a talk over a matter
which has most unfortunately
upset me lately — It is all
settled now — more or less — &
I only wish that you may hear
about it from me first.

Weather here is Spring-like,
& quite warm, I do hope
you & Mrs Talton are having
good weather, & are benefitting
by the change, little Very

kind remembrances.

Believe me.

Yours sincerely.

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

April 7th
94.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Galton:

Very many thanks for your kind sympathy. I cannot write (for its affects others) what I should like to you, but I can at least tell you something which may possibly have a somewhat similar effect.

My four oldest & greatest friends — all married men — lead

the facts from me, as I thought it my duty that they should be able to judge for themselves when they knew the <u>whole</u> facts, so that their friendship with me might, if they denied, be closed at least amicably. In every single instance, they declined to hear of any such thing, & have been, if possible, ten times kinder to me than before — going out of their

way to show that things were in no way altered.

a course which, I am happy to say, has been followed by others who I could not describe as my "oldest friends" however much I may like them.

Please bear in mind that I admit a mistake which will saddle me with a mill stone round my neck. But it can't now be helped. Alas!

The only thing that has kept me going for some time, has been the blessing of work — an enlarged Fifteen concluded for the press; The tides of the west of Scotland;

and yesterday the copy of the Tides of the North Sea, was finished – these two will form both books to come out very soon.

In fact I have come to the end of the work at present. If you care to send me any which will be sure to go on, I will try & do it to the best of my ability, but – well! as things are changed, you may care "to think it over".

In another envelope are cuttings that have come to hand during your holiday – I do hope you enjoyed it, & are the better for it. Yours sincerely.

F. Howard Collins.

f. 98c

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

May 29 98

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Galton:

I returned from Eastbourne last night, very much better for the change I am glad to say.

While at the Club there I came across a list of members of the Athenaeum which contains University training of the members as I am going to "set to" about you

development of my short letter, could you send me a list for reference? – or write Tedder to send me one?

. a list of fellows of the Royal Society might give me some useful matter. could you send me one of these?

I am looking forward to meeting you at the Ladies Soirée of the R.S. on Wednesday

f 99

week, to which I have been courteously invited.

I should be delighted if you would dine with me at the Savile 107 Piccadilly before the meeting — I should hope to have something to show you about the papers by then.

Can you come?

Yours truly.

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

June 16th
94.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Mr Galton:

I am afraid the reply to your suggestion lies in the first sentence, where you say, if you were carrying out the work. For without question you would get replies where others would fail. You are known to do good work, & to publish in good periodicals. I am not – at least I fancy so.

Then, supposing the informa-
tion were obtained, where
could it be published? Nature
might & might not take it,
& even if it did, it would
seem a small ending
to a great deal of labour —
"mons et mus" over again.
What Society would care for it —
The Royal have published a
paper on their own rate of
mortality, but they would not
take it. The Statistical?
& so on. Now about the Monthly
magazines?

Ewing is doubtless eminent
as a mechanician, but I
am led to think that his
Seismology took him into
the R.S. for he & Milne
went in in the same year
& I have been told that
then some people said one was
the better Seismologist & some
the other, so the R.S. solved
the difficulty by putting them
in in the same year. He has
since Electric became head at Cambridge.

If you still think I should
get answers to reply postcards,
I wish you would glance at
the enclosed rough idea & say
whether it meets with your

approval. You will notice, & I hope not object to my giving the thing your imprimatur, with some friendship attached, I am sure your name will do more than anyone else's. If you object, pray do not hesitate to tell me.

Yours truly

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Sept 14 85

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Galton:

The paradox that the dissipation of energy in Switzerland has left a larger amount than I had before, you will see when I say that I have at last adopted Venn's suggestion of "snowballing" for statistics on the sun-spot problem. I enclose a form, of which

I have had a number printed, to know if you can tell me of any people who would be likely to take the trouble to fill them up for me. Venn himself has kindly promised his aid.

— My climbing in the alps was dreadful this summer, my guide saying it was the worst season he has known for 17 years. I only

did 5 "things" in six weeks
& two of these were done in
consecutive days in the
last halfweek I was at
Zermatt. You may judge
how bad the weather was
when you hear that I only
started 9 times & had to
turn back four!

I am very pleased to
see. Your prints are being
taken up the government,
I am afraid it found you
a great deal of work.

I wonder what it is now
occupying your imagination?

what a sad loss Helmholtz is — Lord Kelvin will feel its a good deal — I hear they were so intimate.

I Trust you have had a better holiday than —

Yours Sincerely.

F. Howard Collins.

On the Outside of the Envelope Mr. Collins has written
"I do not want the so called "working class" tabulated"

f. 105r

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Sept 30th
94.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Dear Galton:

Very many thanks indeed for your thoughtful letter & its suggestions about Sen-ratio.

I thoroughly endorse your idea of getting some large collective body to take it up, but do not see my way at present to asking any particular one.

I am rather afraid working back from boys a girls to Parents is somewhat "carting before hosing", but I shall bear it in mind if an opportunity occurs. The most likely bodies, if I could manage it, would seem to be the Royal Soc. & the Authors. Inst. - If one could make a preliminary paper it would seem to be the best introduction to such an

mere data.

As regards names on the forms, there is one fatal objection I have already found. Ladies object to give their names & ages, & this is what I particularly want, as no published work gives them, not even Burke & Debrett, except in say one per cent of cases. If a family had filled up one form for x - they would not I think fill up another for y. & such a second request would be so rare as hardly to be worth reckoning with, also, the duplicates would cancel one another very probably.

As regards writing an intro. the object or aim must be omitted ~~lest~~ as it would surely (?) unconsciously influence the selection. Of the present form writing letter – a tedious business – to friends with the forms. People who are not friends (say F.R.S.'s from a list) would hardly take interest enough possibly.

A letter to nature I fancy wd. fall flat.

I hope you had a pleasant holiday & am all the better for the change

Yours truly.

F. Howard Collins.

f 104

Year of Marriage, 18.....

Age of Father at Marriage .....

,, Mother ,, ,, ...

STATE BOY OR GIRL.

REMARKS

(Such as "Second Marriage," "Twins," etc.)

1st Child ..... *born 18*.....

2nd ,, ... *,, 18*.....

3rd ,, ... *,, 18*.....

4th ,, ... *,, 18*.....

5th ,, ... *,, 18*.....

6th ,, ... *,, 18*.....

7th ,, ... *,, 18*.....

f. 107r

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Oct 7th

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Dear Galton:

I am very sorry that the musical festival here quite precluded me writing before to thank you for the reference to Prof. Sheida, which I am endeavouring to follow up.

As I find great difficulty in getting a sufficient number

of my forms - am barely filled up, could Randall, from any material under his supervision, provide me with several hundred? As there are no names upon the forms it would not divulge the secrets of anyone.

The enclosed cutting will doubtless interest you.

Yours truly

F. Howard Collins,

Year of Marriage, 18.....

Age of Father at Marriage.....

,, Mother ,, ,, ...

STATE BOY OR GIRL.

REMARKS.

(Such as "Second Marriage," "Twins," etc.)

1st Child ..... *born 18*.....

2nd ,, ... *,, 18*.....

3rd ,, ... *,, 18*.....

4th ,, ... *,, 18*.....

5th ,, ... *,, 18*.....

6th ,, ... *,, 18*.....

7th ,, ... *,, 18*.....

(For a family of any number, not necessarily of seven.)

f. 108

f.110r

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Jan 20th
95.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS
3/3/3/26

Dear Mr Galton:

For the last three months or more the whole of my leisure time has been spent in tabulating & analyzing some 2500 family schedules for the enquiry as to whether Parental age affects the sex of children.

The results are so curious

instructive, & confirmatory,
that I am quite sure in
former times they would very
much interest you.

I therefore write to ask
whether you would care to
see me at the Smile Club
some time between Friday
next - mid-day - & the Tuesday
following when I should so
much like to show them

to you.

Yours sincerely.

J. Howard Collins.

f112

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Jan 22nd
94.
95

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Mr. Galton:

I shall be very pleased indeed to bring my papers round to you on Saturday at 2-15. Please do not expect definite & finished results, but rather the bricks - some little arranged possibly - from which there are

obtained.

I am so sorry to hear about your bronchitis, this peculiarly changeable weather must be very trying to bronchi – I shall expect to hear that you are going away soon to happier climes!

Yours sincerely

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Collins

f.114

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

3, HERTFORD STREET,
MAYFAIR, W.

Jan 28-95

Dear Mr Galton:

a slightly troublesome "head" prevented me yesterday writing to thank you for your great kindness in looking at my results, & for the very valuable clue you gave me to "smoothing" them.

I was so very sorry to see how poorly you were, & do trust that the somewhat long talk

left no disagreeable effects.

You have probably thought my adjectives "curious & interesting" somewhat too strong for the results you saw, & so they were. But, had you been well enough, I had hoped to show you some further developments which seem, to me at least, to merit the designation I had used in my first letter.

I hope to return your kindness at some future time, if you only let me know what it is that you think my assistance might be given

Yours sincerely,

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

F116c

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Jan 30th
55.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Mr Galton:

When you were exploring in africa I wonder whether you were ever as you thought many miles away from any habitation & generally roaming short & then met some native who told you of the proximity of a village where everything could be replenished? If so, your feelings were like mine when I read your encouraging letter — It was very kind of you to send it, after results of examination

work by ourself over one problem
one is not always in the best
of spirits about it!

It is somewhat strange
but your closed curve exactly
expresses what I had not been
able to put into so many words,
but was all the time occupying
the background of my consciousness
as the interpretation which
would most nearly represent
the data.

I am so glad you will
have a look at my "diagram
charts" when finished - you
can form no idea how
muddled I get with details

& consequently how far beyond
price is the value to me of
learning your opinion upon the
points — merely to talk the
matter over with you helps me
wonderfully in every way.

I shall at once commence
the charts of the 3,000 adding to
them before the ~~same~~ 1.200 from
my private enquiry unless you
write me that they should —
on second thoughts — be better kept
apart. They would both form,
I fancy, as nearly as possible
a homogeneous group when mixed.
This will probably take a month
or so at the rate I am able to work.

It is well known, & rather currently believed, that consumptive females bear girls – Is this worth getting data for? And if so how should one set about it – Do you know any of the Doctors at the Large Consumptive hospitals who would be likely to get 1,000 forms filled up, to whom I could write? I am led to think this might be worth following up from the remark you make about "abnormality of environment" & from the marked difference of results from aristocracy & from the middle class.

Suffering age does affect sex would it affect Weissmannism? I do not know enough to say.

I do trust that by now you are feeling better – Do you keep your rooms enough heated for your complaint – I doubted it, & therefore mention it is worth.

Yours sincerely.

F. Howard Collins.

F118r

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Feb 15th 95

do not reply

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Dear Mr Galton:

I wonder whether
ever a young investigator
in his first original work
had ever so kind a referee?
I think it impossible.
May I be able to return it!

I am very glad you
did write so unfavourably
as I always like to take
disagreeable medicine at once

"gulfs."

I am doing as you suggest with the figures, first however checking the work we did together to see if girls + boys really in that batch are transposed. The next move, it seems to be, would be to forward the sheets to John Venn for him to see. As without his recommendation originally it would never have

been undertaken, added to which we have had a lot of correspondence, & he has obtained some 150 forms for me with Cambridge as a centre.

When this has been done, & Venn gives his opinion, I will let you know what it is, it will be time to consider further developments — such as the ratio of $\frac{B}{G}$ in each family, whether the first half of the family is a decidedly different ratio to the last as my figures so far show; or what not.

F119v

In the meantime do please get well. Here good wishes good medicine, you will soon be about!

Yours ever,

F. Howard Collins.

P.S. Did I tell you Lady Welby filled up no end of forms?

F. H. C.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

POST CARD

THE ADDRESS ONLY TO BE WRITTEN ON THIS SIDE



Francis Galton Esq. F.R.S.

42 Rutland Gate

London. S.W.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

f.120v

Churchfield, Edgbaston, Birmingham.

Mar 6 85

I am truly delighted to hear you are so much better & trust you will continue to improve —

I will let you know what Venn says, when he writes me.

I find that there are at least four other enquiries worth doing with the data — at least T. B. Sprague, the actuary, says so.

Yours truly
F. Galton

F121C

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

April 7th
95.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Mr Galton:

Venn has at
last found time to look over
my tables & writes that he
thinks "there is something in it."
He would however like more
data, & suggests what I
may call a three-dimen-
sional table for showing the
result – I have roughed out

an Epitome of this & am
sending it to him today.
When it comes back, may
I send all the tables he
has seen to you, to give me
your advice as to continuing
& not the investigation —
We seem to have arrived
at a point now when it
would be wise to consider
future developments, before

rushing headlong – and yet having spent so much time already it would seem a pity not to utilize that time.

If I do not hear from you, I shall consider you will once more consent to give me your invaluable advice, & will forward the tables & Venus's opinion on them.

I do hope you are now well again – as for myself I cannot pull up to even my ordinary low standard. Everything is a labour, & feels

a labour to such an extent
that I sometimes wish
providence would wrap me
up in a parcel, & put me
on a shelf, until well
enough to enjoy even a
minimum of work.

This energy-less state does
also much to foster a
concomitant of the plague.

Yours sincerely
F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

f 123r

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

May 19 [illegible]

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Sr Galton:

I was extremely pleased to receive your copy of Fingerprint Directories & shall read it with a very great deal of interest, not only because the subject is still very attractive to me, but also because it reminds me of what I can truthfully say was the most enjoyable scientific

work that ever fell to my lot—
I often wish my second
fiddle faculty could be
utilized over again with
such an agreeable leading
fiddle. Working by oneself
has not half the interest
to me that working under
a good man has. I am
afraid that the initiative
mind was not compounded
in my brain originally!

a glance at your book

f124r

suggests a few remarks —
probably valueless — but
nevertheless I will make
them.

— Radial & Ulnar, "R & U",
does not seem to me the
most ready means of
conveying direction to the
ordinary prim warder, &
general reader. Why not
T & F = Thumb side &
Finger side? They are
letters so far unused by you?

— Counting the Core Ridges.
How would this be if instead

of the exact number.

You merely had Berkeley's

3 divisions over again —

below 4 say, 4-8, & over 8.?

Would it not have been

worth while suggesting

the object glass of an

ordinary opera or field glass

as a good low power lens —

I found it very satisfactory

when working with you.

Codrington Lens — you are

doubtless correct, but I have

f. 129r

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

May 21st

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Mr. Galton!

when M. B's
"call" themselves doctors, it
seems strange that real Dr's
should not. However I am
not surprised in your case
that you prefer your old
studies.

Please excuse a long note
as I am going out tonight & have
some other notes which must
be written.

many thanks, but we will see now what Venn has to say first

I quite agree that Hollborn would mean loss of power, but it would also mean great gain of convenience.

Hemenlite is a supplement of Deweys classification which shows all necessary — how figures can be made to express almost anything. I merely mention it as a possible ~~suggestion~~ idea for you.

With your letter came one from

Lloyd morgan, hence my telegram asking for manuscript curve papers which you so kindly offer — I shall consider he may see them before I return them to you, unless you say not.

The point seems to me whether it is not time to take the thing up again — with say a resumé of past work to nature & expert developments. Little is known about the work I may judge from the 3 or 4 letters different people have written to me about it.

Major macmahon suggested my reading Karl Pearson's recent papers on analysis of curves —

f.130d

Mr. Rix kindly sent me an abstract of the last paper which might as well be speak for me. After your letter in Nature, could you suggest any way of my being able to understand it?

Have you the first paper in entirety — is it published.

Ever yours

F. G.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

May 19/95 f. 125r.

2

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

always seen it spelled
"Coddaughm."

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

For a high pavon have you
tried Brownings Platyscopic?
I could lend you one if
you would care to try it.

I notice you have coined
a new word "Fingerprint" in
place of the two words of years
past. It seems good.

If at any future time

you would like
your proofs read over by
another eye (anonymous)
I wish you would bear in
mind how pleased I should
be to do it.

—

Many congratulations
upon the "Doctorates" — you
have had so many honours
that these doubtless appear
much smaller to you than
to others — to myself for instance
who for many years always

used to think how "nice"
it would be to be a "Dr"!.
Alas! I never shall, so
all the more I congratulate
those who are!

Your letter that reached me at
the Savile Club alluded to the
"strong negation results" of the
age + sex problem. Are you
not under a misapprehension?
The paper ("Schedule appeared) we
contributed together at ~~your~~ house
had more boys than girls in the
centre, like the tabulation
completed from the 4000 forms
which I did myself subsequently,

& the line of maximum
torys, coincides in both.
I have really failed to get
a negative result by
comparison — much less a
"strong" neg. result.

I find one suggestion has
been omitted, & it refers to
a possible graphic representation
of fingerprints on the cards,
I am a great believer in
seeing at once what the meaning
of things are — Is it worth
while for "back" reference
having squared paper somewhat

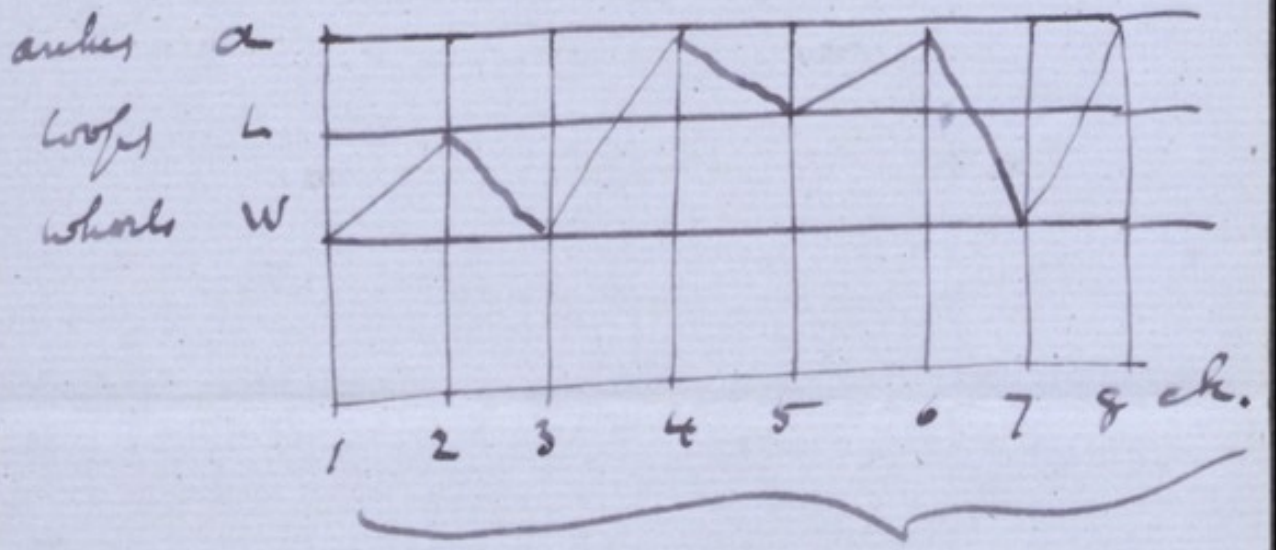
May 19/95 f.12-15

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

3

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

like this, above the prints, ✕



fingers.

summarizing, in more or less detail the <u>important</u> points? It has occurred to me that one might remember a <u>curve</u> better when searching

for a similar one than
one could remember a
combination of A. L. W.'s in
various ways.

Trusting not to have
wearied you with this long letter

Yours truly,

J. Broad Collins.

P.S. I thought Lloyd Maynes
"Examination Curve" in Nature very
interesting — he wants me to develop
this I do not intend to
my suggestions — could not you suggest a "Jayne"
curve?

(4 P.S. May 19/95 f.1285

I have just been reading
your sample directory, &
the point strikes me whether
it would not be better if
all prints ~~be~~ were signified
by figures, rather than letters &
figures combined. For purposes
of reference & calling out one
to another figures are so much
less liable to error — & how
difficult it was sometimes at
school to make out which
letter the master meant when
reading out algebraic equations
whether n or u, b or p. etc.

P.T.O.

Have you ever read Dewey's
Decimal Classification?
If not, it might be worth
your while, & I could lend
it to you, everything is
there done by figures.

F. A. C.

Your abbreviations for arches
\ / o correspond to Pitman's
shorthand m. B. R. & "is" would
it be worth your looking at his
Phonographic Teacher/6? So
many people now are acquainted
with this system.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

F 131

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

May 26 [illegible]

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Mr Galton:

Pray accept my apologies for appearing so presumptuous as even to think of being capable of developing the "mind & body" exam. matters.

It was "pure ignorance, Sir, pure ignorance!" I did not know that any one had

worked at it, thoroughly,
still less that my old friend
J Rutland Gale had really
thrashed it out.

Please do not answer
this letter but —

Believe me,

Yours sincerely

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

P.S. I have sent your letter —
which made me feel truly how
little I know — on to L. Ja.

F135c

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Aug 31. 95.

Dear Mr Galton:

I am so glad that you had agood holiday in what I fancy is a new ground for you. I am afraid that you are not arranging for a very cheering sojourn at Corby through you so kindly offering to look at my somewhat dismal papers !

To cut my results as short as possible the question t would seem to me to be, taking Venn's reply into consideration, do the papers prove that no influence is exerted by age? Would it be worth while to head a short paper with the title ''sex not influenced by age '' It does seem to me to be a great waste of energy for all my material to be hidden away altogether, when to merely publish the DATA might be of a great deal of service to someone else who might take up the same question or some other for which they would be equally servicable: in fact some investigation might be stopped by the immense labour the collection of such a batch of facts implies. There is also the other point to be looked at, that of the kind collectors of the forms for me - some of them would feel repaid by knowing that publication had ensued, the only adequate return ~~some~~ they would wish for.

I must own to a certain longing for the data to be published, if without comments —I should feel so very much for any similar trial if the data were being collected again by some other unfortunate !

You will notice the way I have "graphiced" the variables, three in number, I should much like to know if it is new . It was the thinking out of Venn's desire to see a solid model of the three that made me think this way would do at a twentieth of the labour, and inconvenience subsequently arising from such a bulky model. If it were new would it be worth sending to , say, NATURE ?

And this reminds me of a proof passed by me the other day

of a letter to that periodical:: it should come out next week and may interest you as the result is very peculiar, if the data which it deals with are selected on pure chance —they are those contained in Pillsbury's very interesting article on colour measurement, which from the work you did at it, or rather round about it, would interest you.

I enclose the Directory cuttings, which please do not trouble to return.

Yours sincerely.

F. Brown Collins.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

F134r

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

4th. Sept. 1895

My dear Mr Galton:

Once more a thousand thanks for looking at what must I am afraid be regarded as another egg of the addled genus notwithstanding the enormous time and energy I have spent on incubating it, and such good friends as yourself and Venn in giving me assistance the meanwhile.

To your letter: You summarize the advantages of the isogenic method over the contour elevations very well to untrained eyes like Venn and my own the contour lines appeal more immediately- for the isogens training is advantageous. I am incessantly regretting that there is no book of methods for graphics: especially e.g. for graphics of three dimensions. for I had to think out the contour plan as saving the trouble of a thick model as Venn wanted me to make. You refer to your paper on Isogens— where was this published as I should very much indeed like to read it, or could you send me a copy? to be returned, certainly, if you have not a spare one . By the way why IsoGENS ? I cannot quite see my way to the derivation— or rather why this word is superior to isoLINES or something linear.

As to form of publication I certainly have considered it and from what you formerly said should have let it drop but for the reasons I gave in my last;—the feelings of friends after having spent so much trouble on collecting, but still more by far the desire to save some one else taking up the thing again when so much had already been done. I have had a look at some of the papers read before the Gynecological Soc. but they seem quite out of this line. In fact the statistical society seems from one or two of its titles to be much nearer the subject matter: doubtless however you thought of this ,and dismissed it as requiring a better grade of paper. I will certainly

carry out your suggestions about working out the isogens a little more fully, not however just now as I am happy to say that next week I am willing to hope that Mohammed will not be so very kind to the birds.

Isuppose you have heard nothing more about the R.S. index ? The last that came to my knowledge was that they were going to by their own plan of classification, and I have not heard ~~with~~ whether it answered my prophecy of comparative failure. I have not lost interest in it , but there seemed nothing further to be done.

I return you summary chart, and once again thank you for all the trouble you have so kindly taken.

Yous sincerely.

F. Howard Collins.

P.S. I have taken the liberty of keeping a tracing.

F.H.C.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Jan 21 [illegible]

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dr Charles

Dear Mr Galton.

Here are the criticisms. a cure for influenza in the Field of Dec. (last week) R.1040. x might interest you if you asked for it when next to the Athenaeum. It is my own angling experiences & entitled "How I cured my influenza" — K.P.'s influenza supports this article.

~~If~~ what are you busy

about? Fuzzy prints?
I should much like to know.
& shall make to help you
if any of the work could be
dispensed..

It is kind of Lady Wolly - I only
re-wrote her last paragraph
to get rid of some of the "I."s

In great haste

Yrs. A. C.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

f137

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

June 22.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Dear Mr Galton:

I had to write in such a hurry last night that I did not mention three things of small importance.

My criticisms were restricted to the biological side only — the math.' being quite beyond me.

F.138

If you would like to see
a copy of Mr Romanes's
Life – mine is always
yours with pleasure.

Should there be anything
to discuss I shall be in
London from Saturday – Monday
next. Major MacMahon
having kindly asked me
to a Savage Club Concert
on Saturday night.

Yours truly.

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

f.139

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Jan 24th

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

My dear Mr Galton:

I shall be only too pleased to do anything that lies in my power in the way of criticism — after my last experience, I ought to say that it will be <u>honest</u> — <u>absolutely</u> — & hence I hope not disagreeable to you.

Please don't send it "written out" on purpose I can always read any thing you write however interpolated.

When you write you might say privately whether you consider "Memoir III" is a proof "to cut away the basis of Darwinism" as it is author writes? — I hold another opinion as you may have seen!

Yours truly,

F. Howard Collins.

F141

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Feb 2nd
96.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Mr Galton:

I am sorry you are trouble to send the M.S. just yet, as nothing is more pleasureable to me than going through such work to see if I can find anything which has been overlooked, & thus assist the author - You of course remember that I do not wish any assistance I might possibly render being mentioned in the paper.

As I have been working out for some subject, the last few

weeks, your suggestion about developing stories - heredity is most opportune. As it would possibly have led me to go about your track, a to appear to do so, is the reason if it being on the shelf for so long - if you really wish me to publish, will you mind me asking a few questions so that I may consult your wishes when writing?

(1) Should I allude to Shred. Genius at all, or merely state my case without any reference to its author.

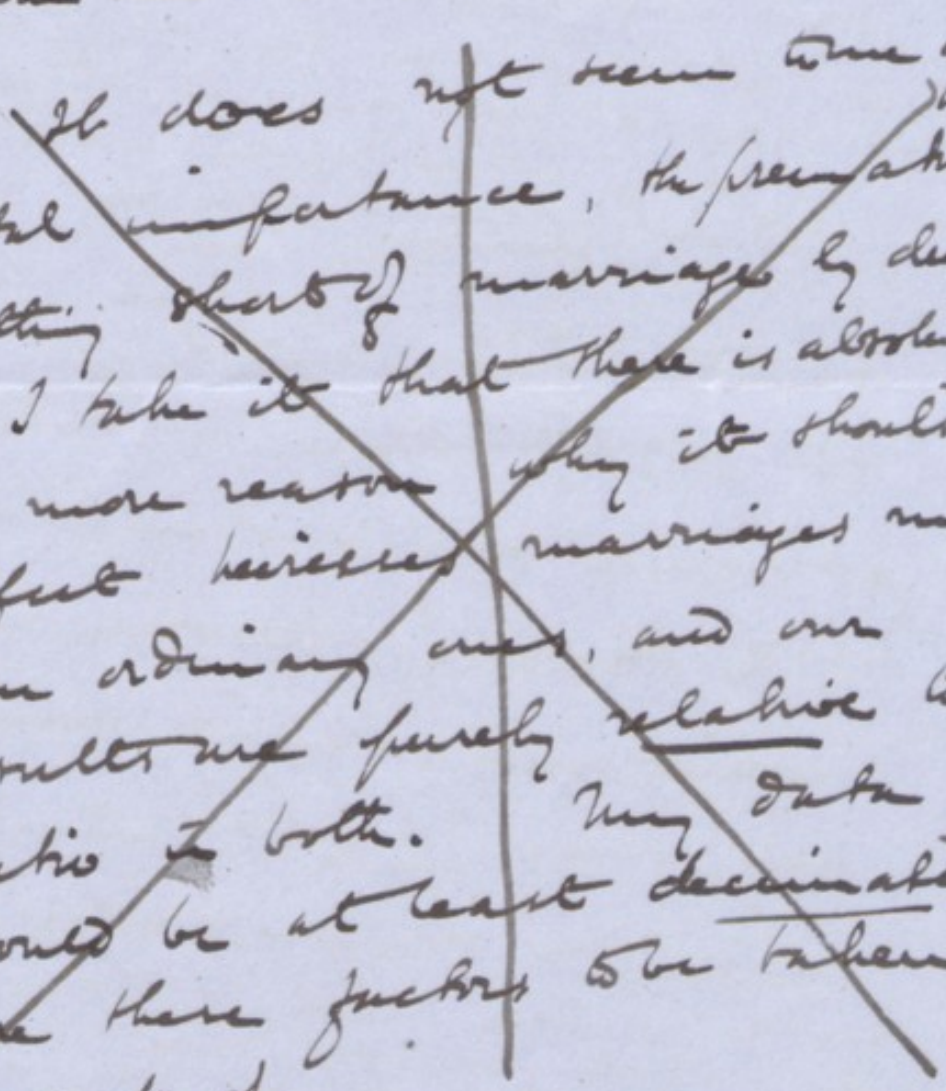
(2) What made me take it up was the fascility of data (so familiar only) which seemed

to me entirely insufficient.

(3) You will see from the enclosed summary that I have tabulated the different degrees of single-blessedness of the heiresses.

(4) It does not seem true of wrist importance, the premature ending of marriage by death, for I take it that there is absolutely no more reason why it should affect heiresses' marriages more than ordinary ones, and our results are purely relative to ratio to both. My data would be at least decimated were these factors to be taken account of.

(5) Is the present problem as simple as it looks? I am led



On re-reading your letter I see what you mean & quite agree of course this would influence the data

to ask this question by the last column in the table "sons & 100 daughters". It looks to me now as tho' heiresses were less fertile in daughters than sons compared to ordinary families. ∴ Ought not one to get — this would be difficult, very — marriages of only sons. & see if they are less fertile in sons than daus?.

(6) Where should I publish?

(7) The statistics are from a purely homogeneous class being from only sons - Burke.

Trusting you are bearing this mild winter well, & thanking you for your interest in my ideas

Yours very sincerely.

F. Howard Collins.

F143

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM

Feb 5th
96.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Dear Mr Galton:

many thanks for your letter. I will get the results together & make a less – shape for publication, & unless you can suggest anything better put them in such a way that nature might print them as a letter,

altho' one would feature
wish for something better.

Last night I concluded
130 only for marriages, they
for more boys to girls
than ever! But I must
get say 500 before speaking
definitely.

I must also tabulate
& do of large families -
it is wearisome work this
collection of data.

Yours truly.

F. Howard Collins.

F145

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Feb 16 88

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Mrs Galton:

When the
dearest mother one can
conceive possible passes
away it seems natural
to tell one of whom she
often spoke in terms of
the highest possible esteem
& thankfulness for his
assistance to her son.

f.146

Yours truly

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

f. 147

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Feb 18th 88

My dear Mr Galton:

When for
nearly forty years, one has
never had a secret from
such a gentle spirit. Such a
letter from me she thought
so much of is so comforting.

Yours ever

F. Broad Collins.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

P.S. With cooler weather I shall hope to attach only child facility for

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

July 12 96

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

On the envelope it is written Please enclose wherever forwarded

Dear Mr Galton:

How truly

I sympathize with you you will be when I say that some four years ago I had gastric catarrh for over a year, & even now the thought of it brings to mind the unpleasant nausea which was so trying!

F14 9r

. I should not have troubled
you with a letter, but
in case the ferman baths
do not give you an
absolute cure, you may
like to know Sir Andrew
Clark's advice which did
at last effect a permanent
cure with me — "Go to
Switzerland & stop in the pure
air." Should you not like

F150

Nürnberg a Bamberg
a the Riffel? for a
fortnight- day?

You remarks on the
Index you should try - like
I have practically -
experimentally. Get a dozen
slips made of really art
[illegal] headings - say a dozen -
distribute them to six
scientific men, & six
librarians, & compare the
results. My own experience

would lead me to say that
you will get most conflicting
results — e.g. "spurious
demands".

This will show how many
different places a searcher
may have to look to find
what he wants, however well
the index is compiled.

With very kindest thoughts
wishes for your recovery.

Yours

J. Round Collins.

f151

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Nov 12 96.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Dear Mr Galton:

I have at
last found the energy to
do a little more work
at the "fertility of Heiresses"
problem, I have roughed
out the outlines of my
work, on interlined paper
for ease of alteration.

It is very poor, very poor

indeed, & I hardly like asking you whether you would care to see it, so different as it is from all your work.

However, my excuse must be, the subject is interesting!

Trusting you are not feeling the approach of winter as regards your health. –

Believe me.

Yours sincerely

F. Howard Collins.

f153r

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Nov 14 -

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Dear Mr Galton:

many thanks
indeed - I will look thro'
the Heiresses again & send
them probably tomorrow
evening.

altho' my dear Mother
passed away last February
it is only quite recently

f.153v

899 | 1431 | 2.4
1198
2330

265 | 1042 | 3.9
795
2470
~~2120~~
350
2395

250 | 1063 | 4.2
1000
630

f.154r

191 | 782 (4·1
764
180

265 | 1042 (3·9
795
2470
2385

500 | 1919 (3·8
1500
4190
4000

that I have been able
to take up serious work
— & even now, as you will
see, it is of wretched quality:
worse than ever.

Yours truly

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

f. 155

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Nov 16th
96.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Mr Galton:

With all its faults
– & they are vastly too many –
here it is.

I shall be exceedingly
grateful for any suggestions
you may be kind enough to
make.

The question arises where
can it be published – a letter to
Nature first arises to the mind,
but sadly the work entailed, if
not result, makes me wish for

Something better.

~~It~~ In its present form it is certainly not a "contribution to the math^l theory of Evol." But K.P. would seem an impossible person to collaborate with, even if by that means it could be made so.

Yours sincerely

F. Broad Collins.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

P.S. I should be very glad of any names to refer to my Times letter of Nov. 7. [illegible] 1.10.2. f.157

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Nov 17th
96.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Mr Galton:

I am truly sorry that a shifted error of mine has given you so much trouble. I should have copied $\frac{2}{=}431$ & instead wrote $\frac{1.}{=}431$.

And am much obliged to you for calling attention to the other obscurities, which are now I hope more clear.

Of course Hamshole must be gone thro' again when printing

is thought of.

How strange it is that many men would give anything to have so high & honourable ~~it~~ degree, while one who has ~~it~~, prefers either not to use ~~it~~! I know some one to whom such modesty would not under similar circumstances apply I am afraid.

I think Statist & Sentinel, just published by Lloyd Morgan, would interest you — Shall I send you my pamphlet in copy?

Yours sincerely,
F. Howard Collins

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Collins

f.159c

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Nov 19 [illegible]

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

In haste.

Dear Mr Galton:

Very many thanks for your suggestions. I will look at the ordinary man again + see if anything strikes me.

What bothers me most is:- what to do with it! Can I suggest anything? Really as a matter of fact we worked so well together years ago that I should much prefer personally

not publishing, but this you seem kindly inclined to let me do. would it do for the Statistical & anthropol. or must it come to Shakespeare destitute Nature?

The H.S. affair will I think do for as I can judge be a success, as some good men are taking it up — i.e. men who know what he really has done. Please

ask anyone to write me who seems inclined to join, as numbers are important

It gives me great pleasure to add your name. I am looking forward to talking it over next week with Leslie Stephen, Sully, & Charlton Bastian, & Ray Lankester, would you come when I could write you the time fixed for the Meeting? I do so wish you would.

Yours truly

F. H.

Collect F161

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Dec 1st

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Dear Mr Galton:

Many thanks for your congratulations & suggestions. Sir John Lubbock accepted this morning, as also Sir Geo Baden Powell, Sir J. Evans Sir R S Ball Sir Joshua Fitch. & Lord Hobhouse, and Mr E' Gladstone "assents" so you see we are getting on.

Prof Frankland will accept from what he said in a former letter.

Alas! I have not landed the two fish I most desired.

f. 162

Sir Joseph Lister & Lord Kelvin who this morning declined for the reason that they are not conversant with H. S.'s works.

And I had so wished to get their support! I suppose their objection is unsurmountable?

This work reminds me of the multiplication "Sum Rules" — "I doubt if it would have been undertaken could they have imagined the work it involved".

Yours sincerely

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

F163

2 Lewes Crescent, Brighton.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

~~64, Abbey Road,~~
~~Regents Park, N.W.~~

Feb 4th
1897.

Dear Mr. Galton:

If you call in an architect & tell him to draw out the plans for a mill, his first question is - "a mill for what" what is it to do? If you order a steam engine from an engineer his first question is locomotive or stationary - what is it to do? a fishing rod - to catch salmon or dace: what is it to do? a green house - for orchids or ferns: what is it to do?

And so on thro every

I have been able to think of,
& that has been a large
number, since you wrote letter
about the "farm" came.

In every instance before
doing anything whatever, you
must make up your mind
what you are going to do. Having
decided this, the next thing is
how to do it. You cannot
pursue the process without
working capital, whether it be
money, or brains.

Now the application of this
principle to the case in point is
this:- You must first agree

what experiments you are going
to attempt. It is no good having
a fine sandy soil & building for
watching the reproduction of eels,
altho for rabbits it is very thing.
Again, what is the use of a muddy
stream if you are going to
experiment on the reproduction of
trout. What the use of a clear
stream of fresh water if you want
to watch Soles & Pleuronectidae?

As I said in my former
letter, & the more I think of it, the
more "I stick to my guns" Your
first operation must be to get
out say a dozen questions, carefully
elaborated in Comee & circulate here

f 164 v

to every likely man to help,
avoid their replies, asking specially
for general remarks, & then
thoroughly thresh these out, &
decide upon the best experiments
to be undertaken, then, & not till
then, make your designs for
how to carry it out.

Rule your questions down the left
hand side of quarto paper leaving
the remaining 3/4 for answers, &
the last page for "remarks".

It is a splendid, & the only,
method for whatever one want. I
have been thro it myself in another
connexion, designed it & everything else,
& you should have seen the satisfaction
of the Committee! Yours ever

F. Howard Collins.

f.165

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Feb 19th
1857.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Dear W. Galton:

I am exceedingly pleased at the contents of your kind letter, which shows me that the Com^rs are carrying out the programme on lines which are very different from those I had imagined, & to which my objections were made.

I can imagine nothing

likely to be productive of
more good than helping
those who are at work,
providing they are good men
at their undertaking.

It never occurred to me
to suggest mapping out
future work, I was only
desirous of thoroughly investig-
ating, where we did start
from, so that we might
not in the future report ~~that~~
a ground point insufficiently

explored, thence a line of departure taken from a wrong centre as it were.

Many thanks for writing so long a letter about it: your correspondence must have been as fortunate as my own lately about the Spencer Portrait affair – that is saying a great deal!

I would not bother you about the enclosed, but, as you will see, it is written by an old & great friend of mine, who stammers, doubtless he

is thinking of being cured by them. From internal evidence it does not refer to you, & therefore you do know nothing about the women. I should be so much obliged if you would drop me a postcard saying so, & thus ease his mind, that his stammering may be cured.

Please do not write a letter, as I should never forgive myself to trouble you, with all the writing now on your hands.

Yours sincerely

F. Broad Collins

f. 167r

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Feb 21st
1887.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Private

Dear Mr. Galton:

You are so kind that I can't quarrel with you, but feel that I ought to be troubling to write me so long a letter, while I am now forwarding to my old friend Staniland who will much value it.

Many thanks.

The cure is doubtless

a form of "faith healing" such as Lourdes & many other cases we could mention.

I have preached at my friend so often to talk slowly when the result is good, that one gets tired of his remark that he does not "like" to, — a form doubtless again of "nerves".

That he has brains, & ought to use them, follows from the fact that he has had several (?)

– at least an – medal from the old School of Mines where he studied for some years.

How foolish it is, as Spencer once said to me, "People think with their feelings & not with their intellect!" He could talk if he would, as I have proved twice out of number & he knows it, & yet won't.

—

So far towards the Portrait fund we have obtained £360 out of the 600 guineas that we want. You have no idea how really fearful

amount of work this affair has caused the humble secretary. However, I hope to get something substantial from the Americans, if so, we may quote Shakespear & say "all's well that ends well."

Should you have a spare copy of the last contribution to the R.S. and K.P.'s as well, you might bear in mind that I should like to see it.

Yours truly

F. Brown Collins

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

F169r

Howard Collins

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

July 4th
97.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Mr. Galton:

Very many
thanks once again for your
kindness.

I will certainly authorise
you method in the paper,
But I do not see how
possibly I can revise your
data, unless Bourke is
marked with the families
which you took for Non heirs

marriages. For this is really where we differ, & the point we must attach to show the difference between us.

By taking 50 families of non-heiresses you obtain 6.2 children per marriage. Now with not one single hundred & the 1250 families which Lauchard can I get a higher family number than 4.0 no

matter what kind of families
is considered.

You get 2 per cent sterile, & in
no single instance can
I get a lower degree of
sterility than 9 per cent
while the average is 12·36.

In no single instance do
you get any families whatever
larger than 7 while my
average of "9 & over" is 8
per cent.

~~You families of one are~~
~~only half mine. is 10 to 20~~
The points therefore for first

settled are.

(1) Here is 6·20 for fam. obtained

(2) —— 2 sterile ——

(3) —— it that there are
no fam. over 7.

There must have been
some error is not taking
fair chance distribution
of ordinary fam. seems to me
the only answer.

If the ordinary fam. are
marked in your books, would
you have a look to see where
the error may be: I cannot
get 6.2 for fam. from any
collection of chances familiar
of any kind whatever.

Howard Collins

F.174

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

July 6th

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Dear Mr. Galton:

Just a line, as I am off to Oxford for an "at home" at Exeter college, to say that I should be very grateful if you could "find time" to give me a clue to the origin of your differences about Hieroses.

I should be glad to see

your marked Burke. if

convenient.

I do so hope you
are not really wanting
"a cure" for your health —
I am a little flat, but
go at the end of this month
with my old friend T.F.
Chawner & his wife to the
Austrian Tyrol for a month
so hope that will put
me all right again.

With best wishes for your
health & a pleasant holiday

Yours sincerely

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Howard Collins

f.176

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

July 5 —

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Mr Galton:

many thanks
for Burke & for your directions
as to my use of the copy
book. as soon as the
enclosed on the subjunctive
mood is out of hand — I am
writing to get replies on the
suggested rule — I will go into
the Hulsean question again
carefully, as it seems
passes my comprehension

how, without some lapses,
you could possibly get 6·20
per family.

I had a very pleasant
time at Oxford & met W. F. R.
Weldon, who talked heredity
& wanted to see the Horsley
papers, so that I have sent
it to him.

The age & sex paper I sent
to Karl Pearson & he thinks
"the increase of the ratio boys
"to girls with increased size"
"of family is clearly demonstrated"
But that the parental age & sex
of offspring needs fuller figures
than I give i.e. he wants the

figures in entered. But as I told
him a magazine would
publish them, & a scientific
society would not think it
worth while.

It seems to me a case of
my giving the data in a short
paper & (Like Krönig) he
furnishing a note. As he will
not collaborate, as I have offered
to, & I certainly do not feel
inclined after all my work
to hand him over the data,
with the time I have found
they take, to write about
simply under his own name.

Nature arrived with Burke

& I was exceedingly interested
in Borzoi hounds, if I could
get "age & sex" & "heiresses" published
& off my hands, nothing would
please me better than to continue
the enquiry in other directions.

Had I known you wanted data
for the problem I should have
recommended the Greyhound,
the Hackney, & The Stud Book.
As I fancy they might give
some data which would be
useful: But, as above, I must
get rid of the other two papers
of mine. It is so depressing
working away all one's leisure
& showing nothing.

Yours sincerely

F. Howard Collins

f179c

Howard Collins.

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Oct 22nd
1897.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Dear Mr Galton:

Five minutes before I saw this week's Nature I decided to write you about an investigation I have long had in my mind & which your "Basset hound" has stirred up into a Germinative state.

Decided for two reasons to let you know (1) that you might

not be an very track (2) vice versa.

My plans are all thought out & everything ready for a start & I have the books but nothing commenced absolutely yet. The idea is to tabulate some 5,000 greyhounds & see how the colour works out with them, they are not so interbred as the Bassetts & not like the horses, all the produce of a few sires.

What say you to the idea?

My object is to prove a disprove, Dana preponderance: what you have to say put on one side, altho' so many things - from finger prints upwards - seem to point to a small per centage of Dana preponderancy.

I wonder whether you have found time to open your Burke & see my remarks about "Heiresses" - my own paper is lying idle so far.

Trusting you have fairly
recovered

Yours sincerely

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Such a nice letter came from Venus about the N.S. [illegible] yesterday. F.G.

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Howard Oct 26 -

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Dear Mr Galton:

many thanks for your suggestion about greyhounds which I shall hope shortly to carry out.

The only point which I should feel inclined possibly to think twice about, is the one as to "[illegible]ruthlessly"; or not, carrying the thing out to the bitter end. From what Karl Pearson has done lately it seems to me whether heredity has not now arrived at that stage which may be described

as working up the "Decimal
family" part of the subject.
In other words – as I say in my
letter I where – for some 3 or
4 months I have been looking
all round the subject & shed
books etc. & feel very much
inclined to enhaustively analyse
them as far as possible, & in
every way to see whether some
good may not result. Beginning
say with horses, passing on to
dogs & so forth. Eventually
hoping that the whole of the
shed booked animal Kingdom
would give us some really good

generalizations which taken
from so broad a basis would
useful consideration by mass
if nothing else. Personally I
strongly believe that this default
of books dealing with the subject
might repay investigation. It
would be exceedingly laborious, I
know, but almost all other
ground has been tilled, & would
it not be worthwhile for a
"despised amateur" like myself
to work it - to gather the bricks,
while K.P. (a 7 Q!) might build
some houses with them for the
multitude to admire?

Already are a few curious
things have turned up from
Horses & mares, worth possible
publication when developed.

By the way, talking of publications, reminds me that W.F.R. Weldon, with or without K. Pearson's "story" recommendation has offered to, & is going, communicate my paper on "Age & Sex in Offspring" to the Royal Society. Venn also speaks well of it. I hope if you are referee for the Proceedings R.S. in this matter, that you will honestly be able to pass it, as it will give me an impression of great services in future investigations: & this is really what I believe I want it published for more than anything!

You know my sympathy in that fearful cleansing of Augean stables — even I get a lot of papers — & what a business it is. Do not hurry about hearing!

Yours F.G.

F185r

Collins

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Dec 2nd
97

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

My dear Mr Galton:

Your kind letter was handed to me just as I was in the midst of "passing for the Vet" - shall we say - 5000. horses which were at that moment praying on my library table.

I am more than sorry that you do not feel inclined to finish heredity, as I have not the least doubt that you would find the cause of you

very high faculty for them to be originated by omitting those who had none or only one in family: I noticed that you overlooked several in the pages from which you had extracted, which only I read thro' Doubtless from the cause that the eye runs unconsciously to those nice short lines of entries of families, unless one makes up ones mind forcibly to read every single line of the text.

What do you say to get a

reliable person to read every
line of the pages from where
you began to where you
finished, & to note down
all cases of heiress marriages
in that part of Burke? I
am so sure of the result,
that merely to satisfy
myself, I will willingly
pay his "scrase" to do this:
I so dislike leaving a loaf
half-baked.

Many thanks for offering
the advanced proof – I do so
hope that it will deal
with the work I am at
present engaged on, it sounds
very ominous! The 5000

horses will be finished in
a day or so (there only remains
some hundreds that will
entail special reference) so
far as regards age of Sire,
age of Dam & age of foal at all
date of foal's birth: a combination
to fail to see if age does
affect sex in the vegetal
eaters, as well as (?) in man (?)
added to this I have the
colour of each of the 5000 foals.
which when time serves I
am going to add the colour
of the two parents in each case.
But this will be a long
business & I fancy entail

F.183

Howard Collins

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Oct 27 [illegible]

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Dear Mr Galton:

I would not trouble you with another letter but for my stupidity! I really must express how deeply grateful you have made me by pointing out that ~~the~~ blunder: the result of working a lot of ratios one way so that I did not alter the way with another problem!

What made me say
"Excessive" disproportion was
that when writing I had in
my head the number of boys
born in excess of girls.

With all your pressure work
it seems time now how selfish
it was to write that last
letter to you. Please don't
answer it, & my conscience
will be more easy than it
has been since!

Yours sincerely

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Dec 2/97. 1155r

2

me employing a reader at the Brit. Mus. a buying so many stud books that the former will be the cheaper plan.

I enclose the result, quite preliminary, of another little thing on hand which will doubtless interest you. It is only a question of time to get thousands of greyhounds as contrasted with the hundreds of the Basset hounds, & the result cannot fail to be interesting. Especially as I intend to "go for" an analysis

in each case to show whether
fries & dams exert any
different effects in any way of
colour.

There is another research of
my sheep which will be
I think more better to show
this, but there has been no
time to do more than think
how good the result ought to
be!!

I shall be in London on
Dec 11th for a big dinner to the Secretary of the Zoological but unfortunately
only for a few days, & so not
be able to hear your paper at
the R.S.

Spencer's Portrait! Well I can hardly write about it, after spending six months, & the whole of my leisure during that time, in getting subscriptions from all over Europe, & now Spencer won't sit. Herkomer, & dear Sir Joseph Hooker (his acquaintance is the one bright spot in the whole affair) are all their wits end: Everybody concerned has done everything possible, but he won't won't. won't & there the matter ends at present. He is too annoying for words. As the costermonger said when his cauliflowers

, when the axle broke, fell into the mud "Their ain't no weird for it."

I hope you will let me know as the work you decide to go on with, for it seems highly probable with shd books in the air that we may be travelling along the same road - you in a four in hand, & on a

Thanks pony -

Yours sincerely

F. Howard Collins.

F171r

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

2

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

I will do anything to help
in this matter, as it
ought to be solved, that lies
in my power: but I cannot
see my way.

I am sorry you don't
like the "Age" paper,
it struck me as very
clear, & the anomaly
mentioned as likely to
throw light on some other
cases influencing sex, &

undoubtedly there ~~is~~ more than one.

Karl Pearson's "very small" correlation in that connection, is not news to me, but the cause is psychological & not biological, I feel sure. As I caused some enquiries to be made, by a man who does a large midwifery practice, the

I gave me three instances
from one morning's enquiries
~~two~~ of which I distinctly
remember. One woman
who he was attending said
she intended to have as
many children as her
parents, she had three only
3. & they had had 7, & she
intended to have four
more.

Another woman on the
same morning told him that
as "this one" now made 3
she should not have more
as her parents had had only 3.

Thanks for your inquiries about the Spencer Portrait Fund. In strict confidence I may say that we have £513 out of the £630 which is Herkomer's fee. Alas Spencer's health has been so low for months that not even now has a single sitting been given. Sir Joseph Hooker – who has borne the greatest share of the labour – is almost in despair about ever getting the thing completed.

Yours sincerely

F. Howard Collins.

P.S. A possible cause for very different results to mine seems to be possible if, in turning over Burke you waited until your eye caught sight of the familiar lines one after the other of a family, & then turned to see if the parents answered to the description wanted.

In my own case I read thro' from each one to the next, & took very one which answered the description, no matter what the size of the family was, or if there were more.

F.A.C.

F186

		Dogs		Bitches	
Same as both parents.		20		7 (sic)	
———	Sire	29	76	30	69
———	Dam	26		32	
Different		70		71	
		145		140	

Bitches

Sire	bk	♂	R	
bk	(10)	2	2	14
♂	6	(5)	3	12
R	2	8	(11)	21
	18	13	16	(24)

Dogs

Sires	bk	♂	R	
bk	(13)	3	2	18
♂	1	(4)	3	8
R	2	3	(16)	21
	16	10	21	(33)

Bitches

Dam	bk	♂	R	
bk	(8)	3	3	14
♂	1	(5)	4	10
R	1	5	(6)	12
	10	13	13	(19)

Dogs

Dams	bk	♂	R	
bk	(9)	2	2	13
♂	3	(4)	0	7
R	3	1	(10)	15
	15	7	13	(24)

Greyhounds

F. Howard Collins

1897.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

f187r

+Collins

X

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Dec 8th

97.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Dear Mr Galton:

a remark in
one your books has often
occurred to me recently "that
when a man is forty he gets
some idea of his faculties &
their powers" — a ought to!

Now I know perfectly
well that I can't generalize
mathematically, but can
collect & arrange data — can

"bottle-work" in fact. I also know that you can generalize Math I, & that it is a work of time to arrange data.

Hence would it not be a gain for us both to work together on the leaves?

I should only be too delighted if we could - what say you?

Can you tell me of any authority in England on the rearing of silkworms: one who

would be able to carry out experiments if I desired it, but he shared also your habits.

—

Strangely enough with your letter came one from Horsbrugh saying he is going to commence the portrait at last. The method, Spencer writes me, is to be photo-ing is bad as a basis!

Yours sincerely

F. Howard Collins.

P.S. could you lunch with me at the Savile at 1.0. on Sunday next & we could talk over horses etc? for

14.VI.98

f.191

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

2

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

would probably be able to
give you strips a few
inches square of each of the
colours if you are not
familiar with the shades,
& doubtless you can think
of some one better.

Let me know if I can
help you further. If you
are writing about the matter
perhaps I had better see a
copy before publication: I

F.191v

should be more interested
to read it if for no other
purpose.

I am so glad you
like the Portrait. It seems
to me excellent both then
& now as artist.

Yours sincerely
F. Howard Collins.

P.S. Pale Hookbrochure
bought for £1.

Collins

1895

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

14. VI. 95.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Dear Mr. Galton:

"How does it strike me?" Very favourably. BUT. "colour of hair according to a defined scale of colours" is not near enough. Where is the standard unit of hair to be cut from? For you can get practically any colour from some single horses, & from every horse

so many shades that
you will have to work
this matter out a little
more before considering
it settled. Of course, if
you simply take a lock
of hair from one place
it will not equal in
value a lock of hair
made up of one hair
from each sq. inch of
surface: but this composite
hair-ography would be worse

to work than photos!

Roughly speaking there are only about ~~half~~ a dozen shades of horse colour each of which is noted in the stud books.

- Black
- × Grey
- × Chestnut
- × Bay
- White
- × Brown
- Roan

Cream Colour

colloquially but rarely stud-book-ically, those marked with a cross are sub-divided into "lights" & "darks" e.g. a light grey. a dark grey.

You will learn ~~more~~ to get on much better if you can simplify your colour scheme

into a classification with
these subdivisions & more
others. You will get these
correctly given, for every one
knows them, & if you
try for more will assuredly
fail.

You cannot possibly
work a true colour-scheme
because (vide supra) every
horse-coat & hair colour
has so many shades.
Like the photos you must
simplify as far as possible

Rowland Ward of Piccadilly

Collins

E192

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Dec 12 85

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Mr Galton:

The enclosed letter has just come, & you may imagine how cheering it is after spending 12 months of all one's leisure on the task, & this being - to add insult as it were to injury - my third day in the house with a bad cold!

would you be so very
good as to refer to your
Offer of some months
back, & some time or
other, when disengaged,
have a look at the total
sheets which I prepared
for London on his own
plan?

Yours
F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

P.S. I ought to add the authorities
say that colour is not a factor
in selection of suffixes, only force.

f.194r

Collins

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

Dec 14th

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Mr. Galton:

warm sympathy
from a fellow sufferer!

So far as I have been
able to see good looks about
-324-
greyhounds they all agree
that colour is not a factor
in selection of whelps. Greyhounds
are not selected for looks, but
to catch hares, hence form-
which is peculiarly correlated to agility-
is the crucial thing & not
colour.

It struck me that three
a few of the best books
appearing that such is the
case would be almost
more satisfactory than
individual opinions which
would not be published, &
hence might not carry the
same weight. I thought
"Stonehenge" & the other books
might conveniently be
generalized under the title
"Authorities".

f.195

and now to your "(2)" —
analysis of hair pigment —
I discussed this with
Haldane, & neither of us could
see how one could do it.
Could it be done something
might be learnt, but if
it cannot ? ? ?

I have thought about
this matter a great deal
but cannot feel my way
thro it. at all.

Perhaps the best thing
will be to make some
enquiries among st breeders

as to what whelps are demolished, & if anything results I shall be most grateful to keep your very kind offer in mind of looking at my papers.

I worked out yesterday what seemed to me a most curious result as on the enclosed: notice the peculiar increase of the ratio of pure colour e.g. (all black) to mixed colour e.g. (black + white) do not trouble to return it to-

yours

F. Howard Collins.

f.196

Number of whelps of Pure & mixed colour in each size of litter as tabulated from third books.

Size of litter	Pure Colour	mixed colour	P/m.	
1	180	167	1·08	
2	182	136	1·34	
3	185	121	1·53	
4	199	129	1·54	
5	161	101	1·60	
6	102	54	1·90	
7.	73	46	1·59	×
8	76	23	3·30	
9	34	11	3·09	
10	16	4	4·	
11	5	6		
12	11	13		
13	12	1		
14	6	8		
	34	28	1·21	

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Collins

f.197r

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

21. VII. 1.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Mr Galton:

I have often & often thought during the past many months how you are, & what you may be doing, but lack of energy has compelled me to diminish my writing so much that I have not sent a letter.

Now, however, that I am at home again, & your name appears on the Biometrica circular which Karl Pearson sent me, I must break the ice.

Possibly you may care to hear

how the pleurisy has left me, I may be so good as to make a suggestion how to employ my time.

Well, I have one lung in working order, but the other is so tied down by adhesions that its functions practically nil. The ~~fearful~~ result is that my breathing is very trying at times, & trying at all times. I can walk two miles an hour on the level, but hills & stairs are to be circumvented where possible.

My time in the house is spent in an arm chair, leaning more or less back, as I can't sit at a table without effort

doing anything such as
writing as well, the microscope
& what not. (I am writing in my bed too.)
The problem is, to do something
that may be of use to somebody,
while sitting in an arm chair!!!
I have no energy to do much,
but possibly if I could find
a congenial occupation, not
wasting too much "intelligent
common sense" (my mind seems
all asleep) it might give interest
& strength to do it.

Did you see Arthur Hinks's article in the Ninth suggesting the measurement of astronomical photo. plates? That seemed about the kind of thing, but then alas I can't sit up at a table!

Reading proof sheets for friends seems the only thing, but then they might not care for my suggestions.

I spent 12 months at Torquay & am here just while the weather suits, but shall have to return as summer sets on.

I should be very delighted to have a letter from you & learn that you are at least enjoying life.

Yours ever

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

P.S. I had a cheering report of Spencer's health lately: he has been so kind during my illness, quite human in fact!

F.H.C.

Congratulations upon the Huxley medal.
F.G.M. 1899.

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

25. VII. 1.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

My dear Mr Galton.

a thousand
& more thanks for your kind
& genial letter: it cheered me
up more than any one I
have had for many months.
It is so delightful to think
that I can be of any use to
anybody — even the slightest.

Now to your letter:— No.
alas! not. The Drs who saw me
thro my illness now admit
that the pleuritic adhesions have
arrived for good & all, & that

consequently I shall never breathe better than now. This sounds cheerful, but I have seen it coming on for so long that the final verdict didn't affect me at all.

Please do, by all means, send me the Proofs to look at. Nothing would give me greater pleasure. I assume you want me to make mention of any things that seem to me capable of improvement, as I used to do?

It shall be quite private & confidential.

f200r

Illegitimacy was the title of the small book by Dr. Leffingwell, & it is published by Swan, Sonnenschein & Co. at the price of 2/6. I have tried to find my copy to send to you, but can't.

Very sorry to hear of your cab accident: but like an old traveller you seem to have taken it coolly. Tell Gaffey(?) I hope he is none the worse.

What a pity it is that the hearing apparatus seems constructed in such a way as not to last equally with the other sense apparatus,

It must be a great draw back to you — & to the Com.ee — not to be able to join in consultations & so forth.

Since my illness I have seen no reference as to how foreign prints are progressing — English prints etc. are they still being used satisfactorily? (I still feel an interest you see in my old hobbies).

Karl Pearson suggests this morning! that I should tabulate some coal colours ghosts for hereditary purposes, part of which he had & long wished them finished — I may try them. Yours

F. Horsley Collins.

f201

answered aug 14. 1901

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

10. 8. 1.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Dear Mr. Galton:

I hope you had an very enjoyable time on the Cornish roads.

I shall also be very interested to go thro' your lecture when the time comes.

What a splendid triumph about the finger prints! I am so glad you told me, for I have seen nothing about them for so long, & it is always having a "cousinly" interest in them, if yours be a "fatherly" one.

I shall much like to know
which of the two systems
works out best: pour old
Berthillons if the prints come
out top!

— I am afraid I cannot help
you about workpeople, for the
following reason, but pray
tell me if I am mistaken
& how I can then be of assistance,
& I will then do my best, as
you know:—

The reason is this, that
our workpeople all work
at "piece work", & have no

regular weekly wages (always
paid on Friday). We pay for
instance 20 men, for having
done so much work, & each
man employs himself — we
have nothing to do with this
sub-contracting — as many
"underhands" as he finds he
wants for the work in hand. E.g.
One workman averages £2 to £10
a week but his "team" will
leave him but £2 or £3 after their
wages are paid. another, averages
say a £1. a week but he takes it
all for he works by himself: is
in fact a blacksmith.
I ought to add that this I have
often seen of "our" workmen: I have been
compelled to leave the business on account
of health, & my father only has it
now.

F202v

"Hints to Travellers".

Have you ever heard the accuracy of table VIII (Ed. 1889 - page 250) questioned?

For at Campbelltown on June 21st H.M.S. Calliope "made" Green sch at 9.5 (by ~~firing the gun~~ striking flags etc) while according to Hints, it ought to have been for Lab. 5°-6°, 8h 33m to 40m. Was the ship "at sea" as the table?

Yours truly

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Princess Helena College, Ealing. Illustrated throughout. 1s.

Hand and Eye Training. By GEORGE RICKS, B.Sc.(Lond.); and JOSEPH VAUGHAN. Freely and graphically illustrated. Vol. I., Designing with Coloured Papers, 2s.; Vol. II., Designing in Cardboard, 2s.; Vol. III., Colourwork and Design, 3s.

Hand and Eye Training. By G. RICKS, B.Sc. Two Vols., with Sixteen Pages of Coloured Plates in each Vol. Crown 4to, 6s. each.

* **Curve Templates, Reversible, Homogeneous, Scaled.**

By Professor ROBERT H. SMITH. Consisting of a set of 23 Templates, giving all Curvatures between 0 and 18 feet radius and all shapes from ¼ inch to 6 inch variation of radius per inch arc. With Explanatory Pamphlet. 10s, 6d. the set.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
f. 203

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

15. 8.1.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Dear Mr Galton:

Many thanks, it does not tire me at all, but gives some interest to a somewhat dreary existence to go into the details of your scheme.

But alas! I can't help you with data from our own business for two reasons the force of which you will at once see.

(1) as I said in my last, the foremen earn so much per week part of which is distributed to their respective underhands, But what they work for themselves - what they

"make" — they kept as the most inviolable secret, & no one except themselves knows.

(II) So many do not have an "equal start in life", for in an old business such as ours, Father's bring up their sons in many, many cases & this is an acknowledged advantage of much worth. In a few years the son becomes a foreman, whereas if he were not the son this promotion would be longer delayed.

III Another reason has occured as I read & reply to your ~~note~~ question "what proportion of them

attain the higher grades? The underhands being solely under the foremen, & we having no record of their number (when beyond factory act age) it would be impossible to strike. They are too migratory in fact to follow closely.

Ch. Booth is quite right as to "standard wages". The Engineers for example is 1 Oldham 36/- a week, Carpenters & Joiners 36/- for all. & so on. Where the Trade Unions hold sway they always aim at getting "standard wages".

To get what you want, where I in your position, I should write to such firms, as Armstrong, Whitehill, Newcastle where the Standard

of engineering would hold. J. & P.
Coats of Paisley for cotton.
Stuntz & Palmer I am told
are also very obliging; as are
Simiers of Dublin, & Bass
of Burton.

The many thousands employed
in each of these works would
be a foundation for data
worth having!

"Effective ability & wages go
pretty closely together?" will
my answer to this would be
that formerly they went
much more closely together
than now. It being the one
object of Trade Unions to bring
all to one level as may say.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

F.206c
UNIVERSITY COLLEGE LONDON
GALTON PAPERS

CHURCHFIELD,
EDGBASTON,
BIRMINGHAM.

2

Do you ever want templates for drawing curves, such as the old fashioned "French curves," "ship curves & flues" &c. ?

If so, I would strongly advise you to look at one of the most ingenious developments I have seen for a long time, & which came home last night, & really quite pleased me. I enclose an advert. of it, They are published by Cassell & Co. & you doubtless

could see them in some London booksellers. I could send you mine, if there is any trouble, but travelling in the paper box which contains them would not be very good for their constitutions!

I am surprised at your being pained with a bad pen! why don't you buy a Swan pen at their shop at the bottom of

the quadrant = Regent St.
they cost from 10/6. & will
wear for years & years. The
one I am writing with I have
had <u>six years</u>, & the one before
– lost: the alps climbing —
had been my constant
companion for <u>7 years</u>!

It saves so much trouble
to carry the ink in the handle.

Yours

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Collins

f.208

IDDESLEIGH,
TORQUAY.

23. 10. 1.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

My dear Mr. Galton:

a thousand thanks for the immense pleasure & interest you have found me! greater than any I have had for years.

Some of your paragraphs were very hard "nuts to crack" — in fact I could not crack them all as you see by my pencil notes.

If there is time, & you adopt a sufficiency of my suggestions to make it worth while, how would it be to have the worst pages — if not all — re-typewritten. If you would like I should be delighted to run

the fair copy again.

What a "cross to bark" you have given the "natural Selectionists": Grant Allen once wrote a chapter on the wisdom of letting instinct in this matter, have free play, & it would interest you to see it. I regret not being able give you the reference, but possibly Tedder at the Athenaeum could.

When you read the type-written paper I am returning, I would suggest putting a sheet of white paper under the leaf as you read it, it makes it much pleasanter to read.

As all my writing is now done in an armchair & on a

desk which might be more rigid. I hope you will excuse the drunken appearance of some of the suggestions.

I have done my best, & with apologies for the many alterations made, will ask you to forgive

Yours

F. Howard Collins.

PS. A lady called yesterday & seeing your address on the table said her father lived at 42 Buttondale for years!!! Burnand was her name before marriage to Brotherly.

Collins 1210

IDDESLEIGH,
TORQUAY.

25. 10. 1.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

My dear Mr Galton:

But alas!

"Honour to whom honour is due"
That "indistinguishable" correction
was in pencil when the paper came
to me! If I inked it in with
my other suggestions - ~~&~~ I quite
forgot whether I did - it was due
to the great hurry I was in at the
time. I am so glad you
"spotted" it as I ought to have done.

I am very pleased to have
been of some use.

What a man you are to be
envied - "another nice bit of work!"

& we poor fellows have to go grubbing along without them!

Yes, I am well out of this weather here. Some days this week have simply been pure summer, & others only showery. No overcoat, & thin clothes, quite enough until 5 at night when the former is "nice".

I am wearing summer things & underclothes still.

"Youthful promise & adult performance" - what a splendid idea to work at. It should be most prolific, if one could only see the way to attack it. It made my mouth water at the very thought of such an intellectual gold mine

Yours

F. Howard Collins.

F212

F H. Collear 1902

IDDESLEIGH,
TORQUAY.

28. IV. 2.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

My dear Mr Galton:

I should have written in answer to your kind postcard before, but all my energy has been taken up in correspondence with people about my idea of a ~~stick~~ Stand and set of Rules for printing.

It is going down much better than one could have hoped, & there seems to be a very general desire to get something of this kind done.

I have got proofs out of letter A. which runs to 88 columns of large octavo, so you see that it will be a bigish undertaking if I can carry it out thro to Z.

150 copies of this = proof are out, & being pulled about by various of the learned ones from Herbert Spencer & Prof Sheat & Henry Bradley downwards.

COLLEGE LONDON
GALTON
PAPERS

It would be a rare treat for a "generalizing" mind to have to coordinate the answers! I should have sent you a copy but fancy it is hardly in your line?

I am so sorry you speak of

"relapses." Have you been seriously unwell then? I am afraid diminished power of work rather points that way. However you ought to be glad to be where you are, as for the last few weeks here the weather has been trying: although I can hardly say bad. East wind & sudden changes are not a balm to the invalid a story!

As for myself I am afraid the pleuritic adhesions have steadied the wrong way. The last time I was sounded the Dr. said no alteration whatever took place in the lung only a little air entered some of the tubes.

And the last few months, the extra strain this entails on the heart is making it somewhat sensitive: I find it more comforting to drive up hills now than to walk up frequently.

However I have very much to be thankful for. I can lean back in an arm chair & write on a desk in front in comfort, & thus am able to get thro an amount of writing that quite astonishes Spencer.

I do so hope you have nice & cheerful society, & that when you return you will be "a power at work": as I know there you please her.

Yours

F. Howard Collins

F. H. Collins

F215.

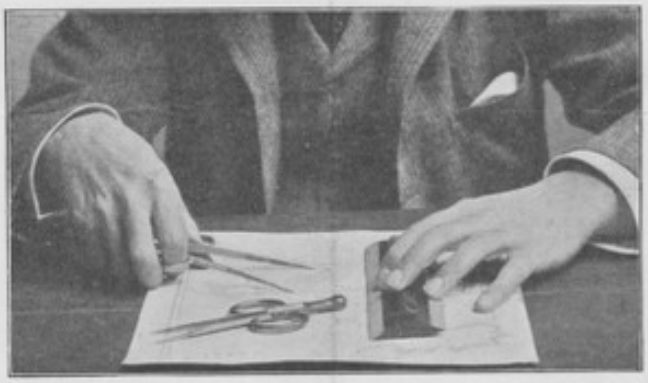
SINGLE-HANDED DIVIDERS.

(F. HOWARD COLLINS'S PATENT.)

No. 13999.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

SPECIALLY DESIGNED FOR NAVIGATORS.



THE advantages of these Single-handed Dividers are that they can be picked up from the table by one hand alone, and the legs opened or closed by the finger and thumb of the same hand, without any other assistance whatever.

They can, in fact, be used as easily as an ordinary pair of scissors, to which they bear some general resemblance.

Navigators are thus enabled to work, and retain in position, the parallel ruler with one hand, while distances are being measured with the other. It is needless to say that this enables much time to be saved in laying off courses and distances, a matter for consideration in these days of steamers travelling a mile in less than two-and-a-half minutes.

When so desired these Dividers can be used with both hands, as the ordinary pairs.

The joint itself is of an entirely new form, being made a round ball. This is found to be a great advantage, and the best form, for rolling between the thumb and fore-finger when "stepping" distances; as for instance, in measuring fifty miles by the legs being set to ten miles of the chart scale.

These Dividers are made in German-silver by the best London makers—W. F. STANLEY & Co.—price 7/6 per pair in cardboard box, and with special cleat and screws for fixing to the chart-room bulk-head to hold them when not in use.

Anyone who can use a pair of scissors for cutting can just as easily use these Dividers for measuring.

SOLE AGENT

J. D. POTTER,

Admiralty Agent,

145 MINORIES, LONDON, E.

. . . Will walk from Station at Three
Station forty
Will coming today to tea, meeting at Station
3 40 & walking Home.

Collins
F.215

IDDESLEIGH,
TORQUAY.

17. V. 3.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Dear Mr Galton:

I am writing to you some rather sorrowful news, thinking that it may be kinder to do so, rather than later on, for you to gather from the papers quite unexpectedly.

The Dr attending Herbert Spencer has written to me to say that there is very little hope of his lasting much longer: he may in fact pass

away at any moment.
His mind has been wonderfully
clear up to the last few days,
but the whole of Friday night was
passed in a state of delirium, &
I fancy he is now becoming
somewhat "curious" at times.

He would seem to be suffering
needlessly, for his old instinct
of opposition to authority leads
him to do nothing the Drs
recommend!

I hope you are in good
health, as I see you have been designing
what was much wanted (in nature.)

Yours

F. Howard Collins

F. H. Colyer

F.217

Spencer is still casting out, but strange in mind & evidently in general discomfort

IDDESLEIGH, at least if not pain. he has
TORQUAY. 19. V. 3.

F.H.C. now developed bed sores.

My dear Galton:

I am so pleased to hear of the discovery of the fons et origo mali, & to learn that you are really enjoying better health now. It seems to have originated in a gratification - fever - kind of way.

I wonder whether you have ever thought of yachting? an absolutely dustless atmosphere as one gets on deck is perfect for me, and I should adore it, were it economically possible. Both this brings me unconsciously to

What a horrid letter. Why its all about myself! I'll do better next time!

answer your kind question.
I am practically about as I was.
always ride up hill, & go very
slowly up stairs, have to write
leaning back in an arm-chair,
& can walk about 2 m. per
hour, for an hour, the slightest
increase of pace, literally makes
me gasp for breath, & almost-
sometimes quite- speechless. So
long as I stay here, I am in no
pain so have a great deal to be
thankful for: otherwise, my left
lung, the sound one, begins to ache.
I have absolutely no stamina, &
notice a marked decrease in what
you used to call so well my
"intelligent common-sense": there is
a distressing lack of "grip", due perhaps
in some way from not having breath
enough for long conversations. I cannot-

have any friends to stop with
me, as talking for an hour,
however quietly is quite too
much.

Fortunately I can spend a
lot of time (3 hours a day) compiling "Rules"
for authors, so that prevents suggestion
ennui. – You will see from enclosed
I have got to 7. & the number
of authorities I read for each letter
amounts now to over 50!

Yes, by all means, send
anything you would care for
me to see & look over. It
will remind me of the pleasant
time I once worked under you,
& make me think that I
am not quite so useless a

UNIVERSITY CO
GAL
PAP

dull dog as I really am.

Do not send anything by the boy which necessitates sitting upright, or at a table, as seven minutes in that position is about all I can do.

Re S. or proof reading, I like as much as ever, but I don't do it even so well as previously -

It was quite delightful to get your letter. By the way. Sir Joseph Hooker wrote by same post, saying that he thought of going to Harrogate (I suggested it) to try the waters for eczema - both hands bound up - & I said I would ask you to let him know the best Dr there as I fancy you or your man Giffi would know. His address is The Camp, Sunningdale Berks - as you probably are aware. Yours very sincerely

F. Howard Collins.

OLLEGE LONDON
LTON
PERS

F220

Each of these parts are read in proof by more than 40 correspondents, whose opinions I then collate.
F.H.C.

Rules for Authors Editors Correctors of the Preſs Compositors & Typiſts with full liſt of Abbreviations

AN ATTEMPT TO CODIFY THE BEST TYPOGRAPHICAL PRACTICES OF THE PRESENT DAY

BY

F. HOWARD COLLINS

AUTHOR OF "AN EPITOME OF THE SYNTHETIC PHILOSOPHY OF HERBERT SPENCER"

A Development of
The Oxford "Rules for Compositors and Readers," and of the Correspondence resulting from F. H. C.'s Article in "The Author" of January, 1902

Part VI:

Letter F

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

F221

AUTHORITIES CONSULTED

"American Dictionary of Printing and Bookmaking."
"The Century Dictionary."
"Chambers's Encyclopædia."
"Chess Player's Pocket Book." James Mortimer.
"Chicago Stylebook."
"Correct Composition." Theodore L. De Vinne.
"Cyclopædia of Names. B. E. Smith."
"Dictionnaire Complet de la Langue Française." P. Larousse.
"Dictionary of the English and German Languages." Flügel-Schmidt-Tanger.
"Dictionary of Medicine." R. Quain.
" " " Music and Musicians." Sir George Grove.
" " " Surgery." Christopher Heath.
"Encyclopædia Britannica."
"French Idioms and Proverbs." De V. Payen-Payne.
"Handbook of Punctuation." M. T. Bigelow.
"Lexicon." New Sydenham Society.
"Notes." London Association of Correctors of the Press.
"Oxford English Dictionary." J. A. H. Murray and H. Bradley.
"Post Office Guide." Official.
"Printers' Vocabulary." C. T. Jacobi.
"Reader's Handbook." E. C. Brewer.
"Some Notes on Books and Printing." C. T. Jacobi.
"Standard Dictionary." Funk & Wagnalls Company.
"Stanford Dictionary of Anglicised Words and Phrases." C. A. M. Fennell.
"Stops." Paul Allardyce.
"United States Board on Geographical Names—Second Report."

Also "the Rules of the House" of:—Ballantyne, Hanson & Co.; Chiswick Press; W. Clowes & Sons; Horace Hart (Clarendon Press); C. F. Hodgson & Son; Morrison & Gibb; Neill & Co.; Turnbull & Spears; Waterlow Bros. & Layton.

I should be glad to receive copies of any "Rules of the House" not mentioned in this list.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

F. H. Collins

F.222

IDDESLEIGH,
TORQUAY.

8. 11. 4.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Dear Mr Galton,

I was so glad to receive the "Index" from you this morning, which I have read thro with the greatest interest, & my only regret is, that my health being so indifferent I shall be unable to help you by getting some forms to fill up. As a matter of fact, my circle of acquaintances is much smaller now even than formerly, for I cannot go out to parties at all, & there don't seem to be

F.2230

in Torquay any people interested in ~~my~~ the kind of things which have so long attracted me.

I am able to spend about two hours a day "killing time" on a 400 ff. book of which I enclose a spare title. It has been on the stocks for more than three years! & all the time I can work has been spent on it during them. It ought to be coming out some months hence.

I do hope you are keeping as well as you can ~~hope~~ with. As I hear of dreadful weather in town, I shall not be surprised to learn that you are moving south again soon.

Be sure & send me any proofs that you would like me to read.

I was very sorry to see the
sad news about your sister—
was she the one who wrote that
excellent "guide to the unprotected",
a book which I have recommended
many: one only as late as
last Sunday!

I have not been able to
see a copy of the last no.
of "Biometrika" for neither the
London Library, nor the Linnean
society take it, Is there any
reference in "greyhound coat-colour
paper" to a mass of material
I worked up some years ago—
before my breakdown—I wonder?

UNIVERSITY
G
P

f224

Yours sincerely

F. Howard Collins.

COLLEGE LONDON
ALTON
APERS

P.S. Yours splendidly finger prints are working out! as I see by police reports every now & then.

F.H.C.

F 224

(Barrett) Collins

IDDESLEIGH,
TORQUAY.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

27. 11. 4.

My dear Galton,

What kind letter you do write! - many thanks for sending me another.

I have not had time yet to study the greyhound paper, for I am working, perhaps a little too hard, to try & finish my "writing" difficulty book at which I have spent 3-4 years already. I certainly am more than satisfied with the format of the greyhounds, & very glad that something has come of what cost me a great deal of work. So satisfied in fact that I am now making arrangements to give all my data on the age of parents

as related to the sex of their children
to Karl Pearson, to do whatever
he likes with. I feel sure that there
must be some connexion - how-
ever slight - between the two, &
shall be only too delighted to see it
thoroughly worked out. I am also working
to get some of the P.'s
schedules filled in here.

Yes, indeed you have all my
sympathy in your loss: your
poor sister seemed to me such
a very attractive personality, &
her thanks for the little I did
to the "pride" were so attractively
expressed that I have always felt
I should like to have done more.

May I make the offer to you,
that, should another edition of it
be coming out, I should feel it
not only a pleasure but an honour
to read thro it, so that I might
if possible further improve it?

now to the "Research fellow". How I wish
I had the ability to undertake it!
I should be thoroughly interested in
it. I am rather surprised that
you had difficulty in meeting
with a suitable man - may I help?

There is here a very nice fellow
who is a clerk in the "bill" depart.
of the House of Lords, so I read your
letter - the research fellow part - to
him & asked him whether he knew
of any one. His reply was, ah there
is no sec. to a parliamentary
committee, what Mr Galton means
is a parliamentary commission
secy. But they get about £600 a
year. However he has promised
to let me know if he can think of
any one suitable during the next
few days.

Now, the other string to my bow
is this. A Mr J. A. S. Barratt

has been reading the proofs of the book I am at work at for me gratuitously. And he has done this so extremely well (I do not exaggerate), & shown a real interest, & such a marked ability in doing it, that I feel he is capable of much better employment. I should say he would do "secretary" work most capably & well. BUT I know nothing of him personally, whether he may be presentable or not, has manners or no manners, be one you could work with or not, altho we have got on together admirably.

A few months ago he applied for the secretaryship of the Advocates Library in Edinburgh, & sent me a copy of his testimonials as I had written one very willingly for him. He missed the election altho he was in the last two or three only of a great number of applicants.

F.227

UNIVERSITY CO
GAL
PAP

IDDESLEIGH,
TORQUAY.

2

as I remembered some good names were many that who spoke well of him, on hearing from you I woke & said "if you are still not of a birth send me a copy of your testimonials, but don't expect anything will come from it; as I am only trying for you."

The testimonials came, & I am sending them on to you. Read Griffin's. & If the fellow seems at all what you want I should advise you to see Griffen & ask whether he has any "manners" & so forth, for G. evidently knows him personally, & I do not.

OLLEGE LONDON
LTON
PERS

Hayley-bright of the London Library
of course knows him, but they
did not talk together I fancy, of
course this is against Barratt, but
not so much as it might, I think,
be imagined. I know Wright, &
of course that he would not get on
with Everyone.

The point that is in favour
of Barratt to my mind is that he
can get interested in things. I am
sure he got on in my proofs, & they
are really the driest of the dry, & he
did them admirably, & most thoroughly.

Should the House of Lords clerk
think of anyone – I will write
you.

What an extraordinary way to
banish asthma! How thoroughly I
am clear it.

You'd better come to Torquay & banish bronchitis!

By the way, I have just heard that Lord Lister has taken a house here for the winter; quite near Ilderleigh – If you should meet him, would it do for you to say that I should be pleased to put him down at the local club – The Royal Torbay Yacht club – or do anything else I could, to render his stay more agreeable – you will understand I don't wish to offer even to "push" myself on such a man, however much I may admire his work.

Yours sincerely

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

F.229

Collins 29 Nov 1904

IDDESLEIGH,
TORQUAY.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

29. Nov. 4.

My dear Mr. Galton,

I am so glad that at last there is the chance of you getting that "very good man indeed" — I shall be interested to learn who the man is who is eventually selected.

I wish we could find something for Barrett; he is such an admirable, exact, & conscientious worker, he really deserves something.

How strange! I really did think that the H. of Lds man

F.230

was to be relied on in his own particular metier. And he brought out what I did for instruction, & as tho' it were well known to all those up in the matter.

Very sincerely yours

F. Howard Collins.

I often think of finger prints, & wonder whether you are satisfied with the way they have developed, & the use that is made of them.

F. G. C.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

f.229

f230

F.231

Howard Collins

IDDESLEIGH,
TORQUAY.

15. 1. 5.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

My dear Mr Galton,

I can honestly say that I am extremely pleased with the enclosed.

The only question it would raise about its is – who's it for? It is an excellent summary for those who know, & hence those who do not really need it.

As to those who do not know, it is much to epitomized to convince them, & even to make them realize how much there is behind what you say. In other

words, it would seem to me
to be very much worth while
making it double the length,
inserting more data upon which
your conclusions are founded, &
doing as it were more to establish
your conclusions. But I suppose
you have reasons for keeping it
so very short.

I have as usual made a
few notes - in this case of very
minor importance - as the whole
thing seems to me to go well.

Please examine that foot-note
on first page. There's something
wrong, or my memory is quite at
fault (it is very likely is.),
I seem to remember a definition

of Eugenics, as a science
dealing with it. Here you
seem to speak of it as a
complex of agencies.

If this definition is correct,
I would suggest that it might
be shortened somewhat – which
is always a good thing – definition –
How would this do?:
"Eugenics (deals with / treats of / is defined as): those
social agencies which influence
mentally, morally, & physically, the
racial qualities of future
generations."

Have you looked at Herbert
Spencer's "Descriptive Sociology" – His
connexion? I cannot help thinking
you would find something worth
noting.

Many thanks: I am at last doing the final proofs, & the "Author & Printer" ought to be coming out my next month - I wonder whether it will?

De la Rue gave me a dozen of the enclosed in return for all rights in it. People seem to be beginning to like it, so as you use glasses, I am sending one "with the wearer's compts" - you will I think find that it polishes the lenses better than most things: especially than a dirty pocket handkerchief!

Let me know when I can be of any assistance to you.

Yours sincerely

F. Howard Collins

P.S. Have Lord Lister & his wife returned home.

F.H.C.

F234

IDDESLEIGH,
TORQUAY.

28. 1. 5.

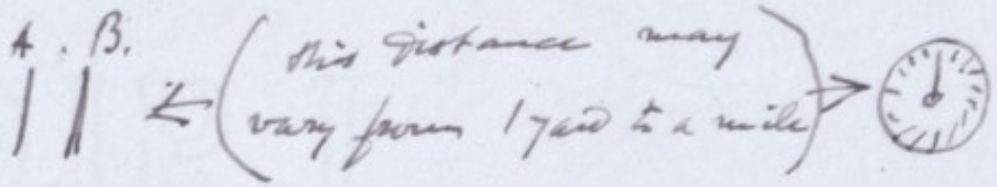
UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

My dear Mr. Galton,

For many months I have been trying to solve a mechanical problem, without success: at least I feel that there is & must be a better way.

Lying awake last night, the question came "why not ask Mr. Galton." - so here goes: but please do not trouble about it. If you already know the answer, I should be most grateful to have it. But don't trouble please.

The points is, suppose A & B are two metal plates, & C a finger



revolving round a dial, what I want, is so to connect the dial that as the distance between the plates decreases ~~the~~ the finger shall move say to the right, & vice-versa.

Two wires on a drum will serve to connect the two, but how is the best way to get the Electric current to actuate the dial & finger, as the plates approach or recede from one another?

It must be a reliable method, & are not easily damaged.

If you know of one – do send it to

Yours truly

F. Howard Collins

F. H. Collens

F.236

IDDESLEIGH,
TORQUAY.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

4. 8. 6.

My dear Mr. Galton,

as I have been preparing for a new edition of "A.P.", I thought I would turn thro the book, & see what cross references from "Type" would be needed to carry out your suggestion.

Here is the list which I have copied out for you to stick into your own copy - if it is to please you.

Is it worth printing all this in the new edition, as it would

mean running over onto
the next page of notes?

Herewith is a print of
my compass card, which you
may like to see.

I have written another letter
to "The Times" about it, offering
to send a print to any one who
is "seriously" interested in navig-
ation. & saying that Messrs
Kelvin & White – Lord Kelvin's firm –
will supply the cards appropriately
mounted for their patent
compasses, when ordered.

The concluding part of the letter,
in case it does not appear, may
interest you: –

"The advantages of working with
degrees, rather than points, has been
put so ably by my correspondent the

chief Hydrographer & the American
(b) Admiralty but I trust you will
allow me to add his views.

It would result in greater
accuracy in navigation in its
relation to the compass. Courses
would be laid in degrees & more
accurately noted, as the approx.
course - S.W. by W. 1/4 W. a little
westerly", for example would be
replaced by the exact course 240
degrees. [Thus saving much writing,
& hence reducing chance of error.
There could never be more than
three single figures for any course.
It would in fact be a system styled
shorthand]. Chances of error in the
application of deviation & variation would
be lessened as either would always be additive
or subtractive, depending on its direction.
Conversion of points into degrees & the
worst would be eliminated from the
problem. Boxing the compass would be
a matter of a few minutes instruction

to the layman of average intelligence.
all work in relation to the compass
would be facilitated).

The next point is, how to "push"
the card. I am getting 6 electros
made of an inch or so of the card, &
think of forwarding it to the nautical
papers for review.

Can you suggest any one who
is interested in this matter? the R.S.,
or R.G.S.? I gather that the English
Admiralty will not be troubled by
such an innovation!

Would it be of use to the Royal
Engineers? In fact any hints
will be most cordially welcomed
by — Yours &c

F. Howard Collins

I hope you are having good weather
& a nice time — the country

F.H.C.

F.239

F. H. Collins

IDDESLEIGH,
TORQUAY.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

9. 8. 6.

My dear Mr. Galton,

The reason the radial lines are omitted, is because in Lord Kelvin's compass cards, the whole of the interior of the card inside the peripheral divisions is cut away, so that the weight of the card may not only be as small as possible, but also be situated as far from the centre as it can be.

If you have never read Lord Kelvins essay on the compass, I feel so sure that

it would interest you, that I am sending his book with it in. Of its kind, I have always thought it one of the best things that I know.

No hurry to return it.

Many thanks for suggestions about R.G.S., U.S. distribution, & Soc. of Arts: as autumn approaches I will get something into shape for them: it is much too hot to do anything now!

Yours Ever

F. Howard Collins

F. H. Collins

F.241

IDDESLEIGH,
TORQUAY.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

24. 8. 6

My dear Mr. Galton,

I have delayed replying to your kind letter, until the enclosed proof came from the printer.

Would you be so good as to read it thro' & make any suggestions that may occur to you? Especially any additions.

The addition of degrees to compass cards is more or less recent, & only to 90° — each quadrant — not consecutively to 360°.

The demerit of the centesimal division is that you can't halve it, a quadrant – & still less a smaller Division – & still have whole numbers.

96 divisions would be much better for this purpose.

So glad you have a "proper machine" now.

Regarding the legibility of figures at a distance, that authority C. T. Jacobi (of the Chiswick Press) always holds that the old style figures are better than the modern. I wish you would try the two types herewith – which Jacobi sent me for compass work – the long heads & tails of the old style are I think a help.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

I shall be most delighted
to see you when you come
to Torquay — drop me a post
card so that I may not be
out by any chance.

I do so greatly regret
that my chest prevents me
asking you to stop a few
days with me, but an hour's
talk — specially if I have to
raise my voice — is all I
can manage, without complete
prostration from bad breathing.

Please give the enclosed
to Miss Biggs. You may say
that I designed it. So that
it should be distinctive to any
book-plate I had seen. The Ok.

was worked up & engraved by
Mr Sherborn, who has a reputation
for these things.

Yours

F. Howard Collins


F.255r
SOUTH KENSINGTON S.W.
SP 3 06
HALF PENNY
Francis Galton Esq. F.R.S.
Edgmead
Bovey Tracey
Devon
UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

F.245

IDDESLEIGH,
TORQUAY.

Would prints of foreign races be of use to you? I have just finished the last No. of "Living Races of Mankind" which has hundreds & thousands(?) of good blocks, & the thought struck me whether you would like me to send you the work: I should be glad to if only it were of service.

F. Howard Collins.

4.8.1906

F.246

IDDESLEIGH,
TORQUAY.

P.S.

It is curious – frigs prices have turned up again! There has been a jeweller's shop burgled to the extent of £1000 ±, I hear about it from my friend – a very nice young fellow – the superintendent of police. I have been able to teach a little about them !!!

F. A. C.

F. 244

7. H. Collens

IDDESLEIGH,
TORQUAY.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

29. 8. 6.

My dear Mr. Galton,

I am extremely obliged for all the trouble you have been so good as to take with the proof, & shall adopt all you suggest.

It is strange how you have dropped on the points which I felt were feeble & bad, & yet had not the ability to put them right, which you so kindly have done.

Many thanks for working

out the relative brevity: that was one of the points I felt to be weak.

I will try & get Col. Strange's paper in type as it will doubtless prove of use in other connexions.

I wonder whether you ever use a "drafting machine" - a sort of highly-developed mechanical drawing-board & tee square combined - I am designing one on a new - & me- principle. I should think these things would be of use in some of your work. You can see a sketch in (Stanley's Catalogue. (St. Turnstile W.C.)

f.245v

Till a few days ago I did not know there were such things.

Yours

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

F 247

J. H. Collins

IDDESLEIGH,
TORQUAY.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

4. 9. 06.

My dear Mr Galton,

I have packed up "Living Races" to await your return. Keep it as long as ever you like, & be sure to flatten the binding out, so that you have flat pages only to look at.

My mind is much occupied by your news about the anthropometric of android vacuum-chambers.

I wonder whether you have had any experience of Bourdon pressure gauges, which, so far as I have heard, seem to work well with pressures varying from one to two-hundred pounds on the square inch? You of course know the principle on which they work: a tube bent almost into a circle, then the pressure of fluid or steam inside it tends to straighten it, & thus actuates an index finger on a dial.

For sea-sounding, were it attached to a flexible drum, & the whole filled with say glycerine

the pressure would easily be recorded, & there would not be the extreme nicity required when vacuums are being dealt with.

If you think anything of this idea, it might be worth me writing to some authority on these gauges & find out their peculiarities, & what power the inder fuige could work for making electric connexions etc.

Is there such an authority, a expert. Has you know of?

I was delighted to see you yesterday, & thought it so

UNIVERSITY CO GAL PAP

f279

OLLEGE LONDON
LTON
PERS

Extremely kind of you to
come. How well you look!

Yours

F. Howard Collins.

F. H. Colleus

F.250

IDDESLEIGH,
TORQUAY.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

12.9.6.

My dear Mr. Galton.

By all means keep the book as long as ever it is of use.

The Secretary of the R.E. Institution, Chatham, is trying to find Strange's papers on the "Sensibility of Eyes". Major Boyle - late R.E. - very kindly gave me the necessary introduction.

You are at work at the similarities of human faces:

would it be of any use
to extend your enquiry to
~~all~~ animal faces? If so, there
is a book published "Living
Animals" it is a "sister" book
to "Living Races", & the blocks
– the few I have seen – are
excellent.

The deep-sea sounding
apparatus has a wonderful
interest & attraction for –

Yours

F. Howard Collins!

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

F.252

9.VI.7.

X Woodland Grove X
Torquay

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

My dear Mr Galton.

I do hope that by now the "slight accident" mentioned in "The Times" has passed off, & that you are now quite well again.

I shall very much like to read the lecture in full, when you have a copy to spare.

The rooms at this new address being fairly comfortable, it will probably be my home for some time to come — if one can call lodgings "home"!

I am sorry to say that my health won't pick up, as I should like it to. I seem no use for anything, except as a medium for entertaining colds & headaches. It gets quite depressing.

Yours

F. Howard Collins

Woodland Grove
~~IDDESLEIGH,~~
TORQUAY.

12.VI.7.

Howard Colleen

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

My dear Mr Galton.

a very
excellent address. One of the
best I have read, & I heartily
congratulate you upon it.

The next move is to get
one of your planets - if you
yourself are not inclined - to
expand those outlined lectures
into full & complete ones.
I really believe that would
do more to further Eugenics

than – well, anything I can think of.

I do hope the trip will do you good. Here, today, it is blowing a full gale, with rain squalls – utterly abominable & cold weather.

Yours ever

F. Howard Collins.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

P.S. as the lecture was before the University, would it not be a graceful compliment to put after F.R.S. (on title page) your hon. Ox. degree?

F.H.C.

Collins

F.256

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

WOODLAND GROVE,
TORQUAY.

24-X-7.

My dear Mr. Galton,

It was a real pleasure to see your handwriting once again, & to hear that you have found a haven of rest & suit your health: may it prove so & be so thro all the winter.

If unfortunately it does not, try Torquay!

Herewith is the article which will appear in the "Nautical magazine" which is read by officers in the mercantile marine.

I want it to be as clear as possible, so that they can understand it easily. Please do anything to it that strikes you: I send it written on alternate lines, so as to give plenty of room.

By all means keep the "Races of Mankind". I am so glad they are of use.

I am so interested in the development of your profile measuring to full face, that it often runs thro my mind how you will work it out! By the way, for the purposes of telegraphing, would it not be

a good thing to number the abscissae, & letter (a. b. c. etc) the ordinates? Then the letters or the numbers would mark off each single measure without possibly running all together if nothing but figures were used.

Yes. many thanks. I have been better lately. Since, in fact, a friend took me on his yacht for a fortnight. But alas all this year has been a poor one for me. And enclosed is really the only "work" I have been able to do.

F.258

I wonder whether the Admiralty in their "List of Lights" would be inclined to adopt this graphic method: Is Field the Hydrographer known to you? — is he an approachable official?

Yours truly
F. Howard Collins

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

No immediate hurry with enclosed.

F.H.C.

Collins

F.259

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

WOODLAND GROVE,
TORQUAY.

27. x. 7.

My dear Mr. Galton.

I am immensely grateful for your assistance, & am making a fair copy of your suggestions for the press- verb. sap.

I am using "segment," but "sector" would be quite well understood I think by navigators to whom it is a usual word, not quite geometrically defined, as you take it.

How too well I understand
the effect of the raw air in
Warwickshire! When I go
home, I have to stop in the
house from the time I arrive
till the time I leave. Once
only did I go out for ten
minutes, & it gave me such
intense pain in my chest
that I very soon returned: then
the Dr. told me I must return
here:

With a thousand thanks.

Yours

F. Howard Collins.

Torquay is splendid for bronchitis!

F. H. Collins

F.261

WOODLAND GROVE,
TORQUAY.

17. XI. 7.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

My dear Mr. Galton,

an intimate
friend of mine, who took honours
at Oxford, & holds a navigation
certificate from the Board of Trade,
& myself, are very interested
in trying to find out which
is wrong in a problem (theory or
practice) which we have before us.
and I have been ransacking
my brains - what is left of them -
& think who would be the best
authority to ask. Can you
without trouble after reading it,

tell me to whom to apply for an answer? Or, better still, if he be a friend of yours, could you pass this letter on to him?

We both want to "get at the bottom" of it.

A steamer with a screw propeller goes 10 ~~miles~~ knots, the tide runs say 2 knots, giving a total speed over the ground of 12 knots.

If she goes against the tide her speed is reduced of course to 8 knots. over the ground.

The engine in both cases giving the same number of revolutions, & not being altered in any way.

Now theory says that the

strain on the engine is = both cases the same, & therefore that it will work equally as well in either case.

Practice, on the contrary, says no! when going against the tide there is more strain on the engine.



Two engineers who could not see out of the engine room, could tell from the engine sound whether the vessel was going with or against the tide.

My friend & I have personally confirmed this, altho I would not believe it, & went an utter sceptic.

F.263

Now the point is, Can one clear this matter up by reference to any literature dealing with the matter? Can one get a proof either way, that we are both wrong & theory right, or vice versa? I don't really care which, but I do want to know!

With kindest wishes

yours ever

F. Howard Collins

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

F.264

Collins

WOODLAND GROVE,
TORQUAY.

18. III. 8.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

My dear Mr. Galton,

How exceedingly kind & helpful you always are to me!

I shall certainly follow out your plan of dancing to numbers in 10,000 for both mine & Knowles's.

Since writing to you, a suggestion has come that I should offer it to the Philological Society: but I should doubt if they could afford to print it.

without any real reason for such an opinion. I thought the R. Soc. of Literature was in rather a poor way — but I know nothing definite.

I am afraid my paper will run to too many pages to be welcomed by any society!

I am enclosing a few figures that have recently come out: they may interest you, I thought.

One question remains on- which I should value your opinion — Should I divide the 32,000 by the nearest whole number to give 10,000, or should I use the exact fraction for that?

yes

should I give as number of times a word occurs, the whole number and fraction, or when "decimal point 5" occurs give the next whole number: and when less, the next lowest number?

As for particulars about myself. I am much as usual - after a winter that was not one of my good ones, but hope to pick up with the warmer weather.

I did nothing about the tide effect on ships: my yachting friend returns from Egypt this week - so I may see to it again now.

The Mariner's compass is dead, so far as I can gather. If a change be adopted, altho the "thinking ones" all agree that it must come into use, perhaps when I am dead also. What a lot of work it would save! And yet I can see no way in which I can push it. It will be shown at the Franco-Brit. Exhibition however.

How very interesting your "Reminiscences" will be! Can I help in any way? I am led to make this offer, from the fact that poor Spencer even trusted me to read his "Auto." years before it was published. One condition being that when I was

WOODLAND GROVE,
TORQUAY.

not reading it, it was to be
kept under lock & key!

I should be so glad to
help in the revision: that is
the only part I could offer to do.

I am sending another
under
cover, an "Author's Handicap
Pad" for you to try how you
like it, as you are now doing
so much writing. They are
the greatest comfort to me. I
I buy them a dozen at a
time. I know of no paper

that the pen suits so well.

Try it. Even if you don't go on with it.

I wish you had sent me some good news as to the progress of the face-angle-formula idea. For its interest to me, & I should so like to see it perfected & ready for general use.

All my thanks for your help.

Yours truly

F. Howard Collins

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

WOODLAND GROVE,
TORQUAY.

22. III. 8.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

My dear Mr. Galton,

Very many thanks. I feel that I ought to have thought of that excellent reason for not using fractions, but the fact is I feel that I have been so engrossed with the trees themselves, that I cannot even now, see the wood for them.

I have adopted 3 per 10,000 as the minimum, as that will enable me to use Knowles's printed list, for which I am asking his permission today.

glad you like the pad.

If you tie a bit of string thro
the hole *before* you commence
writing, all your sheets of M.S.
come off in the right order, without
any re-arrangement; but doubtless
you ~~knew~~ have seen this.

Have you, in your various pens,
a "Waterman's Ideal"? I have
tried most of the fountain
pens, but this is far & away the
best. Very much better than a
"Swan" (which is so much adortised)
I am writing this with one I
have had in *constant* use for 4
years, & it goes better than ever,
and it wrote the *whole* of the many
drafts of "Author & Printer."

F270r

in separate cover

The ~~un~~enclosed ^ came this
morning, & I am forwarding
it on, in case it may be of
use when you return to
portrait-formula again. That
does ~~about~~ interest me!

Yours truly
F. Howard Collins

I should have replied before, but
have been prostrated with one of
my dreadful headaches.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

F296

F.271

WOODLAND GROVE,
TORQUAY.

25. IX. 6.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

My dear Mr. Galton,

"Illegitimacy" I sent off Effingwells, title by return as I thought you might be working it.

What an exceedingly interesting book yours will be. And I shall enjoy reading a presentation copy with extra zest. Many thanks.

I quite agree about the Eugenic doc. Please do not imagine otherwise because I do not join. The fact is, for

some years, I have had to cut down all expenses to necessary ones, & it hardly comes under this heading, I think you will agree.

It hardly strikes me as logical, that because Hind head sinks you so well, ~~that~~ you have taken a house at Dorking!!

Now that "memories" is off your hands you may be scheming to portraits. If so I should be glad to send you a copy of the "South african Who's Who" which has been given me. It contains about 2,000 portraits 1½" x 2" & might help you. They are mostly of a strange type.

How am I? Well, I should have written to you before had I been better, but since months ago I had congestion of both lungs, & simply can't get up my former low state of health. I have twelve months of hobbies to develop & work up, & can't touch them. I dread the approaching winter!

—

On p. 509 of today's Nature Lodge reproduces my registered compass card, & says it is the best of all, but nothing about the fact that he has no legal right to reproduce it without

my permission, & thus gives the opportunity for others to scoff it. He does not even say where it is to be obtained.

Is it worth saying anything to him, bearing in mind that he's "Lockyer who got cockier & cockier" (as poor old H.S. used to say)?

Some time ago I designed a mariner's compass which wd record courses steered – like a barograph does pressure. Horace Darwin says it is "quite feasible", but declines to make it, as "there wd be no demand for it." While every sailor I talk to tells me that it is the one thing wanted, & I have been striving for 15 years to solve the difficulty, & now it's hung up in this way! Don't you think it's cracked?

Ever Yours F. Howard Collins

1273

WOODLAND GROVE,
TORQUAY.

27. IX. 8.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

My dear Mr. Galton,

Many a short line of answers only to your very kind letter, as this is one of my bad-ish days when I feel good for nothing.

It is an exact facsimile of my compass card as you will see if you compare the enclosed* with it. You will notice "registered" is printed (on all my cards).

I shall write Lockyer in the excellent way you suggest.

My recording compass is fearly

* Do not return

mechanical, & not photographic.
And the record is readable at
any & all times, & even visible
as it is recording. It could be
placed anywhere on the ship.
I have mentioned to Horace
Darwin the extreme value of
it in courts martial: it would do
away with all the "cross" swearing
which is so usual, & would
thereby shorten their labours &
time by possibly a half.
I will send the S.A. portrait
book tomorrow. Keep it AS LONG
AS YOU LIKE.
Your energy was so tremendous
that I am not surprised it
has diminished. Have you thought
of employing a secretary? a good

young mathematical man from Cambridge, would be able to do a lot of "bottle-washing" which consumes — as I know — such an immense amount of one's time.

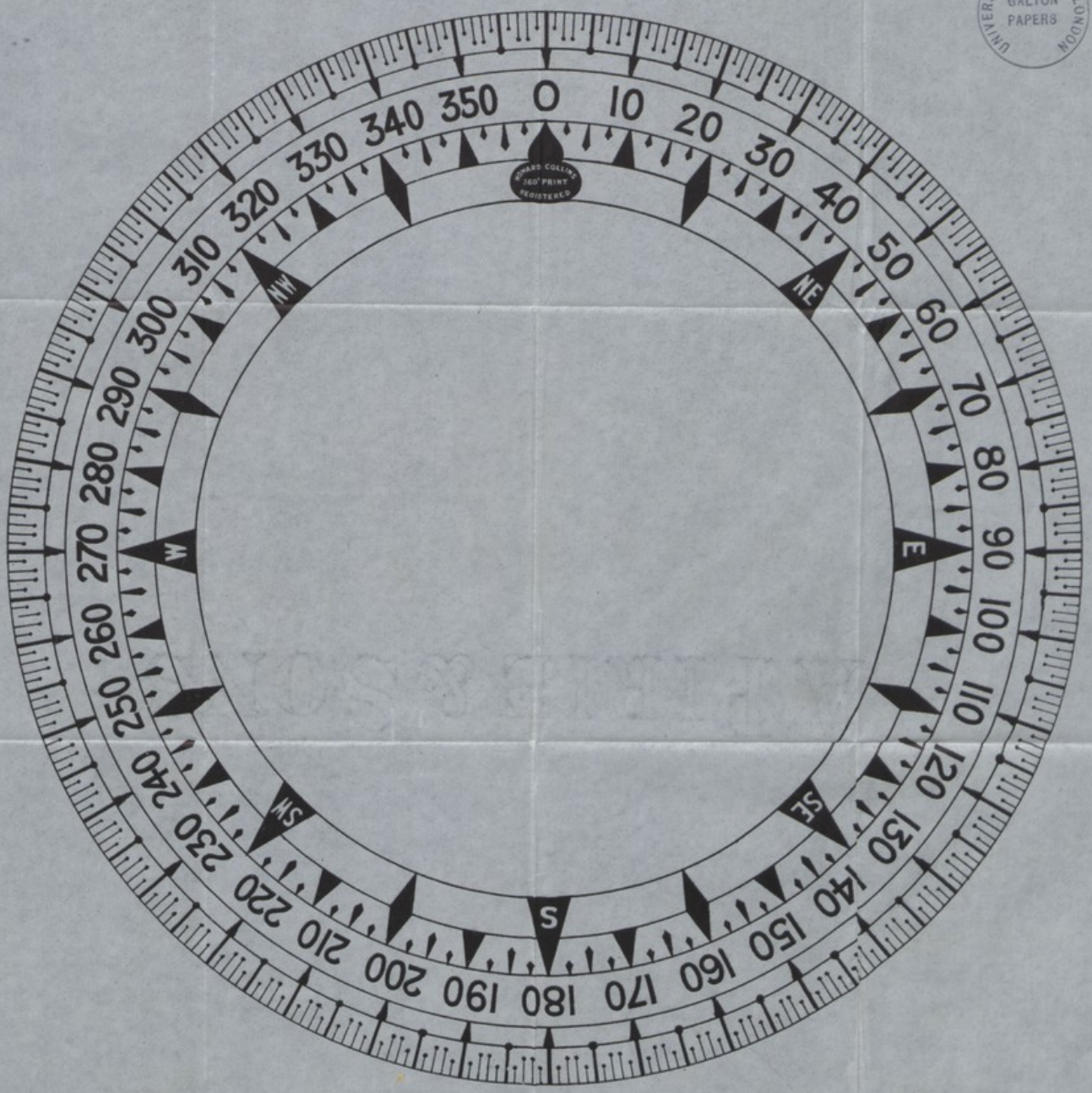
I am devising now a new form of mechanical stage for microscopes. To only consist of one thickness of a flake of metal. In other words 1/8" thick instead of 1" as now in the ordinary way.

Ever Yours

F. Howard Collins

F.275

UNIVERSITY COLLEGE LONDON
GALTON PAPERS



f.276

X

WOODLAND GROVE,
TORQUAY.

4. X. 8.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

My dear Mr. Galton,

I should have written some days ago, but have been waiting "to kill two birds with one stone", but ~~as~~ as if the birds won't come to my stone: in other words "Memories" has not arrived altho' it is now some days ago. I have been looking forward to it, more than you would imagine!

I wrote some days ago to

Lockyer, & followed out
your directions & made
in models to the best of my
ability. no reply yet.

You will like to know that
I have been awarded a bronze
medal at the Franco-British
Exhibition for my compass card.
I did not know till a month
ago that any prizes would
were to be given. I am the only
private individual showing in
Oceanography.

What unique weather! I hope
it suits you.

Yours sincerely

F. Howard Collins

1278

X

WOODLAND GROVE,
TORQUAY.

6. X. 8

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

My dear Mr. Galton,

Your
"Bravissimo" has quite cheered
me & done me good: many
thanks for it.

I immediately saw the
medal might be of use in
inducing Horace Darwin & Pahe
of me or both of the two very
best inventions I have ever
evolved (1) a recording compass
(2) a dial & finger on board
a ship to show depth of water
under the keel continuously.

Too early for his reply yet.

How often I have wished for a university locus standi! I have always thought I should like one of the D.Sc. genus!

Enclosed came from Lockyer. I am writing to thank him for it, & to say that I shall shortly* send him a small note for "Nature" officially confirming the opinion he had formed & my card &c. (as you so ably suggest). Of course he ought to have offered this, but we must not expect too much from him! Yours ever

T. Thorold Gwinn

*(when the award is published)

WOODLAND GROVE,
TORQUAY.

8. x. 8.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

My dear Mr Galton,

The book arrived at 11 today, and already I have three times over run the time I intended & devote & diffing into it.

I can truly & honestly say that it is the most interesting book to me that I ever remember to have read. Your quite unique ability in seeing into things more than strikes

other people – even clever ones –
comes out prominently in
what I have so far seen.

I never knew you were
such a "born" traveller!
How long have I envied
your math[l] talents. I do
wish, & have often done so, that
I had had a fraction of it.

I was so sorry to learn
that your charming sisters
I met at Leamington, are
gone. The first news I had of
it. Only on Tuesday I
gave a "Guide to the Unpleached"
to an old friend who has just
recently become a widow.

V.S.

many thanks for your letter.

yours ever

F. Howard Collins

If you have any larger reproduction of the frontispiece, I should be very much like one. It strikes me as so very characteristic especially in two or three details which struck me instantly.

Poor Fuzze: his loss is a great loss to art. I used to meet him at the savile Club

F.H.C.

P.S. I have just been "dipping again" & find you were interested in sentants.

Did you ever try a reflecting prism instead of the usual mirror which is always losing its quicksilver & wanting re-silvering?

Some months ago this alteration struck me as a possible great improvement, but I have been poorly & "bothered" about it, as well as not knowing who & what & about it.

It seems feasible &—

F.W.L.

F.283

WOODLAND GROVE,
TORQUAY.

10. X. 8.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

My dear Mr Galton,

The Edition in your case will probably be 1000, so I can once again heartily congratulate you.

I am still only "diffing" into "memories," for I quite dread the time when I shall have read it all right thro. & have not another world of pleasure & conquer.

So glad my sentant-prism does not appear to be needs.

F-28AC

I will make some enquiries & let you know how they turn out.

From what I see, I am inclined to think a smaller faced prism than the silvered glass face would work.

Zeiss of Jena makes very good & accurate prisms, but if we can, we would have it "made in Germany"!

I was glad to get the excellent picture which Miss Biffs so very kindly sent me. As I tell her, there is so much more personalia in it than in any other photo I have seen, & that is a great pleasure to me.

I wish you could arrange
for a really good index for
the next edition: you see
I still say what I mean!

Would it be of any
use for me, when I commence
to read it thro, to put in the
margin notes in some
stiffed commas, etc.; ? ✗ refs, etc.?

I enclose one I dropped
upon this morn.

Yours Ever

F. Howard Collins

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

WOODLAND GROVE,
TORQUAY.

30. X. 8.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

My dear Mr. Galton.

You will be glad to know – if you do not see "Nature" in the country – that your "note" about the best form of Mariner's compass card is in today's copy.

I am writing to Capt Porter to ask him the approximate cost of making an experimental Prism-Sextant; & also if it were successful what he would offer for it.

as I cannot now afford to do these matters ~~as~~ entirely without debt of this kind.

To my great regret, I have finished the most interesting book I ever remember to have read: altho I "spun it out" as long as I could.

I quite well remember your dislike to "polishing" a work when you have once finished it, but all the same I have made a lot of marginal notes in my copy, many of which ought to be looked for new editions: for instance, nearly all

the number references to the list of papers, at the end, are one or more units wrong – so instead of 81 etc.

Should you care for me to send you my copy? It is so much easier to find the thing on the page itself, than to have to turn to p. x. line y, & then see what something else means.

I do hope you like the new chateau, & that it is doing you good already.

The weather here is very damp & trying to – Yours ever

F. Howard Collins

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/27

f.1r

c/o Mr Matthews
52 Wilmot Street,
Bethnal Green Road,
London, E.
Feby 8th 1884.

Sir,

Your great kindness and ready sympathy as displayed last Saturday week, has been to me like an oasis: a source of comfort & renewed hope for better times. I should have written at once, but I trusted to send on my original testimonials, but have not been able to ~~search~~ secure them yet.

As I informed you, what with my long illness in hospital and at home, and the scarcity of work, I have been reduced to the lowest ebb, frequently not knowing from one day to another where to get food & lodging: often indeed

Francis Galton, Esq.re F.R.S.
&c &c

both these - especially the former have been lacking for two or more days.

Literary work as you are aware is most precarious. At the present moment, if I could obtain access to my papers & have a comfortable room, there is much that I could do, but again I could not sit down & work & wait for payment with nothing to keep the wolf from the door till the work was finished & paid for.

What I long for is some permanent work: I could fill in my evenings with literary work: the permanent situation however humble, would lift a load from my mind & start me on the high road to the recovering of my health & mental vigour.

Can you help me?

I enclose names of those from whom I have received testimonials

during the last twenty years, &
other particulars.

I am Sir
Your obedient Servt
Jas Collins



James Collins. F. Bot. Soc. Edin:
Hon. Mem. Society of Pharmacy of Paris;
of the Micrographical & Phytological
Society of Belgium; & of the Society.
of Natural & Physical Society of Caracas.

Formerly:- Museums of the
(1) Curator of the Pharmaceutical
Society of Great Britain
(2) Lecturer on Economic Botany
to the Working Men's College
under Prof Maurice.
(3) Lecturer to the South London
Working Mens College on
Structural Botany (under
Profs Huxley & Cobbold &
Hon. Auberon Herbert)
(4) Reed Lecturer to the Walfor
Orphan Asylum (Food).
(5) Government Economic
Botanist & Librarian etc
Straits Settlements

P. T. O.

Author of:

Report on Caoutchouc to the Indian Government

– do – on Gutta Percha

India Rubber Hides & Leather etc in British Industries

Journal of Eastern Asia. Editor & part author.

Also of Articles, Lectures, Reviews etc in Jour. Society of Arts (Lecturer's Medal).

Encyclop: Britannica.

Pharmaceutical Journal

Chemist's Journal

etc

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

f45

Testimonials [1867-1886]

Duke of Argyll.

British Museum:
- Dr. Birch [the late]
- Dr. J. J. Bennett [the late]
- Dr. Garnett
- Dr. Bullen
- W. Carruthers F.R.S.
- Dr. Trimen [now in Ceylon]

Kew:
- Sir Joseph Hooker
- Prof Oliver
- Prof Baker

- Prof Cobbold [the late]
- Judge Tom Hughes
- Evelyn Viardot
- Dr. Berthold Seemann [the late]
- Elliot Howard F.R.S. [the late]
- D. Hanbury F.R.S. [the late]
- Major Gen: Sir Andrew Clarke
- A. Tedder Esq re Athenaeum Library

etc etc

P.T.O.

f.4v

The following gentlemen could be seen personally:-

H B Wheatley, Esq^re.) Society of
W Room, Esq^re.) Arts.

Dr. Garnett. British Museum

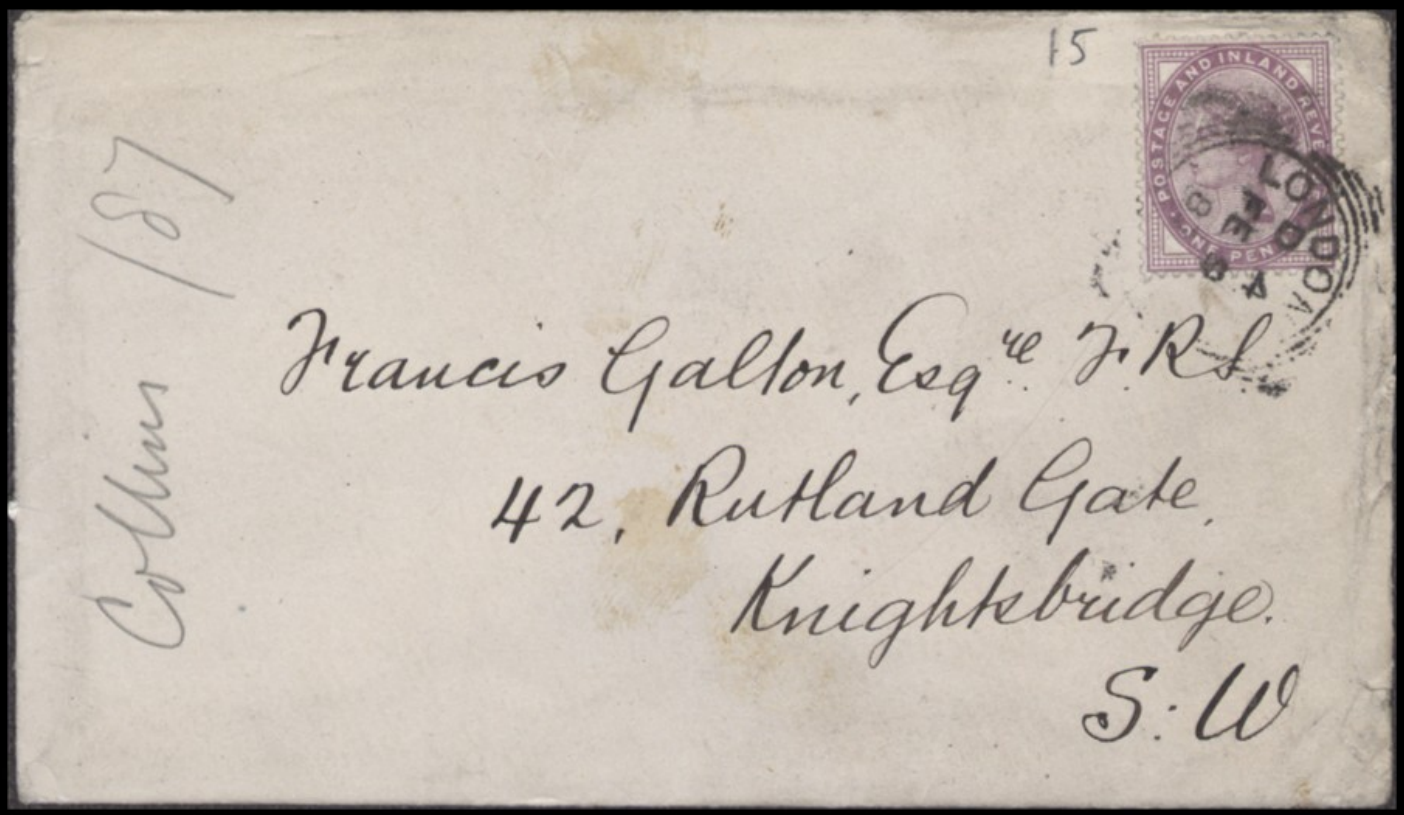
Dr. Rost. India Office Library

Evelyn Lairdet Esq^re London Lb
Frenchurch St. EC.

This gentleman has known me as a tenant for many years on the family (Evelyn) estates.

F. G.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS


15
POSTAGE AND INLAND REVE
ONE PEN
LONDO
Collins 187
Francis Galton, Esq.re F.R.S.
42, Rutland Gate,
Knightsbridge.
S.W


LONDON·S.W.
HO
9
FEB
87
UNIVERSITY COLLEGE LONDON
GALTON
PAPERS
3/3/27

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

f 1r

29 August 1903.

Dear Sir,

Your card

The following suggestions may be useless, but they may raise ideas for you.

1. Partridge Wyandotte cocks and hens.

We breed for pure lines with a view to show, that is not with a full blood breed but with a speckled breed.

We breed for pure cocks with

a crop of pure black breast.
How account for this? Mendel's
theory of heredity (?) seems to sup-
-port Evans. Can there be a
recent dominancy?

2. Suppose in a human family
of brothers and sisters you find
one physically weak - the runt,
the little dawdling. Suppose you
find distinct finger prints?
Is it not possible that the
physical influence being less, the

ancestral blood shows more strongly as against later more immediate blood?

(3) (Your sudden appearance in a dark family of a light marked breed back to a Norwegian ancestor.) Do you see [illegible] the same family, a "sport" of finger marks?

(4) In tracing heredity it is, perhaps, forgotten that mental powers may lie dormant through many generations, through existing:— Embryo. The zygote and gamete are those that can obey the stimulus in one generation in one particular

form. Shake four pieces of broken f2v
glass in a Kaleidoscope. See in
a thousand times you get a form
of exquisite beauty. But the pieces
of glass are always the same.

Yours faithfully,
F. C. Conder

I sent the Portfolio round to Francis Darwin. He had
read it before but could not
explain.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Francis Galton
12

F31

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/28

31 Oct. 1903:

Dear Mr. Galton,

Thank you heartily for your most kind letter. But did I deserve? Thank Darwin when he read the M.S. Your book was of opinion I almost agreed with you! Surely the 4th paragraph of your "note for the use of the Reporter" follows my argument

society. 'Exceptional success
must be interpreted relatively,
relatively to the social position
(relative wealth) of the man in
question.

= What do you say to this family?
Family name straight down in male
line from the 8th century.
Father. A labourer.
Son. A merchant (not shopkeeper)
of London, director of the
National Provident, and three

time to stand for Parliament.

Louis cite. Her father at Oxford, but because he married a Quaker. Must have engaged in some menial occupation or his daughter could not have married the son of a Labourer. But the following facts prove there were influential friends.

Wife's half brother (same father) a physician of high standing in London.

Wife's half nephews. A General, Captain in navy and Clerk in the Civil service.

Wife's half nieces. Exhibited at the

Royal Academy, and be a good
scholar and write.

I think your "mibon" are
round. It is only the <u>coloured</u>
paint I want to see all of-
ok! But our old-fashioned
dining-room were not disguised
in paint! Give all men equal
opportunity and we shall have
"Corkins" of Genius.

Yours most sincerely,

F. C. Constable.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

f 50

29 May. 1902.

Dear Sir,

Do not think I reply and pray forgive my impertinence in sending you my book and my impudence in asking you to read it — not as a scientific work. But:—

How can you determine hereditary genius when the overwhelming majority of men

must labour for daily bread from
the cradle to the grave with no
chance of developing to moral
or intellectual?

How many men have
attained any worldly rank or
position without the use of
interest? Have the millions of
labourers the same chance of
worldly success as the Contin
Dan F. R. S.? If I had

wanted to be a judge in India,
I could have got it.
if I wanted now to be a J.P.
I could get it by asking interest.
Why did I take an honors degree
at Cambridge? Because my father
had money. If I wanted a large
circulation for the book I send
you, should I get one interest
and advertisement?
If you have an Account of <u>writing</u>
<u>achievement</u> in art, science and
literature, is there one man who
owes his position solely to
personal qualities? Why V. C.

who leaves our school to start
as a labourer has better brains
than any man in Gloucestershire!

(Cum grano.)

Forgive me.

Yours faithfully,
F. C. Constable.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Constable

f7r

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

30 Nov. 1904.

Dear Sir,

Pray do not trouble to reply to this and pray do not think me impertinent. I write with real if modest respect for yourself and your admirable labours.

Question one.

Can you find me single

man in England with the position
of the late Lord Northbrook —
fortune from
land and wealth for at least
three generations — who has no
relations in high place?

Question two.

If you consider a Henry
Rowland, Wheatstone, Thomas,
Carlyle
Faraday, or — that is, men
of exceptional brain power &

distinguished in art, science or literature, but who have not the power & reputation from want of inherited rank and wealth, do you not find that their relations are not in high place?

Yours most respectfully,

F. C. Constable

Of course there are exceptions — I base my law on the average results.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

F.1

Snowden Gaskell = widow of a Mr Taylor = Taylor
transported

[illegible] Rose [illegible] Robert Taylor = [illegible]
[illegible] [illegible] [illegible] [illegible]

wrote her own life 1833

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS
33/3/29

Corbet

f2

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS
3/3/3/29

DUM VIVO CANTABO

3 Margaret St
Hull Dec 5th 1877

Dear Sir,

I have delayed sending you further particulars of Snowden Dunhill most unconscionably but have now pleasure in sending you a short sketch of him taken from his auto-biography which I hope may be of some use to you but which I do not myself consider full enough to be satisfactory except as corroborative of Sheahan's notice. I have not a copy of the auto-biography

probably you would find it however in the British Museum. If I can come across any further information I shall be glad to send it you.

Yours truly

C. F. Cordeaux.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

F. Galton Esqr. F.R.S &c

f.4

1.

Snowden Dunhill was born at a village on the Yorkshire wolds, in the latter portion of the last century. Soon after his birth his parents removed to Spaldington near Selby, both of whom dying he was left an orphan at an early age. When about 14 years of age he was placed, in the capacity of errand-boy, with the widow of a farmer, to work for his food & clothing, without any wages. Having acquired a passion for cockfighting, he commenced his career of crime by stealing his mistress' corn to feed his game-cocks. From that he proceeded to robbing granaries & disposing of the produce, at a low price to two or three known millers. In early manhood he married the widow of a thief named Taylor who had been shot whilst committing a burglary, & with her went to live at a lonely cottage on the wayside between Spaldington & Market Weighton. Too idle to work, he spent his days in loafing about & sleeping, & his nights in plundering barns & committing burglaries, managing to escape detection though he was generally suspected. On one occasion, when breaking into a house, he was shot but was carried off by his comrades to Howden, when 37 shots were extracted from his back. At length in 1812 he was apprehended on a charge of highway robbery, of which he was innocent, was committed to the East Rid? Gaol, Beverley & sent hence to York for trial, on the ground that an E. R. Jury would be prejudiced against him in consequence of his evil reputation. He was pronounced

guilty & sentenced to 7 years transportation to 2s
Botany Bay, for a series of depredations. Rose,
his favorite daughter, was in York Castle, where she
had just given birth to an illegitimate child.
"after her release" say S. Dunhill in his autobiography
"she was again committed to Wakefield House of
correction & I have never since heard of her. She
had cohabited with two men, both of whom had
been transported." Sarah, his other daughter, had
been imprisoned in York Castle & the E. Rid. Gaol
at the Beverley Brough sessions. She had co-
-habited with 3 men, all of whom had been
transported. William his son, was undergoing
a term of 14 years transportation. "He, poor fellow"
says S. D. pathetically, "died immediately after
his arrival in N. S. Wales. He was the most
promising of my family & with different
examples before him, would probably have
turned out an ornament to Society". Robert
Taylor, his stepson, had also been transported.
= He immediately fell into his old practices, pursuing
his vocation chiefly about Hull & North Lincoln-
-shire, forming the terror of the country-side &
at length hearing that the Botany Bay convicts
led an easy life & having a yearning to be with
his family, he determined to qualify himself
for a free passage to the antipodes, consequently
he openly committed a transportable offence
in Lincolnshire, was tried, convicted & sent
off thither. After some time he & his wife

obtained tickets of freedom, under surveillance & settled in Hobart Town, where she opened a school & made pies, as well, which her husband hawked about the town. With all her criminal propensities she was rabidly pious, a religious fanatic, could quote Scripture as glibly as a Puritan & was looked upon as a saint; hence her school prospered, but her husband fell into drunken habits; was suspected of practising his old trade & at length died about the year 1836. Whilst serving his time he wrote his autobiography, but knew not how to get it printed, when he met with a sailor in Sydney, whom he had saved from ~~drowning~~ drowning when a boy, at Spaldington, who took the M.S. to England & it was published under the title of "The Life of Snowden Dunhill, written by himself, Howden 1833". From the style & phraseology of the work he was evidently a man of superior mental ability & seems to have received a very fair education. —

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Cornish Hall. f1r

Cypress House.
Chesnut

Chesnut. W

New University Club,
St James' Street, S.W.

Nov 26. 1903

Sir -

By the work of the
James & the late Sir William
Flower I am writing a
memoir of his life.
Might I ask (Mother &
ones aid in any way
in giving me an insight
into his work in
connection with the
Anthropological Society?
I remember his showing

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/30

mention also Emin
Pasha letter when
he sent his case
of specimens and when
we were all on tiptoe
to hear what was
going on in Wadelai
and whether the Mahdi
had attacked him
What letter in the
possession of the Foreign
Minister?

f 2

I am dear to

from Jan Thuls

C1 Corinth

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/31

Crackanthorpe

F1c

65. RUTLAND GATE.
S.W.

31 Jan 1907

Dear Mr Galton,

It gave me great pleasure to find you liked my Feb.y article - What I am now thinking of doing, as soon as the current F.R. has had "its run", is to republish - through Chapman & Hall - the three articles which have appeared on the subject, under the general title "Eugenics, Prospects", and to re-name the articles thus: —

(1905) I The Voluntary Principle & Individual Liberty
(1906) II The Voluntary Principle & Morality
(1907) III The Voluntary Principle & National Development

These sub-titles correspond to the leading idea that lies at the root of each.

66, RUTLAND GATE,
S.W.

the whole, when printed in appropriate type, would make a little book of about 50 pages & might be priced at 1/. I should esteem it an honour if you would allow me to dedicate it to you, as the founder of Eugenics.

The MS of article I have revised, & should like to submit it to you in its revised form, that you may see whether you can "pass" it.

Yours sincerely

M Crackanthorpe

Crockenthorpe

121

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

7. 2. 07

Dear Mr Galton,

I send for your perusal a type-written copy of my revised 1872 article - the revision of which is, as you will observe by the pencilling, is not yet completed. Kindly let me have it back in the course of next week.

I am very glad you allow me the dedication as I had for.

The 1872 book shall appear

when it does appear, in good form.

Yours sincerely

M. Courtauld Thompson

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

65, RUTLAND GATE,
S.W.

F3r

1 March 1907

Dear Mr Galton,

I have been greatly cheered and interested by finding in the XIX^th Century for March an article entitled "The birth rate & the Mother" by a Mrs Macfadyen. It is well worth your looking at, enforcing, as it does, the "Voluntary Principle" in convincing language from the Woman's point of view.

I don't know who the writer is, but shall try to ascertain — She lets the reader know that she has travelled much,

is well acquainted with the United States (both North & South), and that she has for the last 4 years been working in our African colony.

I hope this change of the weather is suiting you. It is quite mild in London to-day, in spite of the new Sun-spot.

Yours very sincerely,

M. Crackanthorpe

F.4
226

65 Rutland Gate S.W.

7 June 1907

Crackanthorpe

My dear Galton,

A touring Peer agency sent me this. The Publishers tell me the book will be "out" next Wednesday — a curious coincidence.

Always yours

M.L.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Telephone—810 CENTRAL

WOOLGAR & ROBERTS'

Press Cutting,

PRINTING AND ADVERTISING AGENCY,

58, FLEET ST., LONDON, E.C.

AND AT PARIS, NEW YORK, AND BERLIN.

Telegrams—Mutilating, London.

F 5

Cutting from

"DAILY CHRONICLE,"

Fleet Street, E.C.

Dated May 31 1900

Mr. Montague Crackanthorpe, K.C., is the author of a book entitled "Population and Progress," which Messrs. Chapman are about to publish. It is dedicated to the author's friend, Dr. Francis Galton, "founder of the science of eugenics, whose efforts for the improvement of the human race are recognised throughout the civilised world."

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

NEWBIGGIN HALL
VIA CARLISLE.

16 Aug 1907

My dear Galton,

The accompanying letter is from a New York correspondent to whom I sent "Population & Progress" in return for a book of his in the same general sense. F. Babtiden. he sent to me after reading my

Jan see his suggestions about yourself - If you think well of it, you might write me a short letter - more or less formal - appreciative of my book. I can then send on the letter to him; & so armed, he might get "P. and P." pointed in the U.S. where it has not been adequately reflected.

I feel sure.

I have been reading very carefully Karl Pearson's Boyle Lecture. What a splendid tribute to yours to you & your life-work! I was glad, too, to find him assuming the 'Voluntary Omniscient' while

at the same time raising the very serious question
How it is best applied? Now, Lt + I are quite
at one; and if "C + C." can make a second Ed.,
I shall specially refer to this lecture.

I am sending you by this post a copy of the our
Local Journal. at p. 6 there is a long letter
from me on a general military training.
as this bears on 'Eugenics', it may perhaps
interest you.

Do not trouble to return
the paper.

Yours very sincerely,

M Crackanthorpe

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

NEWBIGGIN HALL,
WESTMORLAND,
VIA CARLISLE.

6 Augst

My dear Galton,

It is satisfactory to have drawn from "one of the Commissioners" the explanations to be found in the Daily Times (PD) & whether such explanations can be got out of the words used in the Report is quite immaterial. You will see by the enclosed letter from Thiselton-Dyer that he managed to divine correctly the Commissioners meaning, but (as I have told him in my reply) I cannot think that "spontaneous in origin" naturally means "not the result of environment when it first occurs in a line of individuals". Besides,

NEWBIGGIN HALL,
WESTMORLAND,
VIA CARLISLE.

who can say that any characteristics, such as
mental workings, 'first occurs' in any line
of individuals? Darwin says "that characters
"re-appear after having been lost for many, probably
"for hundreds of, generations" & Mendelism
teaches the same lesson for shorter ~~periods~~ period
of time.

Thiselton-Dyer says "spontaneous in
origin" points to "retrogressive variation",
or, in other words, to "reversion" to earlier,
& presumably inferior, type. But is this
a proper use of the word "origin"? Surely
'reversion' originates nothing, but

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

(2

NEWBIGGIN HALL,
WESTMORLAND,
VIA CARLISLE.

merely reproduces a previously existing
condition of things: So, that a drunkard,
temporarily reclaimed by the Salvation Army,
back-slides into his old courses, he
is said to revert to his previous character

Perhaps this is all words & nothing;
& I shall not mind it you think so
say so. The fact is that
an authoritative declaration that
feeble minded & kindred defectives
are "unsuitable" is certain, however they

f8v

NEWBIGGIN HALL,
WESTMORLAND,
VIA CARLISLE.

her original in the first instance —
This is the Emperor Napoleon.

Yours sincerely,

M. Coadlanthorpe.

I found some difficulty in deciphering some
of T-D's writing; so, for my own
benefit, I penciled the letters
over clearly in several cases.

F9r

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

65. RUTLAND GATE,
S.W.

1.1.09

My dear Galton,

Many thanks for your letter. Next time I go to the Athen. I will look up your "Correlation" paper. The Boyle lectures (1907 is, I learn not) print.

I was much relieved to read what you said about Prof. Edgeworth. He has created the impression that I have a hole in my brain where 'Probable Error' ought to find lodgment. I should like to pay him out by propounding to him an extension of the Leg puzzle (Ans. can be quickly solved) as thus. Given a set of pegs a, b, c ... n
Another set ... a', b', c' ... n'.

(2

Find in how many ways pairs from the two sets can be formed so that the numbers of each pair shall, by dippings into a stream, ~~be~~ contain respectively d and d' pints of water. and write down the equation between the above constants and the number of the dippings required to produce the required result is a minimum.

And now I will turn to "Probable Error" of another sort a propos of Mr. Astley's apparitions in the Times. and give you two other not very dissimilar instances. Shortly

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

(3

65. RUTLAND GATE.
S.W.

before Christmas my youngest son & his wife went to stay in a country house in Norfolk where there were pheasants to be shot. They occupied a room over the billiard room; his wife's room was close by, but separated by a few steps.

The first night my son slept in this room he had what he describes as a most vivid dream. He is white he saw himself lying with a hole in his body as if it had been pierced by a rapier. On mentioning this dream at breakfast the next morning he was told by his hostess that the house legend was that a duel with swords had been fought

(4

a clerking a to ops in the room occupied
by his wife - a legend of any sort had
never heard of, this being his first visit
to the house. a few nights after, his
wife, sitting in her bedroom in company
with the daughter of the house & chatting
before retiring to rest, became aware
of the presence of something stirring
in the room — & so did her companion.
as looking behind them both saw
in a corner a sort of mist arising
which built itself up into a kind of
human form — They both fled

F.11 r

(5

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

65. RUTLAND GATE.
S.W.

in conversation & simple conclusion.

When this was told to the hostess, she expressed great regret that any such thing should have happened. She admitted it had happened before but that was so long ago that the house might be safely slept in. There was a large fire burning in the room at the time of this 'vision' & the room could not have been naturally chilly.

So much for tale No. 1. Now for tale No. 2. A maid servant who had a few days ago from the wife of E. D. I. Wilson.

(6

Wilson has a nephew, an Engineer, who has recently got an appointment at the Elswick Works. As his duties required him to live at Newcastle he looked out for a house near the outskirts of that town - found one to suit him at a remarkably low rent & after entering into possession, he mentioned the rent to a colleague at the works who said "Why, of course, they asked you a low rent because the last occupant shot himself in the dining room". A night or two after hearing this, the nephew had a very vivid dream in which

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

65. RUTLAND GATE
S.W.

f12r

17

he seemed to be trying to squeeze himself into a large cupboard which was a fixture in his bedroom; but could not quite manage it. This dream he mentioned to another colleague at the works to whom he also told what he had heard from the colleague he had first spoken to viz: that the "last occupant had shot himself in the dining room." "No" said No 2, "that is not correct — in fact he poisoned himself in his bedroom with carbolic acid, then fired

(8

"to set into that cupboard, & was found
"dead in the morning half in, & half out of
one of the large shelves"

Both these stories are, you see, clearly at
first hand & what the explanation is
I must leave you to say. I did mention
(as Norfolk)
But in the first case, there was an
Indian Prince staying in the house, of
a fearfully "psychical" temperament,
& in D. Astley's case there was
a "psychic" housekeeper.
Yours always sincerely,
M. Crackanthorpe

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

65. RUTLAND GATE
S.W.

17 Jan 1909

My dear Galton,

At the Council meeting of the E. E. I last week a Committee was appointed to deal with the proposed "Journal". It consists of 4 members D. Slaughter, Mr Saleeby, Dr Gordon-Wilson & myself (Chairman). We are to meet on Friday next and I want much to have your advice on two points.

I. As to times of publication. After thinking a good deal about this, my view is that publication twice a year (say in May & November) will be better than publication quarterly, for (a) 'Eugenics' is not a subject that can be sketched in definitely & the field it covers is necessarily limited. (b) This is better

? gossip about other societies & books making personalities

(2

to produce only good matter, to avoid repetition,
& especially to avoid 'padding'. I am afraid
that publication 4 times a year would expose
us to all these risks.

II as to price. What has been suggested is
2/6d per number. Now, I think this is
too much. I agree
I have before me the "Theosophical
Review" well got up, well printed, with
100 pages 8vo & the price 1/. The
'nimble' shilling leaves the pocket much
more easily than the solid half-crown,
& while the former is plentiful, the latter
is comparatively rare. To our
subscribers

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

65. RUTLAND GATE.
S.W.

(3

of the annual guinea, the price of the Journal is ministerial, as it is included in their subscriptions — What we want is to attract fresh supporters, & for these the Journal should be cheap.

These are the points I propose to urge before the Committee next Friday, and I should be greatly obliged to you if you would kindly intimate to me what your opinion on them is.

Yours very sincerely

M Crackanthorpe

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

65. RUTLAND GATE.
S.W.

2 April 1909

My dear Galton,

I am glad to be able to tell you that today I placed in the printer's hands all the materials for Vol 7 of the "Record". Nearly all of these had been already set up in types & carefully revised, so that there is not much to do to them before they are finally printed off. On April 15 the critics will be let loose on us, & we must put our backs to the wall & meet their attack (for a critic's duty is to attack!) with

complete equanimity.

The anxiety now is about No 2 -
Dr Slaughter has promised to write to four
American biologists asking them to
contribute. There is a Germann publication
for promoting Race-betterment, and in
its 6th year, it contains a good deal of
solid learning, & we must, on occasion,
draw on this source of supply. But all
said and done, I think 3 months is rather
a short breathing-space, & but for the
tyranny of custom I shd have preferred 6 m.
I trust you kick well - too busy to say much for I have had a cold some time.
Yours ever
M Craddauthorpe

f. 16r

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

NEWBIGGIN HALL,
WESTMORLAND,
VIA CARLISLE.

8 April 09

My dear Galton,

Thanks for your criticism which, however, comes, I fear, too late for the printers. All I can say in defence is that although breeders is unpleasant, they may not be ~~breeders~~ is unpleasant, they have often been trained ~~trained~~ is unpleasant by man; & under his guidance their sight may, it is presumed, have been improved. All sorts of grey hair have been made possible by him for them. In their wild state they would not have formed for themselves. But I agree, training is not ~~breeding~~.

We came down here yesterday & are
at this moment bathed in sunshine.
This is a great relief after London.

Yours very sincerely,
M. Cracknell Hoppe

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

F17r

(1

NEWBIGGIN HALL,
VIA CARLISLE.

17 April 89

My dear Galton,

I am glad you like the 'get-up' of the Review. The 'cover' is the result of the joint labours of D^r. Slaughter, D^r. Saleeby, D^r. Gordon Salmon, & myself — with, of course, Mrs Otto. I, too, think it is in good taste.

Thanks for the extract from Mrs Hunt's book, I shall be stored in the Editorial Note drawer;

I am sorry to find you ill only

f.17v

12

be at No 42 for a week from April 22.
I expect to be detained here over Monday
April 25 by a Territorial Council
appt meeting in which case I cannot
reach Rondout before the evening
of April 27. But I shall endeavour
to see you on the 28th if in town.

At the eleventh hour, I discovered
as you may have observed, on p 11 of
the Revised 'Hawk' into 'Falcon'. This
was all I could do before "press".

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

F18

(3

NEWBIGGIN HALL,

VIA CARLISLE.

In the old days when falconry
was an aristocratic sport, when there
was no question of keeping them in captivity, I was it not
possible to breed from them, selecting
& making the favorites of both sexes?
I do like Sir Walter Scott's opinions
on the point. But we doubt
some friend is right & some wrong.

Yours ever

M. Crackanthorpe

Cracfanthorpe
17 April 1909

NEMBRIGGAN HALL.

AIV CVIBIIIAIIE.

F19r

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

65. RUTLAND GATE.
S.W. 3 June 07

Dear Galton —

Miss Biggs tells me you are in search of a good doctor. You could not, I think, do better than have Dr. Stanley Melville of 18 Nevern Road — South Kensington. He is a very careful & a cultivated man,

65, RUTLAND GATE,
S.W.

I has had special experience in
~~it~~ cases like yours where a limb
or foot does not function as it should.
I myself went to him for that very
thing. Finally, he is quick in temper
in Lupenics.

Yours always
M Cracknell

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

65, RUTLAND GATE,
S.W. 15 June 1907

My dear Galton,

For the purposes of your suggested postscript I wrote to an eminent conveyancer of Lincoln's Inn for a form of bequest. He tells me he considers the following will do:

"I bequeath to my trusted friend A... B... of ... Botanist the sum of £ in the hope & confidence that he will apply the same in furtherance of

Eugenic study & practice but
without imposing on them any
trust or legal obligation so to do."

Some such language is necessary
to prevent the Attorney General
interfering, as he does, or may,
in cases of "charitable trusts"
(a phrase about as technical as
"Prob. Lucr.")

Yours sincerely
M Crackanthorpe

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Cockerthorpe f.21r

65. RUTLAND GATE.
S.W.

17 June 1907

My dear Galton,

I am credibly informed that an Honour List will be out on June 25 or 26 so you will not have to wait till Nov^r. I congratulate you.

Yours sincerely

M Cockerton

f21v

55, RUTLAND GATE,
S.W.

F. Galton F.R.S.

f22r

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Cracknorthorpe
Sept 1909

NEWBIGGIN HALL,
VIA CARLISLE.

6 Sept 1909

My dear Sir Francis,

Thank you for sending me the D. Mail - (the) paper which I have read more than once. It is not any good buying it, is not well kept together & wants condensation. I am returning it to you with the suggestion that the Ch. see the writer & ask him to correct it into a note on the Reactions of the British army & the values of "Retornal Vital Statistics." What he says about the 'Vocation of Women' & about 'Education' has been said

over & over again before, & is of no value coming
to us. Jones one who is only an authority on
R
military matters.

Peace in the Times of No 3; there
is apparently some difficulty in bringing
it to birth. However, Mrs Forbes is
an excellent midwife & is at her post.

Hope this unsettled weather does
not unsettle you. The 'cyclones' seem
about to cease & keep us often to the house.
However we have fortunately interests
indoor as well as out-doors. With kind
regards to Miss Bissy, I am yours most sincerely
M. Crackanthorpe.

June 3 1904

F.23

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Skeat: Dict^y

"

Thrive to prosper, flourish,
" be successful. Scandinavian

" Icelandic þrifa, to clutch,

" seize -

" The transition from to "seize to
" oneself" to "thrive" is easy",
(cited quotations)

It seems then that 'thriving'
in part "acquisition for self" -

It may best the expense of others".

M.E.

Your present address recalls an advertisement
in Mr. Morant, then Rector of your parish, for
in the Succession many years ago for a Curate
who would, on occasion, lend a hand in
the stringed band of the Church.

I remember just the add.t into which
it merchant as follows: —

Hey diddle diddle! a curate and fiddle
Are wanted at Brokenhurst, Hants:
any godly young fellow who plays on the 'cello
May apply, thus, at Mr Morants.

—

If this is for you "acheter" I apologize.

Crackenthorpe

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
F.28

THE ATHENÆUM,

PALL MALL, S.W.

65 Rutland Gate

8 Nov 1910

My dear Sir Francis,

Very warmest congratulations
on your fresh honours &—
Sir A. Scrutton has just told
me of— The Copley
medal, I believe, is the
"medal of medals."
Yours sincerely,
M. Crackenthorpe

Capt Creak

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS
3/3/3/32

36 Kidbrooke Park Road
Blackheath S. E.

11. June 1895

Dear Mr Galton

I quite agree with you that the subject of the Examination of Ship's lights which I brought before the Ker Committee some years ago received considerable discussion at the time & as you are now aware ended in a sub-committee being appointed.

My proposition I always felt was taken up coldly and only discussed out of politeness towards me

me who brought it forward.
But when the appointed day
came & no one came but Mr
Whipple as Superintendent of
Kew observatory, I felt that my fellow
Committee men considered the
last word had been said.

However I am very glad to hear
the question is to be again raised
& shall be very pleased to do
anything I can either in Com-
mittee or sub-committee which
will forward the Examination of
ships' light. I feel strongly

that many a brother sailor's life has been lost through bad lights burning dimly behind bad lenses & coloured shades.

The introduction of the Electric light has in a measure altered the question since the date of my memorandum but I will commence to pick up the thread where I dropped it and see what is required.

You must forgive my having had a "growl" as it has been considered the privilege of my cloth to "growl & go". Having growled

now

now I will go.

Very faithfully yours

Ettrick W. Creak

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

Cubt Creak

F.5

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/32

36. Kidbrooke Park Road
Blackheath. S.E.
19. June. 1895

Dear Mr Galton

I am sorry to say I have to go to Devonport on duty tomorrow and shall not be back before Saturday evening. I shall consequently be absent from the next meeting of the Kew Committee.

On my return I will not lose any opportunity of finding out what is being done

by the Committee of which
Mr Bolam has been the
spokes man with regard
to ships' ~~lights~~ lights.

I am inclined to think that
the difficulty of transport
might be got over in one
way. That of Kew being the
acknowledged testing place
for the lenses & coloured ~~glass~~
shades which are the main
cause of failure on the
part of makers, and the lamps
might also be passed on to

The Makers would then be compelled to supply ships with Lanterns the principal parts of which would be satisfactory or the Board of Trade officials would refuse their certificate.

Very faithfully yours.

Ettrick W. Creak

P.S. I have been very busy the last few days & have not had time to attend to this question of the Lanterns properly. E.W.C

Mrs Schuyler Crowninshield
Case

REAR ADMIRAL CROWNINSHIELD,

CHIEF OF BUREAU OF NAVIGATION.

UNITED STATES NAVY.

820 EIGHTEENTH STREET.
Washington DC

Filb

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Washington D.C. U.S.A. f.1a

820 EIGHTEENTH STREET.

a Member from

My dear Sir.

I found Lar
dear Face the wonder
fully interesting book
of yours — I have
greatly applied this
to the Jews ("Hebrew
Intellect Faculty") —
but there surprise

GALTON/3/3/3/33

Dear Mr. Galton I send it to the police
Court down by me on the enclosed
paper. I might have to see
Lombard Street times and charge
the same. I shall try to read
your book tonight. I am getting a
criminal because of my bad
hand writing: or else. perhaps by
age writing my eyes — and
kindly see this which I write.
Mark for Miller of the Portland Office
Guilty when Ruin. Very Sincerely.
Mary Bradford Communicated.

Francis Galton Esqre
F. R. S.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS



I found there Jack as
depend the visibility
of people which change
by corresponds with
the time. I had
in India that of the people
near the North to a
Circle (Sunday only)
and "in the Forenoon
direction to those of the
Jesus or the Clock."
They South to always.
January - when I think
of 7 or 12 or 25, or

Washington D.C. June 23rd 1904

14

W. H. Crum Esqr.

Dear Sir.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS
3/3/3/33

I have received your letter of the 21st inst. and in reply to your letter would state that I am prepared to receive the Negroes for Sunday

Respectfully

[illegible] Superintendent

White. —

I see the figures pink as I would see any small black figures on a pale background with white. I cannot remember when I first saw them so. I think it was it was seemed to me that as a child I must have had a slate & a piece of paper. For small figures remember as I remember, and must have written them as I did for. But why I should have kept the single curved line of remembering & writing, & some how as I say I cannot understand - this is only a fragments of music, I remember nothing of it. My Husband & Smith interested in this he said - My

f6

It does not seem true to nature
at all, unless something calls it
forth, for it seems so perfectly natural
and un-selfconscious. I have seen the figures do
I stand that those who see the figures do
not see colored lights as bodies, and
[illegible] I do, so far as I have
[illegible] The friend sees the words
only, a blank and so all from
[illegible] does. Sees it
[illegible] a lady-
[illegible] of Cyclamen Craig of "In Absence" See at

f.1r

Dear Sir Matthew C. Oxon

At the first meeting of the Council of the Anthropological Institute since the receipt of your kind letter to me of Dec 16, & its enclosure of £10/0/- as the result of the 3 lectures given by myself on their behalf, at the S. Kensington Lecture room in February & March

They unanimously desire me to express our common and grateful thanks to you for the ~~assistance & accommodation~~ kindness rendered to them by many of the ~~Fellows~~ members, with the further request that you will kindly convey them to all the Fellows authorities

Yours faithfully

Alfred C. Haddon

over

f.1v

accomodation so freely granted, and for the assistance
so cordially rendered by ~~many~~ the Officers of South Kensington
[illegible] Exhibition

F. G.

Board. Audit Dec.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS
3/3/3/34

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS
3/3/3/34

December 16. 1884

Dear Sir,

Lectures on Heredity & Variation

In your letter addressed to the Department 15 June last you say

"The Council would willingly grant a
"free entry to the proposed lectures to all
"students in the Science and Art Classes
"of South Kensington. but I think that other
"persons who are not members of the
"Institute should be required to make a
"small payment say one shilling
"for the Course to help to defray the
"expenses.

I have now the pleasure to hand you herewith the sum of £10.8.0 the amount realized by the sale of Two hundred and eight (208) tickets at 1/- each.

The

The total number of persons attending
were as follows

Nov. 23rd	278
Dec 3.	288
" 10.	226
Total	792

Yours very truly
Philip Cunliffe Owen

Francis Galton Esq
F.R.S.

Ref Committee f.1

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS
3/3/3/35



June 13th /90

Dear Sir

A committee, consisting of Dr. Haughton, Prof. Haddon & myself, has been formed for the purpose of carrying out in Ireland the anthropometrical work which you have initiated with such marked success in England. A few days ago I brought the matter before the Council of the Royal Irish Academy and a grant of £100 was voted

to help us in our project.
The greater part of this sum
will be required for instruments
We purpose establishing
our Laboratory in the Anat-
-tomical Museum of Trinity
College but as opportunity
presents itself we ~~Hastle~~
look forward to being able
to shift it about from place
to place & in time acquire
data from the different
districts in Ireland.

I take the liberty of
writing to you to ask if
you would be so kind as

to give us some practical
suggestions which would
aid us in our undertaking
and further if you would
be so good as to allow me
to spend some time in
your Laboratory in London
to learn the methods &
gain some practical ex-
-perience in their working.

I hope to be in London
for a few days next month
& I also purpose attending
the British Association Meeting
in Leeds. Should the laboratory
be established in Leeds at
that time I might be able

F.4

to get the experience I
want there.

Believe me
very faithfully yours
D. J. Cunningham

Francis Galton Esq F.R.S.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

Pet 8-1 Cunningham MD. F.5

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

June 21st 1890

My dear Sir

I thank you for the encouraging terms in which you write. We must not attempt too much at first. I trust that in Trinity College some one may appear who will be willing & able to carry out the psycho-physical part of the

work. At present it is impossible for us to do so altho' I shall certainly look forward to its establishment later on.

We are anxious to begin with the Students & from these to extend our survey to the races of Ireland. Both of these departments could be carried on at once. Dublin would be our head quarters but as opportunity arose we

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

should shift the lab-
-oratory to different dis-
-tricts in Ireland. I
think that I can
manage to interest
the priests & in that
way get at the people.

An accommodation
has now been arranged
for. The Board of Trinity
College agreed to day
to further the scheme
& have allowed us
to establish ourselves
in College. A very fine
appartment in the

Anatomy Museum
will be fitted up. In
all probability we shall
not make a start un-
-til November.

I am sorry that
I shall not have the
pleasure of seeing you
when I come to London.
It will be the end
of July before I can
get away. As for the
apparatus I have were
proposing to buy all
that is quoted in the
Cambridge catalogue.
Dr Haddon will go
Cambridge for this pur-
-pose as well as to study
the methods in the
Laboratory there very much yours

A. C. Haddon

Prof. Cunningham 19

43 FITZWILLIAM PLACE,
DUBLIN.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

July 6th 90

My dear Sir

Prof. Haddon is at present on a dredging expedition & I shall not see him until October as I leave Dublin in a fortnight. Before he left we arranged as to the purchase of the instruments but your last letter is so im-

- portant that I have
sent it on to him &
asked him to visit
your London laboratory
before taking any steps
towards the purchase.

I hope to be in
London in two weeks
from this & the all the
time that I have at my
disposal I shall spend
in your laboratory. I may
mention that I have
secured the services of
a very able assistant -
a student of medicine

F.11

who is interested in the work & one who is thoroughly reliable.

With very many thanks

Very truly yours

D. Cunningham

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

f.13

Trinity College
Dublin Feb 9/91

My dear Sir

We were sorry that our engagements were such that they would not allow us to undertake a lecture in Dublin this Winter but we look forward with the greatest pleasure to seeing you when

our Laboratory is
fitted up. In the
meantime I send
you proof copies of
the Schedules we pro-
pose adopting & also
a page of the Register.
I would be very glad
to know if you approve
of them.

Truly yours
D. Cunningham

f.17

ANTHROPOMETRIC LABORATORY, DUBLIN.

Signature in full,		Date of Application. Day.	Month.	Year. 18	Page in Register.	
Address when at home, in full.		Age last birthday,		Have you been measured here before? Yes or no?		
Date of Birth,	Day of Month.	Month.	Year.	Occupation (if a Student, in what branch?)	Were your Father and Mother first Cousins? Yes or no?	

Surnames,	**Surname** of your Father if different from your own.	**Surname** of your Mother before she was married.	What district do your Father's people come from?	Your Mother's.

Have your Father's people occupied that part of the country for long: if not, state what you know of their original locality,

I suppose you have practical reasons for not also asking about the mother?

F.18

THE DUBLIN ANTHROPOMETRIC LABORATORY.

The Laboratory is in the Museum of Comparative Anatomy, Trinity College, Dublin. The Laboratory is open to the Public from 2 to 4 p.m., on Tuesdays, Thursdays, and Saturdays.

Date of Measurement.			Initials.	Sex.	Birthday.			Eye Colour.	Hair Colour.	Page of Register.
Day.	Month.	Year.			Day.	Month.	Year.			

Head Measurements.							Stature.		Limb Measurements.					
Cranial length.	Cranial breadth.	Cranial height.	Auriculo-alveolar length.	Auriculo-nasal length.	Face length.	Face breadth.	Height standing, less heels of boots.	Height sitting above seat of chair.	Tip of mid-finger from ground, less heels of boots.	Tip of mid-finger from centre of patella.	Styloid from ground, less heels of boots.	Epicondyle from ground, less heels of boots.	Acromion from ground, less heels of boots.	Span of arms.

Weight in ordinary clothing (in lbs.)	Strength of grasp (in lbs.)		Greatest speed of blow in feet per second.	Breathing capacity (in Cubic inches).	Colour sense.	Keenness of Eyesight.		Is the Sense of Hearing normal?	Highest audible note by whistle (Vibrations per second).	Reaction time, in hundredths of a second.		Left Thumb.	Right Thumb.
	Right hand.	Left hand.				Distance in mm. of reading standard numerals.				To sight.	To sound.		
						Right eye.	Left eye.						
									,000				

One page of the Register is assigned to each person, in which his measurements at successive periods are entered in successive lines. A copy of these made at any specified date may be obtained on application by the person measured, or by his or her representative, on receipt of a stamped envelope.

N.B.—In the case of Students, it is very desirable that their measurements should be recorded every six months, so that they may thereby have an accurate means of estimating their physical as well as their mental development.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

F.19r

Initials of Self.	Surnames of Father.	Surnames of Mother.	F. and M. first Cousins?	Date of Birth. Day.	Month.	Year.	Eye Colour.	Hair Colour.	Sex.	Occupation.

Date of Measurement.	Head Measurements. Cranial length.	Cranial breadth.	Cranial height.	Auriculo-alveolar length.	Auriculo-nasal length.	Face length.	Face breadth.	Stature. Height standing, less heels of boots.	Height sitting above seat of chair.	Limb Measurements. Tip of mid-finger from ground, less heels of boot.	Tip of mid-finger from centre of patella.	Stylold from ground, less heels of boots.	Epicondyle from ground, less heels of boots.	Acromion from ground, less heels of boots.	Span of arms.

Date of Measurement.	Weight in ordinary clothing (in lbs.)	Strength of grasp (in lbs.) Right hand.	Left hand.	Greatest speed of blow in feet per second.	Breathing capacity (in Cubic inches).	Colour sense. Normal?	Keenness of Eyesight. Distance in mm. of reading standard numerals. Right eye.	Left eye.	Is the Sense of Hearing normal?	Highest audible note by whistle (Vibrations per second).	Reaction time, in hundredths of a second. To sight.	To sound.

,000

Initials of Self.	Surnames of Father.	Surnames of Mother.	F. and M. first Cousins?	Date of Birth. Day.	Month.	Year.	Eye Colour.	Hair Colour.	Sex.	Occupation.

Date of Measurement.	Head Measurements. Cranial length.	Cranial breadth.	Cranial height.	Auriculo-alveolar length.	Auriculo-nasal length.	Face length.	Face breadth.	Stature. Height standing, less heels of boots.	Height sitting above seat of chair.	Limb Measurements. Tip of mid-finger from ground, less heels of boot.	Tip of mid-finger from centre of patella.	Styloid from ground, less heels of boots.	Epicondyle from ground, less heels of boots.	Acromion from ground, less heels of boots.	Span of arms.

Date of Measurement.	Weight in ordinary clothing (in lbs.)	Strength of grasp (in lbs.) Right hand.	Left hand.	Greatest speed of blow in feet per second.	Breathing capacity (in Cubic inches).	Colour sense. Normal?	Keenness of Eyesight. Distance in mm. of reading standard numerals. Right eye.	Left eye.	Is the Sense of Hearing normal?	Highest audible note by whistle (Vibrations per second).	Reaction time, in hundreths of a second. To sight.	To sound.
									,000			

Initials of			F. and M. first Cousins?	Date of Birth.			Eye Colour.	Hair Colour.	Sex.	Occupation.
Self.	Surnames of Father.	Mother.		Day.	Month.	Year.				

Date of Measurement.	Head Measurements.							Stature.		Limb Measurements.					
	Cranial length.	Cranial breadth.	Cranial height.	Auriculo-alveolar length.	Auriculo-nasal length.	Face length.	Face breadth.	Height standing, less heels of boots.	Height sitting above seat of chair.	Tip of mid-finger from ground, less heels of boot.	Tip of mid-finger from centre of patella.	Stylold from ground, less heels of boots.	Epicondyle from ground, less heels of boots.	Acromion from ground, less heels of boots.	Span of arms.

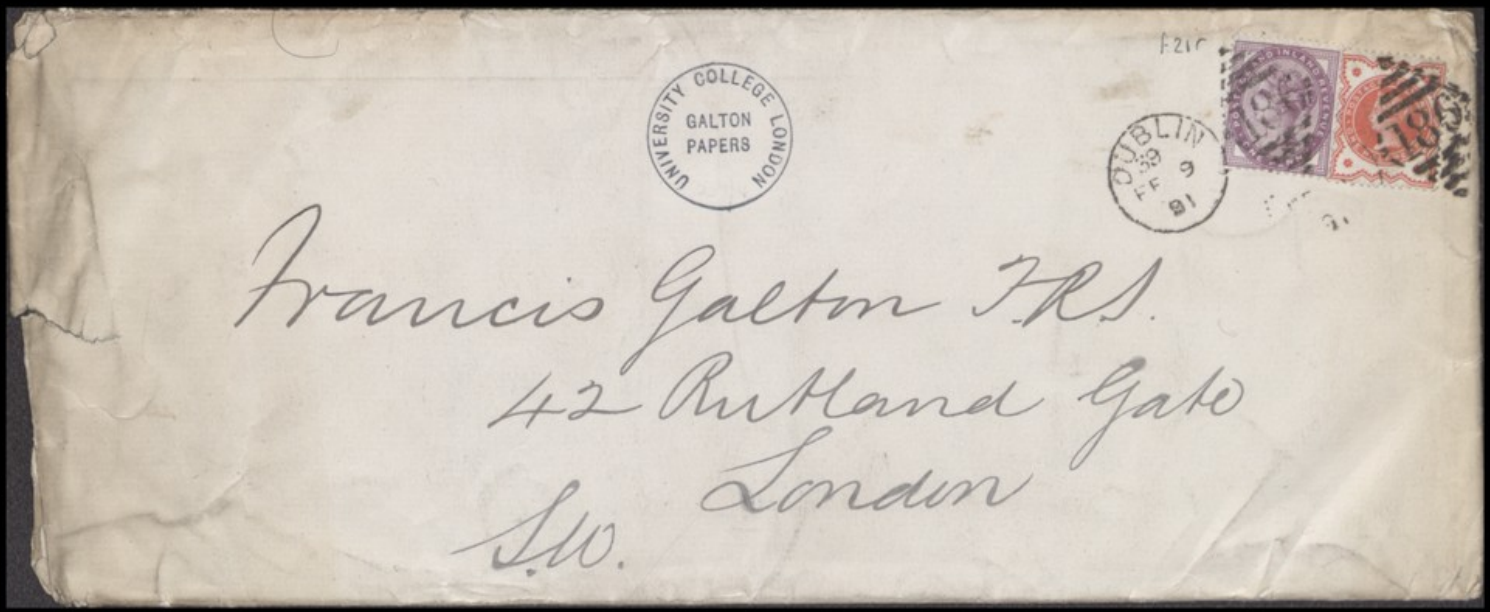
Date of Measurement.	Weight in ordinary clothing (in lbs.)	Strength of grasp (in lbs.)		Greatest speed of blow in feet per second.	Breathing capacity (in Cubic inches).	Colour sense. Normal?	Keenness of Eyesight. Distance in mm. of reading standard numerals.		Is the Sense of Hearing normal?	Highest audible note by whistle (Vibrations per second).	Reaction time, in hundredths of a second.	
		Right hand.	Left hand.				Right eye.	Left eye.			To light.	To sound.
									1000			

Initials of Self.	Surnames of Father.	Surnames of Mother.	F. and M. first Cousins?	Date of Birth. Day.	Month.	Year.	Eye Colour.	Hair Colour.	Sex.	Occupation.

Date of Measurement.	Head Measurements. Cranial length.	Cranial breadth.	Cranial height.	Auriculo-alveolar length.	Auriculo-nasal length.	Face length.	Face breadth.	Stature. Height standing, less heels of boots.	Height sitting above seat of chair.	Limb Measurements. Tip of mid-finger from ground, less heels of boot.	Tip of mid-finger from centre of patella.	Styloid from ground, less heels of boots.	Epicondyle from ground, less heels of boots.	Acromion from ground, less heels of boots.	Span of arms.

Date of Measurement.	Weight in ordinary clothing (in lbs.)	Strength of grasp (in lbs.) Right hand.	Left hand.	Greatest speed of blow in feet per second.	Breathing capacity (in Cubic inches).	Colour sense. Normal?	Keenness of Eyesight. Distance in mm. of reading standard numerals. Right eye.	Left eye.	Is the Sense of Hearing normal?	Highest audible note by whistle (Vibrations per second).	Reaction time, in hundredths of a second. To sight.	To sound.
									,000			

UNIVERSITY COLLEGE LONDON GALTON PAPERS


F.21C
UNIVERSITY COLLEGE LONDON
GALTON PAPERS
DUBLIN
FE 9
91
Francis Galton F.R.S.
42 Rutland Gate
London
S.W.

BROWN & NOLAN, DUBLIN.

cunningham

Dublin Anthropometry

& th

three closures

1891 D/L

Letter with three

Enclosures D/L

F 21 V

Prof Cunningham

2F.22

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

TRINITY COLLEGE DUBLIN

June 29th 1891

My dear Mr Galton

Would you allow me to introduce to you Prof. Charles of the Lahore College. He is much interested in anthropometrical work & has enormous opportunities of carrying it on in India.

I have asked

him to call upon Jm
because I feel sure
that a talk with Jm
would encourage him
greatly in the prosecution
of this work and I
am sure that Jm
will agree with me
when I say that it-
it is work which is
certain to yield magn-
-ificent results.

Believe me
very truly yours
D. Cunningham

P.S. On Labrador was formally opened on Thursday. I send you a newspaper account of the proceedings.

J. T Cunningham
1 Adelaide Road
Plymouth

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/36

Dec. 26, 1894.

Dear Sir,

I will reply to your questions seriatim

1. I know that Henry de Varigny in his book on Experimental Evolution (Nature Series) proposes the institution of a farm-like place for researches and experiments on evolution, and states that the late Mr Romanes circulated

an appeal for support in
founding such an
institution, but I do not
know the result of these
endeavours, definitely. So
far as I can discover no
such suggestion has yet
been put into execution at
least in this country. I
shall be much obliged to
you for further information
on the subject.

2. I have a number of
experiments in my own head
which I should like to

carry out, and some which
are now going on that I
should like to continue. But
my present position, demanding
that I should give much
of my time to teaching questions,
prevents me from carrying
out my evolution researches.
There is the question of neuter
insects: rearing larvae
e.g. of blow fly, on food
of varying composition &
finding effects on development.
There is the action of light
in producing pigment in
flat fishes, and rearing the

progeny of the individuals
subjected to experiment.
But what I consider most
important is the propagation
of animals and plants
under determinate conditions.
For instance I would take
a pair or a few pairs of
the wild rock pigeon, and
other ancestral species, and
breed them for many
generations to see what
variations arose, and to see
what conditions were related
to the variations. The question
to be answered is this:-

read, but publication
declined, on the ground
that it was unsuitable
to their ~~journals~~. proceedings
etc. If Natural Selection
were true it would
be the test of every character
in nature. It is feasible to
ascertain whether this is
true or not. I am certain that
the significance of diagnostic
characters has never yet been
seriously studied.

---

3 I have written the circular
on my own initiative
entirely, and have sent

are the characters of the
breeds & races produced
from a given stock
determined by the constitution
of the stock, or by the
conditions of life, or by
selection. Probably all
the breeds of pigeon could
be produced anew from
rock pigeons.

Similarly with plants.
Some say that horticulturists
select individual differences,
but it seems certain that
the sports selected only arise
when the conditions have
been altered, and a number

of experiments would show
it in what directions the
results were determinate.
In all such cases I would
have the results analysed
as far as possible to their
ultimate histological
chemical and physiological
nature, and this would
require the prolonged
labours of the best experts.

Another class of researches
I may just indicate: to
ascertain the effect of
operations at every stage of
ontogeny: follow up the

experiments in experimental embryology which have been recently made, and generally to study ontogeny experimentally.

Another field of investigation is the analysis of the significance of Diagnostic characters. I have made an essay in this with the flat-fishes: I sent the paper to the British Ass. meeting and it was not read, then communicated it to the Zool. Soc. where it was

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

most of
it to the gentlemen your
members and a great
many others, in order to
find out if a sufficient
number would support
the proposal. I have ~~not~~ as
yet received answers from
only two, Mr. Herbert Spencer
who heartily supports it,
and promises to contribute,
and Prof. Burdon Sanderson
who prefers the plan of a
Committee of the Royal
or Linnean Soc. for 5 years:
a plan which I cannot
adopt.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

(4) My principal memoir
on this subject is a paper in
the Phil. Trans. ~~in~~ prepared
in collaboration with Dr
Mac Munn, on the Coloration
of the Skins of Fishes, especially
Pleuronectidae, published
in 1893.

Pray excuse this somewhat
unsatisfactory reply to your
enquiries. I am obliged
to write it hurriedly, but
if I get enough support
I will prepare a carefully
considered statement of

the objects which the
Society might carry out,
and the programme it
might adopt. But of course
my own ideas will not
be sufficient: I want
to include the aims and
methods of other
investigators in the field.
My principle, in the most
general terms is this: That
as the Linnean study of
living beings is not yet
exhausted, and the study
of comparative anatomy
comparative physiology

and embryology etc. are
well provided for at the
present time, so beyond all
these and transcending
them all is there is a wider
physiology, the physiology
of variation and adaptation,
the physiology of evolution.
At present the investigation
of this branch of the subject
is not properly organized.

Yours faithfully

J. T. Cunningham.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

I consider Mr. Cunningham's proposal thoroughly sound and one which it is quite possible to carry out with valuable results.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/5c

Proposal to institute a Society for the Investigation of the Problems of Evolution.

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/36

1, Addison Road
Plymouth

Dear Sir, ... Dec. 21, ... 1894

Although it has been established beyond all question that the process of Organic Evolution has been going on since the beginning of life, and will go on as long as living beings exist, yet the explanation of this process is still a matter of controversy and what is more important, is a matter of enquiry and investigation. The Controversy between Evolution & immutability is a ~~theory~~ thing of the past; the investigation of the problems of evolution is the task of the present and the future. The theory of natural selection is not universally accepted as either a complete explanation or a correct statement of the process of modification. It is constantly being subjected to criticism, and has undergone alteration at the hands of various exponents. Many of the keenest intellects devoted to biological subjects are occupied with a separate & independent investigations of the modes and causes of organic evolution. It must be admitted that there is beyond all the recognised departments of the subject a far extending realm of Physiology which we have only begun to explore. Three methods by which the first attempts at discovery in this territory have been made may be mentioned. There is the empirical study of variation of which Mr Bateson's important book is the latest outcome. There is the Statistical method developed by Mr Francis Galton and Professor Weldon. There is, thirdly, the experimental ~~method~~ which Professor Poulton and others, including the present writer, have in isolated instances practised. At the present time it seems feasible to inaugurate a co-operative and organised study by these and other methods

of the problems which have become evident in relation to organic evolution. The majority of biologists are sensible that there is too much logic and too limited a basis of facts in the discussions that are continually raised to permit us to hope for any satisfactory conclusions.

I venture, therefore, to propose that in connection with this subject of inquiry, a method should be adopted which has proved itself efficacious in so many other cases in modern times. I mean the method of bringing together those who are interested in a common object in a society or association. The purposes which this combination of cultivated people should aim at carrying out would be the organisation of investigations likely to throw light on problems of evolution. The details of the plan of operations need not be indicated at any length at present. I would suggest that money be subscribed for the purpose in view. Probably the Royal Society Grant Committee and the British Association would contribute to an important extent. Individuals with sufficient means would doubtless give assistance. It would perhaps be not necessary, at any rate at first to establish a special institution. There are many institutions in this country where the requisite investigations could be carried on.

It is clear that the evolution of organisms under the cultivation of man is not essentially different from that of organisms in nature. The supposed truths about domesticated organisms are always adduced on both sides in controversies concerning ~~the~~ variation and evolution. Many have attempted experiments with cultivated organisms, but what has been done in this way is but a trifle to what might be done. The expenditure of the Society would be to a considerable degree devoted to keeping animals and plants under observation during successive generations under determinate conditions. But the chief

expenditure would be the maintenance or assistance of investigators. The Society could hold regular meetings and publish regular reports and could exercise strict supervision and control of the inquiries undertaken.

Such a Society would I feel confident receive the hearty support and assistance of all the most distinguished men in the country. I think there can be no doubt that it would ~~be~~ produce results of tremendous importance. Experiments and observations lasting for a few months are of relatively little value in this field of inquiry. But by the aid of such a Society researches could be carried on not only over several years, but beyond a lifetime. A series of experiments begun by one man, could in case of his death be continued as long as required. It would also focus into one combined effort the energies and ideas which are now scattered and dissipated.

I would suggest that the organisation be called "The Darwinian Society" in honour of the founder of such investigations. It may be said with truth that it requires a combination of men to carry on the work which he inaugurated single-handed.

I earnestly request you to promise me your help and support in instituting such a Society, and to signify your approval by signing the appended form of words and returning it to me.

I am

Yours faithfully

J. J. Cunningham, M.A.

~~I consider Mr Cunningham's proposal~~ thoroughly sound, and one which it is ~~quite possible to carry out~~ with valuable results.

Cunningham
Darw. Lett

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

49 Duke Street
St. James' Lod
13th April 1885

Sir,

May I have the honor of introducing to your Institute Three Australian Cannibals, Black Trackers, and Boomerang Throwers, (Man, Woman, and Boy) from North Queensland.

In the Continent during the last five years they have created a vast amount of interest, and most of the learned Professors in the various Cities and Towns they have visited, have not only availed themselves of the opportunity of seeing them but have granted certificates as to their being the true type of the race they

GALTON/3/3/3/37

are said to represent.

I have great pleasure in submitting Copies of Certificates and shall not only be happy to call upon you with the originals but introduced these people to your Institution.

I also enclose a list of the names of other Professors who have already seen them and granted certificates as to their being what they are represented.

Awaiting favor of your reply. I am. Sir,

Your Obedient Servant

R. A. Cunningham Sup't W.M.S.

To The President

Anthropological Institute of

Great Britain & Ireland

Copy

Gabinetto di Antropologia

Roma
Jan: 26th: 1887

I have carefully observed the black people introduced by Mr R. A. Cunningham, and I certify that the three individuals, a man Billy, a woman Jenny, and a boy the little Toby, are very true types of Aborigines of North Australia.

Signed, Prof: G. Sergi

(Copy.)

Philosophical Society of Glasgow
207 Bath Street
March 3rd 1886.

I have much pleasure in stating that by the kindness of Mr. R. A. Cunningham the three Queensland Aborigines, Billy, Jenny, and little Toby were shown this Evening to the Philosophical Society of Glasgow when Dr John Glaister read an interesting paper on some of the characteristics of the race. The Members present were much interested in the appearance of the

alongside, in the curious
skin marks, and in the
demonstration given of
their dance about the use
of instruments of war

(Signed) John G McKendrick
Secretary

(Copy)

Revue D'Anthropologie Paris

November 25th 1885.

I certify that in the meeting of the 19th of November 1885 the Society of Anthropology of Paris has studied three Australians, Billy, Jenny, and little Toby, presented by Mr R. A. Cunningham, those Australians belong to the lowest type of the Australian race. Those curious samples of Man must be seen as their race is fast dying away, as did before the Tasmanian race and as will in a short time the Bohemian race

(signed) Dr P. Topinard

Professor L'Ecole d'Anthropologie de Paris

Secretaire General de la Societe d'Anthropologie

(Copy) Berlin
July 25th 1884

The Blacks (4 Men, 2 Women, 1 Child.) which Mr R. A Cunningham brought to Berlin are in every respect typical Examples of their Race, and belong especially to the North race of Australia. There is nothing in existence referring to them, therefore the attention of the Anthropological Society has been directed towards them.

(Signed) Professor Virchow

A 8

Copy

Brussels
May 18th 1884

At last the result is known
of the inquiry by the Society of
Anthropologie of Brussels who
have minutely studied the
Lewin Native Australians now
at the Jardin du Nord,
and declare them to be the
real Cannibals of Australia

(Signed) Dr E Houzé

Names of the Professors

= Dr. Friedrich Müller
Vienna

= Professor from Russia
(Name & certificate in Russian
language)

= Professor Alfred Kirchhoff
Germany Do

= Dr. H. Landois
Professor der Zoologie
Do

= Prof Dr Weissenborn
Erfurt Germany

=

The Original Certificates
Granted by the above Can
be submitted - they are also
written in the Language of their
various Countries & Translations

S^a Costa Stmt

F.1

22 July,
1905.

PALAZZO BARBARO
VENEZIA

Dear Mr. Eaton.

May I present
to you some photo-
graphs of Canals in
Mars, just taken
at Flagstaff Obser-
vatory. U.S.A. by
Mr. Percival Lowell,

and sent by him
July 2d.

With kind regard,
I am
Sincerely Yours,
A. S. Curtis.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS

F3

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS
3/3/3/38

Photos of Mars

1907

& 1910

GALTON/3/3/3/38

GALTON/3/3/3/38

f.6

Canals of Mars.

Photographed by C.O. Lamplans

Drawn by Percival Lowell.

The two written an hour of its other. Axis of photograph is tilted to left.





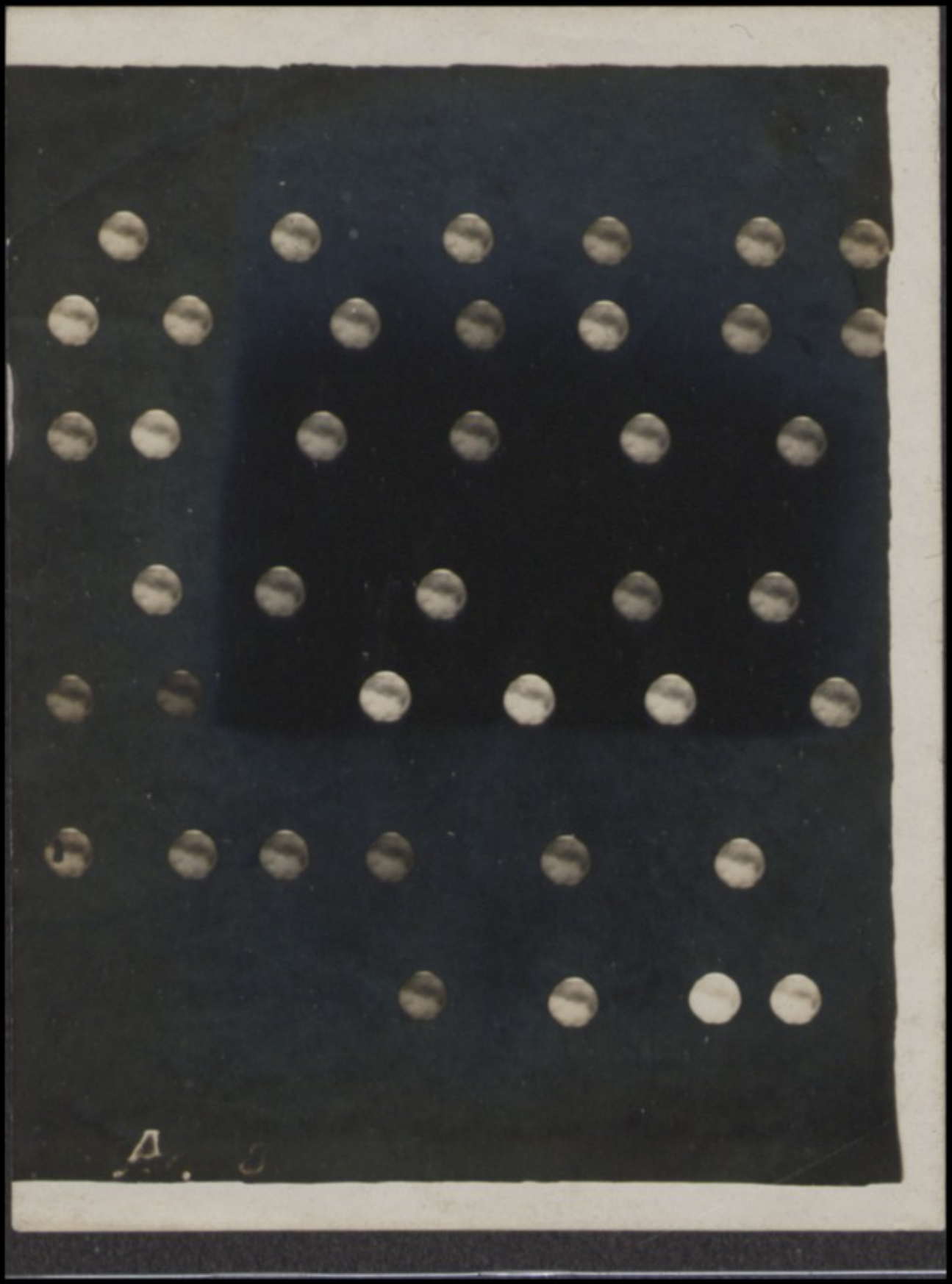
CLIFF HOUSE
FELIXSTOWE



Mars.
drawing by F. L.

UNIVERSITY COLLEGE LONDON
GALTON
PAPERS
3/3/3/38

F.106 V


A. 3

Pl. 8

Mars.

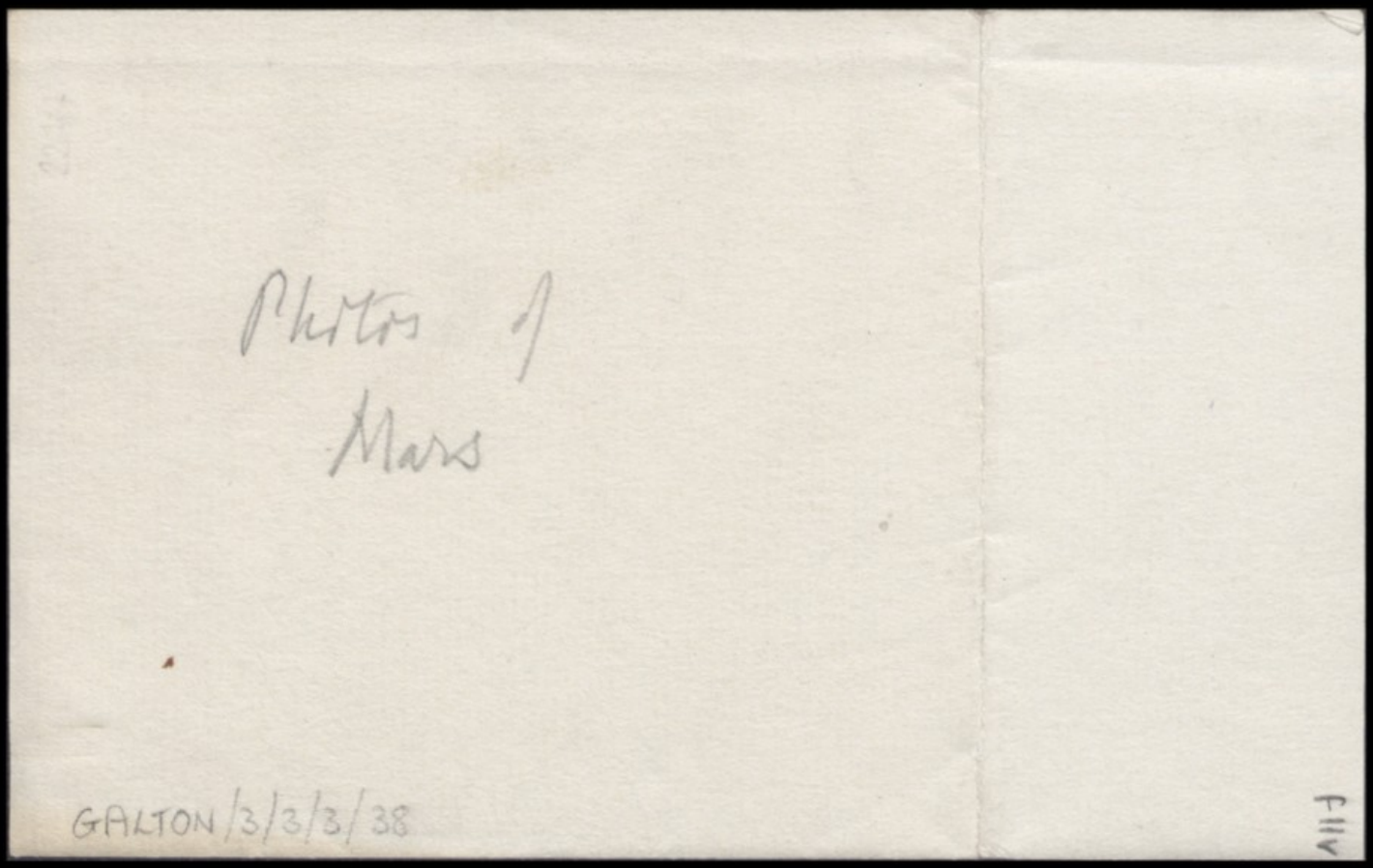
Obs.y photographed by
Percival Lowell
Flagstaff,
Arizona,
July 11. 07.

F.10c.v

UNIVERSITY COLLEGE LONDON
GALTON PAPERS
3/3/3/38

SECOL THETFORD NORFOLK UK

F.11 v


Photos of
Mars
GALTON/3/3/3/38
F11v

f.12



Mrs Mars

Francis Galton Esq.

42. Rutland Gate.

Walter Curwen

f.1

55 St Mary's Terrace

Nov: 6th. 1901.

Manningham

Bradford.

Dear Mr Galton

Will you forgive
my troubling you but I do
so much want to know
whether the lecture you
gave the other day is pro-
-curable in printed form -
it would I know be so helpful
to me in my work - You
may not know that I have

GALTON/3/3/3/39

UNIVERSITY COLLEGE LONDON
GALTON PAPERS

for some years lectured on
the wide field of Hygiene &
this winter I am endeavouring
to train up teachers in the
way they should go - I joined
Miss Ravenhill in September
& am helping her in her
practical demonstrations
to Teachers as well
as lecturing myself in other

UNIVERSITY OF LONDON
GALTON PAPERS

places in a popular style -
be try to make the teachers
understand that children
are not grown up people
& to realise the importance
of practical training as
against merely theoretical
- we do everything by demonstra-
-tion & as my chemical training
is sadly deficient I can
assure you I had a narrow

escape from blowing myself up
the other day. I manufactured
beautiful lightning though
nominally I was making Oxygen!
I was only told of your lecture
as I missed seeing the report of
it but what I heard made
me feel how useful it would be
to me. The question of environ-
ment is one I always try to
make my audiences think about,
its importance is so little
realised.

I am hoping for good results from the new Commission appointed to enquire into the present unsatisfactory teaching of Hygiene - Unfortunately there is only one Hygienist on it & he is against reforms. The present teaching of it is deplorable. I know of cases also in which Honours have been taken at the Board of Education Examinations merely by reading up "Notter & Firth" & without

any practical Knowledge or
Experience whatever - Any
ordinarily intelligence person
who chooses to cram up the
subject from books can
pass easily - but ask them
to apply the "knowledge
gained and you find them
quite incapable of doing
so.

I am sending this note
to Corby and asking my

UNIVERSITY COL
GALT
PAPE

Aunt- Mrs Hills to Hindley send
it on to you as I do not
know your address here
no red book at- hand.

Apologies for troubling
You about Mrs Huxley
Memorial Lecture

Believe me

Yours sincerely

Maud Leonora.

LEGE LONDON
ON
RS