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...ARO

...MANCHE

Samedi 10 Septembre 1881

A. PÉRIVIER

26, rue Drouot, 26

...HOMME

anxieux, haletants sur la plage, et cassent leur admiration. On applaudit, on crie bravo à ce vainqueur de l'Océan. Au milieu des cris, il entend la voix de sa femme qui s'adresse à Dieu, et de ses enfants qui l'appellent. Tout cela double ses forces. Il avance, mais péniblement et lentement. Enfin ses pieds touchent le sable. Il était temps, car à ce moment le froid l'avait gagné et il faillit s'évanouir.

On s'empressa autour de la noyée qui ne donnait aucun signe de vie. On la frictionna néanmoins et on essaya de réchauffer son corps glacé. Quelques minutes après : « Papa, dit une des petites filles du noble sauveteur, papa, elle vient de remuer la tête. » C'était vrai. On courut chercher un médecin, elle était sauvée. Aujourd'hui, cette femme miraculeusement rappelée à l'existence et qui n'est qu'une simple domestique, se porte à merveille et vit honnêtement dans la crainte de Dieu et de l'élément liquide. Elle n'est plus jeune et elle ne fut jamais belle. Pourvu, juste ciel, qu'elle n'aille pas un jour, par une reconnaissance exagérée, devenir amoureuse de son sauveur ! Ce serait le revers de la médaille accordée à notre gentilhomme pour l'avoir repêchée.

⁂

Nous venons de voir quel emploi le héros de ce récit fait de son adresse et de son courage.

Voici l'emploi de son esprit.

Durant une dizaine d'années, il étudia la musique au Conservatoire de Lille. La nature, qui n'a voulu rien lui refuser de ce qui fait l'agrément de notre espèce, lui a donné une voix charmante. Il a visité l'Andalousie et il lui est resté de son voyage en Espagne un talent fort appréciable sur la guitare et la mandoline. Rien de poétique comme de l'entendre soupirer chromatiquement sur un dessin persistant de guitare, les malagueñas et tous les chants d'origine mauresque. A l'orgue, il change de style et chante, en s'accompagnant, des compositions d'auteurs italiens et allemands, ayant aussi voyagé en Italie et en Allemagne. Parfois, il s'abandonne à ses propres inspirations et il chante alors comme on parle.

Il a dans ses cartons des notes développées sur Mozart, Beethoven, Schumann, Wagner et Gounod qui, réunies, formeraient un livre intéressant d'esthétique musicale.

J'ai vu des sculptures de ce gentilhomme qui sont des œuvres d'art remarquables.

Il est marié, nous le savons, et un homme de cette habileté ne pouvait que faire de jolis enfants. Ses bébés sont adorables et leur mère, comme on le pense bien, en est justement fière. Elle et lui soignent leur éducation.

— Mais, direz-vous, comment cet homme a-t-il trouvé le temps d'apprendre et d'exercer tant de choses si diverses ?

Vous m'y faites penser : au milieu de sa vie si remplie, ce grand maître d'armes, ce grand maître nageur, cet organiste, ce guitariste, ce chanteur, ce jongleur, cet escamoteur, ce tireur au pistolet, cet écuyer, ce sculpteur, ce critique d'art, cet écrivain, ce poète — car il rime aussi — cet époux attentionné, ce père de famille, trouve encore le temps de faire... devinez quoi ?

— Parlez, je ne sais rien deviner.

De faire... des portraits et des tableaux qu'il signe... Carolus Duran.

— Eh quoi ! ce gentilhomme du dix-neuvième siècle, c'est...

C'est lui-même, dont je viens d'escalader le mur de la vie privée, ou à peu près, pour le surprendre en flagrant délit de tous ses talents ignorés du public.

C'est lui, le glorieux peintre français à qui nous devons l'*Enfant bleu*, le *Pêcheur dogat*, le portrait d'Emile de Girardin, celui de Gustave Doré, de Pasdeloup, de Mlle Croizette, à cheval, de la comtesse de V..., du *Baiser*, de la *Dame au gant*, etc.

Si l'homme descend du singe (ce que n'a jamais dit Littré), convenons, après ce que l'on vient de lire, qu'il ne lui ressemble plus guère que par son adresse. Même sous le gouvernement essentiellement égalitaire de la République, dirait Joseph Prudhomme, l'homme est et restera le Roi des animaux.

Oscar Comettant.

AIME-T-ON

LES

HOMMES ILLUSTRES?

C'est aujourd'hui que Dentu publie le nouveau volume de M. Georges Lachaud, que nous avons déjà annoncé, et qui porte ce titre : *Chasse d'amour*. C'est un traité de psychologie amoureuse, parfois piquante, mais toujours très curieuse il faut dans sa gaieté et sa bonne humeur gauloises. On en jugera par ce chapitre que nous avons été autorisés à offrir en primeur à nos lecteurs.

Les femmes aiment en général ce qui se distingue par quelque éclat et quelque retentissement. On est donc porté à croire que les hommes illustres sont adorés d'elles.

Rien n'est plus curieux et plus délicat à étudier que les rapports galants des hommes illustres avec les femmes. Et tout d'abord quelles sont celles qui s'entourent le plus volontiers d'un homme dont le nom est devenu célèbre ?

cet écrivain. Elle adorera le chevalier de Maison-Rouge, Monte-Cristo, d'Artagnan ou Goujet. Mais peu lui importe l'auteur de ces types héroïques. L'œuvre seule l'intéresse. L'écrivain n'intervient dans la pensée du public, que si ce public peut avoir quelques relations personnelles avec lui, que si l'auteur du livre ou de la pièce est du monde auquel appartient le lecteur. Dans la foule on n'a qu'indifférence pour celui dont on admire les ouvrages. Aussi ce n'est pas dans les classes inférieures que l'écrivain, même triomphant excitera des tendresses spontanées.

L'homme d'État, l'homme de guerre seront-ils plus heureux ? Ceux-là obtiennent les enthousiasmes des foules, mais rien de plus. Ils apparaissent de si loin aux pauvres créatures enfouies dans la multitude, que la possibilité d'un rapprochement n'apparaît pas. Or l'amour étant un sentiment profondément sensuel, il faut que la possession soit possible et même prochaine pour que l'amour naisse. On aime d'ordinaire la femme que les circonstances mettent fréquemment sur votre route, et l'on ne s'attache pas à celle qui passe sans qu'on sache si elle reviendra. On adore l'une, on oublie l'autre sans calcul, sans raisonnement, parce que l'instinct vous pousse vers celle près de laquelle le désir a chance de se satisfaire.

La fille du peuple, quand elle se donne par amour, ne cherche jamais le jeune élégant qui lui semble doué cependant de toutes les grâces et de toutes les beautés, mais qui ne semble point d'elle. Elle aime l'ouvrier, laid souvent, grossier toujours, qui ne se flatte guère les instincts de vanité, mais qui est là, présent, attentif, capable en un mot de contenter ce désir qui forme l'élément essentiel de l'amour. Tout ce qui est grand et brillant paraît si lointain à la femme de condition inférieure qu'elle l'englobe dans une générale indifférence.

Pour d'autres motifs, l'homme illustre a peu de succès personnels parmi les femmes qui occupent de hautes situations sociales. Tout au plus touche-t-il le cœur de quelques matrones prétentieuses, qui veulent remplacer par un éclat emprunté à l'homme qu'elles aiment, les triomphes qu'elles ne peuvent plus remporter par elles-mêmes. Leur amant, elles l'ont d'abord cherché, comme font les femmes de leur monde, parmi ceux qui se distinguent par les qualités dont ce monde est surtout friand : nom, élégance, fortune, beauté physique, grandes façons, belle humeur. Or les hommes célèbres sont la plupart du temps nés en dehors de cette société brillante et en ont rarement les qualités favorites.

C'est donc seulement lorsqu'elles sont bien convaincues qu'elles ne peuvent plus atteindre leur idéal préféré, que les hommes dont nous parlons regardent d'un autre côté ; et comme elles n'aperçoivent, en dehors de leurs relations habituelles, que les hommes auxquels s'est attachée la célébrité, ce sont ceux-là qu'elles visent. Elles s'imaginent, à tort du reste, que leurs rivales plus jeunes envieront ces conquêtes éclatantes ; elles pensent aussi trouver, à défaut de ce qu'elles ont aimé chez leurs autres amants, une originalité d'intelligence, un charme tout particulier qui viendra du génie de l'homme illustre qu'elles adoreront désormais.

Elles sont d'ordinaire bien vite désabusées. Outre que la célébrité va souvent à des personnages qui ne la méritent pas, qu'elle est parfois le résultat de circonstances passagères tout à fait indépendantes du mérite de celui qui en bénéficie ; outre que le tapage inféconde et vulgaire prend parfois le nom de gloire, la femme qui aime un homme illustre, fût-il vraiment digne de sa renommée, comprend sans tarder quelle erreur était la sienne. Si elle n'est pas une sotte, désireuse uniquement de voir son nom accolé par la médisance publique à un autre nom glorieux, si elle ne se trouve pas pleinement satisfaite d'entendre sur son passage des chuchotements demi-railleurs, demi-envieux, si elle s'efforce de mêler au sentiment de l'amour le sentiment de l'admiration (mélange qui doit être merveilleusement doux), quelle ne sera pas sa déception ! La gloire ne va, en nos temps compliqués, où les connaissances humaines se morcellent parce qu'elles sont étendues, la gloire ne va qu'aux hommes spéciaux.

Jamais l'esprit aimable et vaste qui s'intéresse à toute chose, qui est curieux de toute découverte, qui a du goût pour tout ce qui est intellectuel, n'aura le temps d'acquérir une supériorité quelconque dans un art ou dans une science déterminée.

inventé quelque système métaphysique, philosophique, scientifique, ou autre, qui s'appelera évolution, transformisme, spiritualisme, matérialisme, et qui le lendemain sera renversé par un autre système, dont l'inventeur sera proclamé aussitôt grand homme; qu'il se soit trouvé, grâce à des classements de groupes politiques, promu à de hautes fonctions et qu'il y ait déployé autant de bon sens qu'un mathématicien du moyenage [illegible] ; bon-gré mal-gré il lui faudra quelque chose de satisfaction. Il se croit le centre du monde et le résumé de toute l'espèce humaine. Quelquefois parle-t-il de lui d'autre chose que de lui, l'exemple [illegible] quoique semble songer à quelque chose d'étranger à lui, l'auteur. A la fois [illegible] de lui-même et inquiet; recevant les admirations comme un tribut et pensant une oreille anxieuse aux critiques, vivant dans un état de perpétuelle agitation qui ressemble à l'ivresse ; croyant tout connaissement, parce qu'il regarde tout à travers sa propre personnalité. Éternellement préoccupé de l'effet qu'il va produire, s'efforçant de provoquer l'admiration par l'acte le plus vulgaire de sa vie et ayant la secrète conviction qu'il l'excite toujours, c'est un acteur en représentation. Quelle est la femme distinguée d'esprit qui, après avoir aimé un homme illustre, n'a pas, dans la profondeur de sa pensée, appliqué à connaître cette malheureuse qualification ; à moins que, mieux formée au langage du jour, elle ne l'ait tout simplement traité de cabotin.

Quoi qu'il en soit, l'homme illustre qui n'est point gâté par les bonnes fortunes de haute volée, se laisse facilement aimer par la maîtresse qui daigne ; il est flatté d'une liaison qui semble lui donner droit de cité dans un monde où souvent il n'a que droit de passage et, sans trop regarder aux rides et aux ridicules, il accepte ce qu'on lui offre. Toi est le secret de ces affections célèbres qui font l'admiration de la postérité et qui sont la stupéfaction des contemporains. Voilà comment on s'explique que telle beauté sur le retour, qui ne trouverait pas un adorateur dans son monde, ait pour amants et pour cavalier servant tel étalé de premier choix, qui tient à elle par vanité ou par pénurie d'affection. Et ce fut ainsi de tout temps.

C'est que, d'ordinaire, les amoureux se choisissent l'un l'autre d'une façon absolument primitive. Lorsque ni l'intérêt, ni la vanité, ni l'ambition ne sont en jeu, tout dans l'amour tend au but final, la satisfaction matérielle. L'homme de bonne foi, c'est-à-dire celui qui ne demande à la femme aucune joie d'amour-propre, celui qui va tout bonnement à celle qu'il désire, s'inquiète peu du génie de sa maîtresse.

Il en est de même de la femme, car en amour la femme est beaucoup plus homme qu'elle ne le veut avouer.

De tout temps les femmes, quand elles n'ont pas été affublées par la vanité et par l'ambition, se sont peu souciées de l'illustration de leurs amants. Or celles qui ont de hautes situations personnelles veulent leur vanité suffisamment satisfaite. Aussi ne vont-elles aux grands hommes que quand leurs propres succès disparaissent ; jusque-là elles ont des amants pour elles-mêmes et non pour le public.

Mais la classe sociale dans laquelle les hommes illustres trouvent un aliment à leurs appétits, fussent-ils plus dédaigneux que [illegible] c'est la bourgeoisie suffisamment solaire et riche. Là, on n'a qu'une souffrance, l'obscurité. On possède tout et l'on n'est rien. Les femmes surtout y sont dévorées de la soif de la publicité. Elles voient avec envie les célébrités d'élégance et de beauté qui s'établissent souvent sans raison. « Nous sommes, se disent-elles, plus jeunes et aussi belles que la marquise de X... dont on vit les yeux bleus et les cheveux noirs. Nos toilettes sortent de la même maison que celles de la princesse Z... ; elles sont taillées sur les mêmes modèles et nos notes sont plus considérables que les siennes. Nous avons des équipages mieux tenus que ceux de la baronne et cependant on ne parle jamais ni de nos toilettes, ni de nos chevaux, ni de notre beauté. Quelle injustice ! » Et encore les femmes qui vivent dans les sphères très opulentes de la bourgeoisie riche ont l'espérance, grâce à quelques complaisances pour des hommes bien posés, d'arriver à cette renommée qui leur échappe. Mais si l'on descend un peu plus bas, l'espoir diminue et se réduit à rien. Comment une femme qui n'est ni très élégante, ni très riche atlirerait-elle l'attention publique ? Elle peut avoir un journaliste à sa table et de temps en temps lire avec ivresse son propre nom cité à côté de celui des plus vaniées ; mais elle sent bien vite que c'est là une publicité factice à laquelle personne ne se laisse prendre.

Tout à coup, après de ces hommes auxquelles pèse l'obscurité, apparaît l'homme illustre. Elles l'ont recherché avec passion ; c'est le soleil éclatant qui non-seulement brûle lui-même mais qui met en pleine lumière tout ce qu'il approche. Il est donc nécessaire qu'il approche et qu'il demeure. Que de soucis pour cela, que d'efforts, d'efforts douloureux parfois, car l'homme illustre est souvent peu fait pour plaire ! « L'œuvre est belle, l'ouvrier est laid », a écrit Michelet qui avait de bonnes raisons pour le savoir. Tel grand homme qui dans ses ouvrages apparaît jeune, beau, tendre, est en réalité un vieillard cacochyme et répugnant. Ses portraits l'ont rajeuni, ses flatteurs l'ont vanté. Mais quand il apparaît, quelles désillusions !

Nous avons ouï parler d'une femme qui avait conçu une passion violente pour un homme célèbre. Elle s'était enamourée de la gloire d'abord, de la pensée ensuite, et elle avait engagé avec lui une longue correspondance. Le grand homme peu habitué à ce genre de succès « s'appliquait » comme s'il eût dû vendre ses lettres à son éditeur ; (peut-être du reste y pensait-il pour l'avenir). L'amoureuse était charmée. Enfin tout suffisante d'exaltation et désireuse de jeter un peu de réalité dans ce beau roman imaginaire, elle demanda un rendez-vous qu'on lui refusa obstinément. Elle habitait la province et n'avait jamais vu son héros ; celui-ci se dérobait dans un lointain favorable. Enfin, à force d'insistance, elle obtint une entrevue. Elle y arriva toute palpitante. Tout à coup apparut un vieux monsieur un peu sale, qui pour la circonstance avait orboré une perruque toute neuve. Que venait faire cet importun ? Il se nommait ; c'était le héros. La pauvre enfant, élevée dans les traditions classiques, s'évanouit pour tout de bon. Le grand homme mit l'émotion sur le compte de la pudeur. Elle ne le détrompa pas ; car une femme vaniteuse triomphe même de la nature. Le grand homme eut un succès complet, durable. Il est aimé, et la femme courageuse pensera, Divine immortelle, à la poussière.

Dans leur rage de célébrité, les femmes de la classe moyenne pourvoient la remontée même dans ces manifestations les plus médiocres. Elles s'éprennent d'un globe de robet, si complaisamment en notre temps, et trouvent la place pour mille détailles et ridicules que chez les véritables gloires.

Du reste, ces déesses gardent [illegible] grands renforts d'adulateurs. Ce qui [illegible] compter d'illustre un homme célèbre ou en quête de célébrité est insatiable.

Autrefois on se plaignait lorsque l'on vous cassait l'encensoir sur le nez. Aujourd'hui la raison d'une femme, qui ne veut point devenir inapportable à un grand génie, doit être jonchée des débris de mille encensoirs. Sinon le grand homme vrai ou faux trouve qu'on ne l'estime pas à sa valeur et s'empêche.

En somme, sous le rapport de la beauté [illegible] toujours vraiment belles se contentent de l'éclat que jette leur propre personne ; sous celui de l'esprit les hommes très spirituelles s'attachent volontiers à des droits au talent, capables de les comprendre mais incapables de les égaler ; sous celui de la condition sociale, l'observation veut que les candidats aux bonnes fortunes déclassées et multipliées.

Georges Lachaud.

EN VOYAGE

PLOMBIÈRES

Plombières est un puits creusé par la nature au centre des montagnes Royales (ou des Vosges, s'il vous plaît de leur donner encore ce vieux nom républicain). C'est triste l'été, c'est affreux l'hiver ; les environs seuls en sont charmants.

Une manie des nouveaux venus ici est de chercher l'étymologie du nom de Plombières. On leur en donne plusieurs latins de l'allemand, et du français, et du latin, et toutes plus tirées par les cheveux les unes que les autres. Eh ! mon Dieu ! Plombières vient de plomb. Le plomb est un métal, on ne le contestera pas, j'espère ; mais le fer en est un autre, et qui a bien son prix. Or les montagnes qui surplombent ce petit lieu sont pleines de minerai de fer, leurs eaux sont ferrugineuses et teignent les fossés d'oxyde de fer ; or si le fer, en sa qualité de métal, fait naturellement penser au plomb, n'en voilà-t-il pas plus qu'il ne faut pour justifier le nom de Plombières ? Cette étymologie, aussi naturelle qu'évidente, est la seule présentable. N'en parlons plus.

La population de Plombières se compose en été de deux classes d'individus fort différentes l'une de l'autre : les étrangers, curieux ou baigneurs, et les indigènes. Cette dernière classe, peu nombreuse, quoique Plombières compte plusieurs centaines d'habitants, se concentre, après la chute des neiges, dans un monument en forme de tonne, qui occupe le milieu de la ville, et qu'on nomme le bain romain. Là, du matin au soir, chauffés gratuitement par l'eau qui circule sous les dalles de la salle supérieure, hommes, femmes et enfants, bruyamment à de fins corridges d'aiguille, à des broderies.

Que faire en un tel gîte, à moins que l'on n'y brode !

Et ne croyez pas qu'il n'y ait que des hommes faibles ou malades, des culs-de-jatte, des bossus, des nains appliqués à ce travail. Hélas ! non ; de robustes galériens, de véritables Hercules, brodent aux côtés aux pieds de cette triste Omphale dont le nom est Nécessité.

Toutes les maisons sont fermées, on y rentre seulement la nuit. Il n'y a plus alors le jour chez les bourgeois, qui pendant l'été louent leurs chambres aux baigneurs, qu'une vieille femme courageuse, sère d'ailleurs que son aspect suffira pour mettre en fuite les voleurs s'il s'en présente ; car le vieux sexe est terrible dans les Vosges.

La rue de Plombières est en certains endroits d'une largeur raisonnable ; quatre gros hommes peuvent y passer de front.

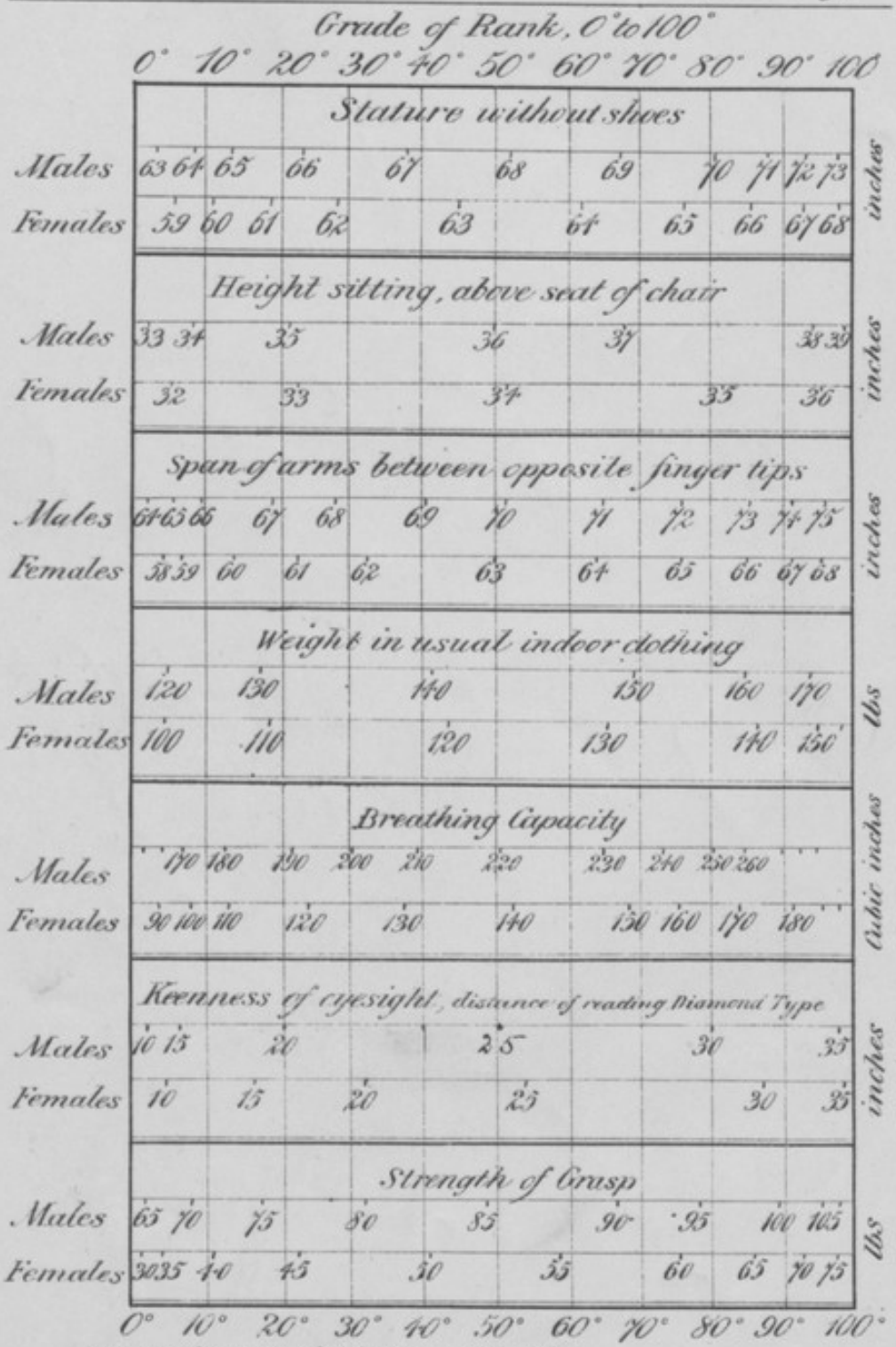
Il y a un salon à Plombières où l'on pourrait jouer au billard et lire les journaux, si les journaux et le billard n'étaient toujours, comme disent les garçons de café, occupés. On y prie le dimanche dans une modeste petite église ; mais il n'y a pas de cimetière ; je n'en ai du moins pas pu découvrir. Il paraît [illegible] à la grande efficacité des eaux ! qu'à Plombières on ne meurt pas. C'est pourquoi, sans doute, les habitants y ont tous l'air si vieux, et possèdent un si grand fonds d'expérience... en matière commerciale.

Trois occupations importantes partagent dans la saison d'été la journée des baigneurs. Ce sont le bain, la table d'hôte et la partie de piquet. Ah ! la partie de piquet ! c'est la partie pénible et vraiment cruelle du régime imposé par les médecins aux malades, et par les malades aux malheureux qui ne portent bien. Vous en savez la peine. Le bain se prend en général le matin, soit artificiellement dans une baignoire placée dans un cabinet, comme à Paris, soit démocratiquement dans une grande cuve de pierre où grouillent à la fois toutes les gibbosités, toutes les infirmités, toutes les laideurs de tous les sexes et de tous les âges. Cette crapaudière porte un nom qui suffirait à me la faire détester si je ne l'exterais dans son essence (qui n'est pas l'essence de roses, croyez-le bien), c'est le nom de piscine. Piscine ! quelle euphonie ! quelles idées cela éveille ! Piscine ! mot venu du latin et désignant un lieu où barbotent des poissons. Piscine ! cela fait penser aux léproux de Jérusalem qui attendent, au dire de la Bible, y laver leurs ulcères.

Eh bien ! tout le monde y va, excepté quelques originaux qui ne craignent pas de se faire surnommer les dégoûtés ; et je renonce à vous donner une idée approximative de ce spectacle, de ce bruit, de ces cris de douleur entendus dans des antres de vilains sacs plus ou moins sales, plus ou moins flottants quand on va se mettre à l'eau, plus ou moins collants quand on en sort ; de ces conversations, de ces discussions politiques, de ces opinions drôlatiques, de ces chansons du comique voyageur, le tout servant de fond d'eau chaude par de turbulents enfants, les têtards de la crapaudière, qui ont imaginé les plus étranges manières d'injecter leurs voisins. — Malgré votre dégoût, vous avez donc vu la piscine ? non dites-vous. — Non, monsieur, non, je n'ai pas vu dans mon [illegible] je n'espère bien ne la voir jamais. Jugez de ce que

f.2

Fig I to show the Grade of any person among those of the same sex, and aged 23-26, who were measured at the International Health Exhibition 1884. in various ways



Francis Galton. 42. Rutland Gate London SW

1889 I.3

Fig 2. to show the Grade of a person among Males aged 23-26 with respect to his Strength of Grasp, when his weight is also taken into account (From the measures of the Int Health Exh.n)

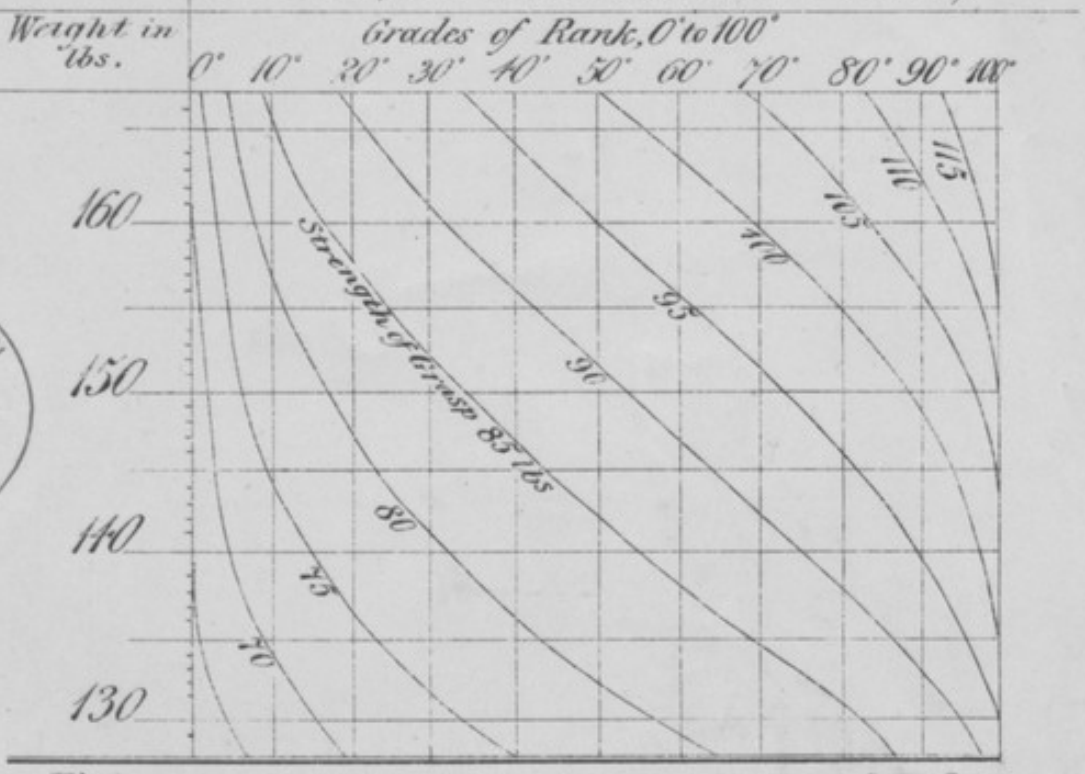
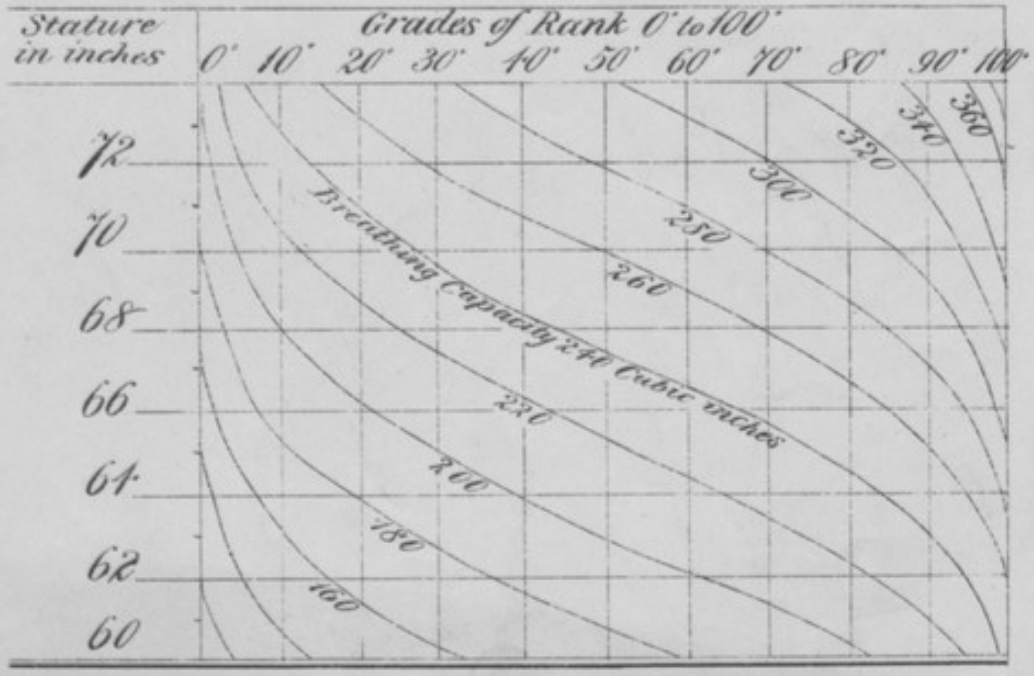


Fig 3, to show the Grade of a person among Males aged 23-26 with respect to his breathing Capacity, when his Stature is also taken into account.



… retainer of 500 guineas. He had a notable brief for the Duke of Cambridge in the case before Justices Smith and Day, which was marked 300 guineas. But the Parnell trial has, relatively speaking, been a dead loss to him. The year has, of course, been a marked one in Sir Charles Russell's career for interested and exceptionally interesting cases, but he has not kept up the tradition of the junior Bar that his professional income averaged £30,000 a year.

The unwonted appearance of the Lord Chancellor in the High Court yesterday brought a large gathering of the public into the Court of Appeal No I, where Mr. Murphy, Q.C., quite failed to interest anyone but the Master of the Rolls in a most uninteresting case. In the good old days Lord Brougham used to sit every day as Chancellor in Lincoln's Inn from 10 to 4, and proceed straight away to the House of Lords, where he could, as everyone knew to their peril, take part in a debate.

The Earl of Hopetoun, who has just been appointed Governor of Victoria in succession to Sir Henry Loch, is a young man for such a responsible position, being only 29. It is better, however, to send out a Governor with the full energy of youth than an old and decrepit diplomatist whose use is all in the past. The young earl, who succeeded to the peerage in 1873, has resided since then on the estate in Linlithgowshire, where he is regarded as a model landlord. He has knocked about the world a good deal, shooting in the Rocky Mountains and wandering in the East. He has a keen appreciation of literature and art, and as Lord High Commissioner of the Established Church, he is supposed to be an authority on all that pertains to the law and the prophets. Finally, he is a distant relation of Mr. Stead, and if that does not qualify him for anything, from the Governorship of a colony to the command of the Channel fleet, [illegible]

The baby born last Saturday, at the Master's Lodge, Trinity College, Cambridge, is—and in no ordinary sense—a child of miracle. It has fallen to many babies before, and, in all probability, will fall to many babies again, to have a Senior Classic as a father; but to have a Senior Classic for a mother and a Senior Classic for a father as well seems a distinction likely to be confined to the Butler family. Mrs. Butler, as Miss Ramsay, was Senior Classic in the Jubilee year, and received from Her Majesty Her Majesty's portrait, with her autograph attached. Dr. Butler himself was Senior Classic—and a very brilliant Senior Classic too—in the year 1855. The Galtons and other students of the hereditary principle will have, somewhere about the year 1910, when our infant friend should be graduating, a fine example in bias either for or against their favourite theory.

For if ever there was a Senior Classic to the manner born, it is the baby Butler. His mother was Senior Classic and comes of a family as renowned in Scotland as in England for classical learning. Sir James Ramsay, Mrs. Butler's father, has examined at Oxford; her uncle, Mr. G. G. Ramsay, after taking two "Firsts" at Oxford, is now Professor of Humanity at Glasgow, and editor of the "Classical Editions of a Klassiker"—William Ramsay—some of which, though now nearly 50 years old, keep their own to the present day.

Brilliant as is the record of the mother and her family, it is beaten by the father and his. Dr. Butler is one of four brothers, and the youngest, George Butler, a First Class and Hertford Scholar—now Canon of Winchester, and husband of Mrs. Josephine Butler, of C. D. Acts fame—has done more, as Principal of Liverpool Institute, for the scientific teaching of geography in our public schools than any man, living or dead. Arthur Gray Butler, also an Oxford "First," was for some years Master of Haileybury College; and old Haileyburians say that if Butler had still been in command, the late scandal would never have happened, or would, at all events, have been hushed up. Spencer Perceval Butler—now a Conveyancing Counsel to the Court of Chancery—was a Wrangler and First Classic at Cambridge; while the youngest brother—the present Master of Trinity—after sweeping the board at Cambridge, succeeded Dr. Vaughan in the Head Mastership of Harrow, which his father held before him.

Dr. Butler's father, who was Senior Wrangler somewhere about the end of the last century, and became Head Master of Harrow much to the disgust of Lord Byron, then a boy in the school and a strong supporter of the rival candidate, Mr. Drury, was a fine instance of the *mens sana in corpore sano*. After some years of service at Harrow, he retired on the Deanery of Peterborough, and when close on his three score and ten, gained the Royal Humane Society's medal for saving a man drowning in the canal—a much harder matter, by-the-bye, than saving a man drowning in the sea or in the river.

Nor are the Butlers and the Ramsays the only instances of the strength of the hereditary principle. Take the judges of the High Court. The Lord Chief Justice's father was a judge before him; Mr. Justice Denman is the son of Lord Denman, Lord Chief Justice of the Queen's Bench; while Mr. Baron Pollock—one out of a whole host of distinguished brothers (there are eight of them)—is the son of the late Lord Chief Baron, who was married twice, and had 22 children—eight sons and 13 daughters. The present judge has also contributed the command to be fruitful and multiply, for he has been married three times, and has 13 children.

Mr. Tracy Rossiter, the Separatist candidate in East Islington, is treating the constituency in a most careful manner. He is not connected with the constituency either by reason of his chambers or his residence, but he is now to be found taking the chair at local Wesleyan mission meetings. Whatever doubt a candidate may be in, religious hypocrisy might at least be avoided.

The *Star* has discovered that Mr. Fergus Hume became famous because he wrote "Madame Midas." Most people were under the impression that it was "The Mystery of a Hansom Cab" that brought him into prominence. However, both works are equally crude and unsensational.

The Earl of Wemyss is described by a writer in the *Echo*, fesbeans, an account of the noble lord's North British nationality, of frequenting "local colour" to his notes, as a "Scotch laird." This shows a deplorable ignorance of Scottish manners and customs, for no one in the "land of cakes" would think of calling Wemyss a laird or laddie, any more than they would look upon the *Echo* writer as a Scotia or a Johnson.

Earl Beauchamp, whose solicitude for the expulsion recalls the fact that when Lord Beaconsfield entered the House of Lords he at once noticed and realised their difficulties, especially as on one occasion, when Lord Beaconsfield was speaking on the Burials Bill, the phrase he used, "the beauty of holiness," was translated "the beauty of architecture." Lord Beauchamp was for some years the member for Tewkesbury,

he Evening News & Po

LONDON: THURSDAY, JU

A GREAT DEMONSTRATION.

Thousands of Primrose Leaguers at the Crystal Palace.

An English tongue ...

OUR CORRESPONDENCE COR

A DAY IN THE COUNTR

J. HOWLETT, Vicar,
St. Luke's Vicarage, Millwall.
H. CALVER, Treasurer of ...

FURTHER CHARITY SCANDAL

THE DOG SCARE.

AN OLD AND FAITHFUL SERV

CHELSEA MEN'S GRIEVANCE

THE PEOPLE'S SUNDAY.

London, July 23.

PECKHAM RYE EXTENSION

NORTH ST. PANCRAS

W. COCHRANE

Hereditary Stature
F. Galton

1886 c.5r

valves, which prevent the air passing inwards. There are always one or more sides on which the wind does not blow, allowing the foul air free egress from within out. Some of the school buildings where this system has been introduced are having as much air passed through them as will refill the rooms every 10 or 15 minutes.

This system, as explained, can be seen in operation at the chemical laboratory of the Dundee University College, the Harris Academy, Dundee, and at the Dundee High Schools, the directors of which are introducing the system into another large new school for girls, which is to be opened in a few months.

WILLIAM CUNNINGHAM

Dundee, January 12

A Family of Rare Java Snakes

AT the Zoological Gardens, on Saturday, the 9th inst., a rather rare "Green-Tree Snake" (*Dryiophis prasina*), from Java, produced eight snakelings under circumstances which tend to confirm recent observations regarding the uncertain period of gestation in snakes, otherwise the voluntary retention or deposition of their eggs or even their young. The mother was brought to the Reptilium five months ago (August 15), and allowing two months for her transportation from Java, it must be at least seven months since she was captured and separated from her mate. The normal period of gestation in a snake of this size may be about three months, but incubation, which begins at once, would in all snakes seem to depend a good deal on temperature and on other propitious circumstances; nor can it be positively asserted that such or such a species is invariably oviparous or viviparous, as in several instances the same snake has been known to be both—*i.e.* under certain conditions an oviparous snake has become viviparous. In sunny weather a high temperature is obtained in the cages where this snake is; and it is probable that the late cold season may have materially affected this *Dryiophis*. It is probable that, lacking the dense foliage of her native forests, together with these adverse conditions of her small glass dwelling, she retained her progeny until the latest moment.

The snakelings average 20 inches in length. The mother is over 5 feet, and like all the family of whip-snakes is exceedingly slender, with the long tail tapering to a cord-like fineness. She is of a bright emerald green, while the little ones are of a dull ashy hue, with tongues of the same colour; the mother's tongue is pinkish. The parent has fed well on small lizards during her captivity, but it is to be feared that the little family will fare badly, as at the present time suitable food is difficult to procure. They were at once removed into another cage, or their mother might have reduced their numbers at dinner-time. They soon found their way to the water-pan and drank freely, and began to cast their skins at an early day.

CATHERINE C. HOPLEY

15, Queen's Crescent, Haverstock Hill, N.W.

Vibration of Telegraph-Wires

I NOTICED to-day a curious vibration of telegraph-wires near here, and perhaps some reader of NATURE may be able to explain it. Each wire was vibrating rapidly, but instead of the nodes being only at each post, there were several in each span (of about 88 yards). The number of nodes varied in each span; I counted seven in one, nor did the wires vibrate together as a rule. In some spans four out of five wires were vibrating, and in others only one. The total amplitude of vibration did got exceed 1½ inches, I should think. I noticed this peculiar action in some five or six contiguous spans only. There was a very hard frost at the time, and the wires were coated with snow which had fallen some thirty-six hours previously. There was no wind, and the sun was just breaking through a fog. The wire was galvanised iron, No. 8 B.W.G.

E. DE M. MALAN

Howden, East Yorkshire, January 19

HEREDITARY STATURE[1]

IT will perhaps be recollected that, at the meeting last autumn of the British Association in Aberdeen, I chose for my Presidential Address to the Anthropological Section a portion of the wide subject of "Hereditary Stature." My inquiries were at that time advanced only to a certain stage, but they have since been completed up to a well-defined resting-place, and it is to their principal net results that I shall ask your attention to-night.

I am, happily, released from any necessity of fatiguing you with details, or of imposing on myself the almost impossible task of explaining a great deal of technical work in popular language, because all these details have just been laid before the Royal Society, and will in due course appear in their *Proceedings*. They deal with ideas that are perfectly simple in themselves, but many of which are new and most are unfamiliar, and therefore difficult to apprehend at once. My work also required to be tested and cross-tested by mathematical processes of a very technical kind, dependent in part on new problems, for the solution of which I have been greatly indebted to the friendly aid of Mr. J. D. Hamilton Dickson, Fellow and Tutor of St. Peter's College, Cambridge. I shall therefore quite disembarrass myself on the present occasion from the sense of any necessity of going far into explanations, referring those who wish thoroughly to understand the grounds upon which my results are based, to the forthcoming memoir in the *Proceedings* of the Royal Society, and to that amplified and illustrated extract from my Address at Aberdeen, accompanied by tabular data, which appeared among the "Miscellanea" of the *Journal* of this Institute last November.

The main problem I had in view was to solve the following question. Given a group of men, all of the same stature, whatever that stature may be,—it is required to be able to predict two facts regarding their brothers, their sons, their nephews, and their grandchildren, respectively, namely, *first*, what will be their average height; *secondly*, what will be the percentage of those kinsmen whose statures will range between any two heights we may please to specify;—as between 6 feet and 6 feet 1 inch, 6 feet 1 inch and 6 feet 2 inches, &c.?

The same problem admits of another rendering, because whatever is statistically *certain* in a large number is the *most probable* occurrence in a small one, so we may phrase it thus: Given a man of known stature, and ignoring every other fact, what will be the most probable average height of his brothers, sons, nephews, grandchildren, &c., respectively, and what proportion of them will most probably range between any two heights we may please to specify?

I have solved this problem with completeness in a practical sense. No doubt my formulæ admit of extension to include influences of a minor kind, which I am content to disregard, and that more exact and copious observations may slightly correct the values of the constants I use; but I believe that for the general purposes of understanding the nearness of kinship in stature that subsists between relations in different degrees, the problem is solved.

It is needless to say that I look upon this inquiry into stature as a representative one. The peculiarities of stature are that the paternal and maternal contributions blend freely, and that selection, whether under the aspect of marriage selection or of the survival of the fittest, takes little account of it. My results are presumably true, with a few further reservations, of all qualities or faculties that possess these characteristics.

Average Statures.—The solution of the problem as regards the average height of the kinsmen proves to be almost absurdly simple, and not only so, but it is explained most easily by a working model that altogether supersedes the trouble of calculation. I exhibit one of these: it is a large card ruled with horizontal lines 1 inch apart, and numbered consecutively in feet and inches, the value of 5 feet 8 inches lying about half way up. A pin-hole is bored near the left-hand margin at a height corresponding to 5 feet 8¼ inches. A thread secured at

[1] Extracts from Mr. F. Galton's Presidential Address to the Anthropological Institute, January 26.

the back of the card is passed through the hole; when it is stretched it serves as a pointer, moving in a circle with the pin-hole as a centre. Five vertical lines are drawn down the card at the following distances, measured horizontally from the pin-hole: 1 inch, 2 inches, 3 inches, 6 inches, and 9 inches. For brevity I will call these lines I., II., III., VI., and IX. respectively. This completes the instrument. To use it: Hold the stretched thread so that it cuts IX. at the point where the reading of the horizontal lines corresponds to the stature of the given group. Then the point where the string cuts VI. will show the average height of all their brothers; where it cuts III. will be the average height of the sons; where it cuts II. will be the average height of the nephews; and where it cuts I. will be the average height of the grandchildren. These same divisions will serve for the converse kinships; VI., obviously so; III., son to a parent; II., nephew to an uncle; I., grandson to a grandfather. Another kinship can be got from VI., namely, that between "mid-parent" and son. By "mid-parental" height I mean the average of the two statures: (*a*) the height of the father, (*b*) the transmuted height of the mother. This process, I may say, is fully justified by the tables already printed in our *Journal*, to which I have referred. It is a rather curious fact that the kinship between a given mid-parent and a son should appear from my statistics to be of exactly the same degree of nearness as that between a given man and his brother. Lastly, if we transmute the stature of kinswomen to their male equivalents by multiplying them after they are reduced to inches, by 1·08, or say, very roughly, by adding at the rate of 1 inch for every foot, the instrument will deal with them also.

You will notice that the construction of this instrument is based on the existence of what I call "regression" towards the level of mediocrity (which is 5 feet 8½ inches), not only in the particular relationship of mid-parent to son, and which was the topic of my Address at Aberdeen, but in every other degree of kinship as well. For every unit that the stature of any group of men of the same height deviates upwards or downwards from the level of mediocrity as above, their brothers will on the average deviate only two-thirds of a unit, their sons one-third, their nephews two-ninths, and their grandsons one-ninth. In remote degrees of kinship, the deviation will become zero; in other words, the distant kinsmen of the group will bear no closer likeness to them than is borne by any group of the general population taken at random.

The *rationale* of the regression from father to son is due (as was fully explained in the Address) to the double source of the child's heritage. It comes partly from a remote and numerous ancestry, who are on the whole like any other sample of the past population, and therefore mediocre, and it comes partly only from the person of the parent. Hence the parental peculiarities are transmitted in a diluted form, and the child tends to resemble, not his parents, but an ideal ancestor who is always more mediocre than they. The *rationale* of the regression from a known man to his unknown brother is due to a compromise between two conflicting probabilities; the one that the unknown brother should differ little from the known man, the other that he should differ little from the mean of his race.[1] The result can be mathematically shown to be a ratio of regression that is constant for all statures. The results of observation accord with, and are therefore confirmed by, this calculation.

Variability above and below the Mean Stature.—Here the net result of a great deal of laborious work proves, as in the previous case, to be extremely simple, and to be very easily expressed by a working model. A set of five scales can be constructed, such as I exhibit, one appropriate to each of the lines I., II., III., and VI., and suitable for any position on these lines. They are so divided that when the centres of the scales are brought opposite to the points crossed by the thread, in the way already explained, we shall see from the divisions on the scales what are the limits of stature between which successive batches of the kinsmen, each batch containing 10 per cent. of their whole number, will be included. Smaller divisions indicate the 5 per cent. limits. The extreme upper and extreme lower limits are perforce left indefinite. Each of the scales I give deals completely with nine-tenths of the observations, but the upper and lower 5 per cent. of the group, or the remaining one-tenth, have only their inner limits defined.

The divisions on the movable scales that are appropriate to the several lines VI., III., II. and I., are given in the table, where they are carried one long step further than I care to recommend in use.

Per-cents. of included statures	Divisions, upwards and downwards, from centres of the scales; in inches		
	VI.	III.	II. and I.
10 ...	0·5 ...	0·6 ...	0·6
20 ...	1·0 ...	1·3 ...	1·3
30 ...	1·6 ...	2·0 ...	2·1
40 ...	2·4 ...	3·0 ...	3·1
45 ...	3·1 ...	3·9 ...	4·0
49·5 ...	4·8 ...	6·1 ...	6·3

The divisions are supposed to be drawn at the distances there given, both upwards and downwards from the centres of the several scales, which have to be adjusted, by the help of the thread, to the average height of the kinsmen indicated in the several lines. The percentage of statures that will then fall between the centre of each scale and the several divisions in it is given in the first column of the table. Example:—In line VI. 40 per cent. will fall between the centre and a point 2·4 inches above it, and 40 per cent. will fall between the centre and a point 2·4 inches below it; in other words 80 per cent. will fall within a distance of 2·4 inches from the centre. Similarly we see that 2 × 49·5, or 99 per cent. will fall within 4·8 inches of the centre.

In respect to the principle on which these scales are constructed, observation has proved that every one of the many series with which I have dealt in my inquiry conforms with satisfactory closeness to the "law of error." I have been able to avail myself of the peculiar properties of that law and of the well-known "probability integral" table, in making my calculations. A very large amount of cross-testing has been gone through, by comparing secondary data obtained through calculation with those given by direct observation, and the results have fully justified this course. It is impossible for me to explain what I allude to more minutely now, but much of this work is given, and more is indicated, in the forthcoming memoir to which I have referred.[1]

I know of scarcely anything so apt to impress the imagination as the wonderful form of cosmic order expressed by the "law of error." A savage, if he could understand it, would worship it as a god. It reigns with serenity in complete self-effacement amidst the wildest confusion. The huger the mob and the greater the apparent

[1] The following will be of help to those who desire a somewhat closer idea of the reasoning than I can give in a popular Address.

m = mean height of race = 68·25 inches.

$m \pm x$ = height of a known individual.

$m \pm x'$ = the probable height of an unknown kinsman in any given degree.

$\frac{x'}{x}$ (which I designate by w) = the ratio of mean regression: it is shown by direct observation to = ⅔ both in the case of mid-parent to son, and of man to brother; it is inferred to be ½ in the case of parent to son. It is upon these primary kinships that the rest depend.

The "probable" deviations ("errors") from the mean values of their respective systems are—

ρ = that of the general population = 1·70 inch.

b = that of any large family of brothers = 1·0 inch.

f = that of kinsmen from the mean value of $m \pm x'$.

Since a group of kinsmen in any degree may be considered as statistically identical with a sample of the general population, we get a general equation that connects f with w, namely, $w^2\rho^2 + f^2 = \rho^2$.

The ratio of regression in respect to brothers can be shown to depend on the equation $w = \frac{\rho^2 - b^2}{\rho^2} = \frac{2}{3}$ nearly.

anarchy the more perfect is its sway. Let a large sample of chaotic elements be taken and marshaled in order of their magnitudes, and then, however wildly irregular they appeared, an unsuspected and most beautiful form of regularity proves to have been present all along. Arrange the statures side by side in order of their magnitudes, and the tops of the marshaled row will form a beautifully flowing curve of invariable proportions; each man will find, as it were, a preordained niche, just at the right height to fit him, and if the class-places and statures of any two men in the row are known, the stature that will be found at every other class-place, except towards the extreme ends, can be predicted with much precision.

It will be seen from the large values of the ratios of regression how speedily all peculiarities that are possessed by any single individual to an exceptional extent, and which blend freely together with those of his or her spouse, tend to disappear. A breed of exceptional animals, rigorously selected and carefully isolated from admixture with others of the same race would become shattered by even a brief period of opportunity to marry freely. It is only those breeds that blend imperfectly with others, and especially such of these as are at the same time prepotent, in the sense of being more frequently transmitted than their competitors, that seem to have a chance of maintaining themselves when marriages are not rigorously controlled—as indeed they never are, except by professional breeders. It is on these grounds that I hail the appearance of every new and valuable type as a fortunate and most necessary occurrence in the forward progress of evolution. The precise way in which a new type comes into existence is untraced, but we may well suppose that the different possibilities in the groupings of some such elements as those to which the theory of pangenesis refers, under the action of a multitude of petty causes that have no teleological significance, may always result in a slightly altered, and sometimes in a distinctly new and fairly stable, position of equilibrium, and which, like every other peculiarity, admits of hereditary transmission. The general idea of this process is easy enough to grasp, and is analogous to many that we are familiar with, though the precise procedure is beyond our ken. As a matter of fact, we have experience of frequent instances of "sports," useful, harmful, and indifferent, and therefore presumably without teleological intent. They are also of various degrees of heritable stability. These form fresh centres, towards which some at least of the offspring have an evident tendency to revert. By refusing to blend freely with other forms, the most peculiar "sports" admit of being transmitted almost in their entirety, with no less frequency than if they were not exceptional. Thus a grandchild, as we have seen, regresses on the average one-ninth. Suppose the grandfather's peculiarity refused to blend with those of the other grandparents, then the chance of his grandson inheriting that peculiarity in its entirety would be as one to nine; and, so far as the new type might be prepotent over the other possible heritages, so far would the chance of its reappearance be increased. On the other hand, if the peculiarity did not refuse to blend, and if it was exceptional in magnitude, the chance of inheriting it to its full extent would be extremely small. The probability (easily to be calculated for any given instance by the "probability integral" tables) might even be many thousand times smaller. I will give for an example a by no means extreme case. Suppose a large group of men, all of 6 feet 5 inches in height, the statures of whose wives are haphazard, then it can be shown that out of every thousand of the sons not more than one on an average will rival or surpass the height of his father. This consideration is extremely important in its bearing on the origin of species. I feel the greatest difficulty in accounting for the establishment of a new breed in a state of freedom by slight selective influences, unless there has been one or more abrupt changes of type, leading step by step to the new form.

It will be of interest to trace the connection between what has been said about hereditary stature and its application to hereditary ability. Considerable differences have to be taken into account and allowed for. *First*, after making large allowances for the occasional glaring cases of inferiority on the part of the wife to her eminent husband, I adhere to the view I expressed long since as the result of much inquiry, historical and otherwise, that able men select those women for their wives who on the average are not mediocre women, and still less inferior women, but those who are decidedly above mediocrity. Therefore, so far as this point is concerned, the average regression in the son of an able man would be less than one-third. *Secondly*, very gifted men are usually of marked individuality, and consequently of a special type. Whenever this type is a stable one, it does not blend easily, but is transmitted almost unchanged, so that specimens of very distinct intellectual heredity frequently occur. *Thirdly*, there is the fact that men who leave their mark on the world are very often those who, being gifted and full of nervous power, are at the same time haunted and driven by a dominant idea, and are therefore within a measurable distance of lunacy. This weakness will probably betray itself in disadvantageous forms among their descendants. Some will be eccentric, others feeble-minded, others nervous, and some may be downright mad.

It will clear our views about hereditary ability if we apply the knowledge gained by our inquiry to solve some hypothetical problem. It is on that ground that I offer the following one. Suppose that in some new country it is desired to institute an Upper House of Legislature consisting of life-peers, in which the hereditary principle shall be largely represented. The principle of insuring this being that two-thirds of the members shall be elected out of a class who possess specified hereditary qualifications, the question is, What reasonable plan can be suggested of determining what those qualifications should be?

In framing an answer, we have to keep the following principles steadily in view:—(1) The hereditary qualifications derived from a single ancestor should not be transmitted to an indefinite succession of generations, but should lapse after, say, the grandchildren. (2) All sons and daughters should be considered as standing on an equal footing as regards the transmission of hereditary qualifications. (3) It is not only the sons and grandsons of ennobled persons who should be deemed to have hereditary qualifications, but also their brothers and sisters, and the children of these. (4) Men who earn distinction of a high but subordinate rank to that of the nobility, and whose wives had hereditary qualifications, should transmit those qualifications to their children. I calculate roughly and very doubtfully, because many things have to be considered, that there would be about twelve times as many persons hereditarily qualified to be candidates for election as there would be seats to fill. A considerable proportion of these would be nephews, whom I should be very sorry to omit, as they are twice as near in kinship as grandsons. One in twelve seems a reasonably severe election, quite enough to draft off the eccentric and incompetent, and not too severe to discourage the ambition of the rest. I have not the slightest doubt that such a selection out of a class of men who would be so rich in hereditary gifts of ability, would produce a body of men at least as highly gifted by nature as could be derived by ordinary parliamentary election from the whole of the rest of the nation. They would be reared in family traditions of high public services. Their ambitions, shaped by the conditions under which hereditary qualifications could be secured, would be such as to encourage alliances with the gifted classes. They

would be widely and closely connected with the people, and they would to all appearance—but who can speak with certainty of the effects of any paper constitution—form a vigorous and effective aristocracy.

DEPOSITS OF THE NILE DELTA

IN a previous communication I referred to the probability that the lower portion of the Delta borings belongs to the Pleistocene and Isthmian deposit which underlies the modern Nile mud, and which has been recognised as an important formation by nearly all geologists who have studied the Nile Valley. I now propose to state shortly some objections to the generalisations of the Report on the Nile borings with reference to the causes assigned for the comparative purity of the waters of the Nile, and the character of its sediment, viz. that the former is due to its flowing through a rainless country, and that the latter is derived from the decay of rocks in this rainless area, and this decay produced not by "chemical agencies," but by "mechanical forces," namely, the "unequal expansion" of the constituent minerals under the influence of heat and cold, aided by "the force of the wind."

It is scarcely necessary to premise that neither the water nor the mud of the Nile can be derived from the rainless district through which the river flows, but from the well-watered regions of interior Africa. The White Nile, which carries scarcely any sediment, is a somewhat constant stream, draining a country of lakes, swamps, and forests. The Blue or Dark Nile and the Atbara drain the mountainous country of Abyssinia, deluged with rain in the wet season, and it is these streams, swollen by violent inundations, that supply the Nile with its sediment, the quantity of fresh material carried into the river below the confluence of the Atbara being very small, as the results of the microscopic study of the sediment sufficiently proves, and I can testify from my own examinations of the Nile mud, that its composition, as stated by Prof. Judd, is essentially the same along the course of the Nile as in the upper layers of the Delta borings, though with some local differences in the fineness of the sand and the proportion of argillaceous matter. Thus both the water of the inundations and the material of the alluvial deposit come from a region of copious rains, and where decay of rocks may be supposed to proceed under the ordinary conditions.

What then is the cause of the freedom of the Nile water from saline matter? Simply its derivation from a country of siliceous and crystalline rocks. If, instead of comparing it with the water of the Thames and other streams draining sedimentary districts, it had been compared with that of the lakes and streams of the Scottish Highlands (by no means rainless districts) this would have been apparent. Dr. Sterry Hunt has described and referred to its true cause a fact of the same kind in the case of the Ottawa and St. Lawrence. The former, rising in a region of crystalline rocks, has little more than one-third of the saline matter in solution that is found in the latter, which drains principally a sedimentary country. The proportions in 10,000 parts are, for the Ottawa, only 0·6116, and for the St. Lawrence, 1·6055.[1]

But it may be asked, Why in that case is the Nile mud so deficient in kaolin? The answer is, that the current of the river is sufficiently strong to wash out all the more finely comminuted argillaceous matter and to carry it in its turbid waters to the sea. In connection with this, every voyager on the falling Nile must have observed how the mud-banks are constantly falling as they are undermined by the river, and their material carried down to be redeposited. This work goes on even more energetically in the time of the inundations. Thus any given quantity of sediment on its way from Abyssinia to the Delta is lixiviated thousands of times, and necessarily deprived of its lighter and finer constituents.

But the quantity of kaolin need not originally have been large. The older gneisses and schists do not kaolinise after the manner of Cornish granites, but, when decomposed so as readily to crumble into sand, they still contain much of their more refracting felspar in a perfect state.

These facts are farther illustrated by the agricultural qualities of the Nile alluvium, as they have been explained by Schweinfurth and others. If the alluvial soil were a stiff clay, it would be practically incapable of cultivation in the circumstances of Egypt. If it were mere quartzose sand, it would be hopelessly barren. It is, in fact, an impalpable sand, highly absorbent of water, crumbling readily when moistened, and containing not merely quartz but particles of various silicates and of apatite and dolomite, which, though unaltered when under water, are gradually dissolved by the carbonic acid present in the cultivated soil, yielding alkalies, phosphates, &c., to the crops. In connection with this, recent microscopic examinations by Dr. Bonney of the old crystalline rocks of Assouan, which are probably similar to those farther north, show that, like those of Canada and Norway, they contain numerous crystals of apatite.

As to the mechanical action of the heat of the sun on crystalline rocks, any one who examines the polished surfaces still retained by monuments which in Upper Egypt have been exposed to this influence for thousands of years, must be convinced that no disintegration of this kind occurs. The only evidence of such actions that I have been able to find is the chipping of little circular disks from the exposed sides of nodules of flint on the surface of the desert. Granitic rocks decay, however, in Egypt, as elsewhere, where they are exposed to moisture from the soil, or where, as at Alexandria, they are subjected to the influence of frequent rains and of saline particles carried from the sea. In this connection I may add that Hague, in a paper in *Science* on the decay of the New York obelisk, shows that it had probably suffered (as, according to Wigner, that in London has also done) from atmospheric action before its removal from Alexandria, and that this decay has been greatly increased by the alternations of moisture and frost to which it is subjected in New York.[1]

At Assouan, in a climate at present rainless, or nearly so, I was surprised to find that the surface of the gneiss and crystalline schists was in many places decayed to the depth of several feet, so that it was impossible to obtain fresh specimens except from the railway cuttings. This may be due to the action of water and carbon dioxide oozing through the ground, but is more probably a result of more humid climatal conditions in former ages.

I hope at a future date to pursue these interesting questions farther; but in the meantime I shall be content if it has been shown that Egypt owes the advantage of pure, sweet water to the fact that it drinks of mountain streams which the rainless character of its own climate merely preserves from pollution by the drainage of the Cretaceous and Tertiary beds, and that its rich alluvial soil has not been produced by any mechanical action of an exceptional nature, but by the ordinary atmospheric agencies of denudation.

These conclusions, as well as those stated in my previous letter, respecting the depth of the modern alluvium and its relation to the well-known Pleistocene formation which underlies it, could be confirmed by the testimony of most geologists who have studied the valley of the Nile, and more especially of Lartet, Fraas, and Schweinfurth. I hope that as now stated, however imperfectly, they may suffice to induce the Committee materially to modify its Report, or to postpone its publi-

[1] Logan's "Geology of Canada," 1865, p. 565.

[1] The freezing of water in the pores of rocks is undoubtedly an important cause of destruction in the colder climates.

GEOGRAPHY IN PUBLIC SCHOOLS.

TO THE EDITOR OF THE TIMES.

Sir,—It may, perhaps, be of service to those interested in the improvement of Public School education if I briefly state the results of the experience gained in the examinations for the prize medals offered by the Royal Geographical Society for competition among the boys of the great schools of the United Kingdom.

It will be necessary for the sake of clearness to say a few words about the nature of these prizes. One gold medal is allotted annually to the best candidate in Physical Geography, and another to the best in Political Geography. To the second best in each subject a bronze medal is awarded, and there are "honourable mentions" besides. The recent anniversary meeting of the Society was the third occasion on which the medals were bestowed, and I may add that the presence of the four lads whom the examiners had reported to have well deserved their honours, together with the remarks made on the subject by several speakers, added notably to the interest of the day. It was stated that 43 of the largest Public Schools in the United Kingdom (numbering, among them, fully 13,000 boys) had been invited to name competitors, that ten schools did so, and that the total number of candidates was 18 in Physical and 7 in Political Geography. The competition was shown to have been fully as keen as in the preceding years, and the institution of the prizes was claimed to be, on the whole, a considerable success, though regret was expressed that the oldest and most historical schools had not, as yet, entered the lists.

I must explain that the promoters of this institution were actuated by no officious desire to meddle in educational details of which they had no special knowledge. They entertained, however, an assured and painful conviction that although Geography may be taught in some of the lower forms of our Public Schools, it is not there learnt as it ought to be learnt by every young English gentleman, whatever is to be his future career in life—whether that of a legislator, or that of an officer in the Army or Navy, of a merchant, of a public servant connected with the Indian, colonial, or foreign interests of this great Empire, or merely of a private gentleman without any special vocation, but still exercising an influence over English public action.

Having said this much, I can proceed more intelligibly to the direct purpose of my letter. I have learnt, through the experiences of these three past years, that Geography can be taught in a very satisfactory manner, and that it is so taught in some few of the great Northern schools of England, elucidating and not hindering a boy's purely scholastic studies. It also appears, from the reports of our examiners, that it is very badly taught in some other schools, whose Head Masters, in certain cases, apparently ignorant of their own ignorance, have sent up boys so ill-prepared as to reflect little credit on the place of their education. I do not here speak, be it understood, of such exceptional geographical acquirements as would give a boy a chance of gaining the Society's rewards, but of that very moderate but clear knowledge which must pervade historical education on the one hand and physical education on the other, whenever either of these subjects is liberally taught. I feel justified, too, in adding that it was chiefly as an indirect encouragement to this moderate but sound knowledge that the medals were founded, for they appeared at the time to be the most promising method of giving that encouragement. What has already been effected is much, for the institution of them has been the means of discovering, educating, and attesting the natural geographical aptitudes of many youths, most of whom will be sure to adhere to their geographical interests in after-life. We may reasonably expect that some will become teachers of Geography at schools and at the Universities, some will perhaps write the much-needed geographical text-books, and the rest will further geographical science in some more or less direct manner. But, as I have already said, I am not now writing to justify the offer of these medals, nor to urge more schools to compete for them, but simply to advocate a more methodical and thorough geographical education than exists at present, except in a very few of our great schools.

What, then, are the difficulties which confront reform, and how may those difficulties be removed? I believe that it is the Universities which stop the way. What these demand the older and more famous Public Schools will teach; and, conversely, those Public Schools will not teach what the Universities do not demand. It is not only a case of supplying what is asked for, but it is also that the Public School teachers, being all of them University men, adhere to University traditions. Hence it is that even the Civil Service examinations (which include Geography) have little influence on those schools. After boys have been educated for years in them, they have to be taken away half a year before the examination comes on, and be submitted to a "crammer" to enable them to scrape through. Now, the two Universities have at this moment certain schemes under their consideration in any one of which Geography might ultimately claim a position, and it is for the purpose of advocating those claims that I have written this letter. First, there is the plan of a Matriculation Examination, which boys must pass before they may enter either University. In that scheme let Geography be included, giving an alternative of Political or Physical Geography, and also limiting the range of each of these subjects so far as may be thought desirable. Secondly, there is a plan, promoted by the Head Masters of schools, now under discussion, of having what are called "Leaving Examinations," to be conducted by examiners sent from the Universities, with the intention that boys who pass them may be relieved from further elementary examinations. Let Geography, as explained above, be included in this examination also. If all this be done the effect on the Public Schools would be immense and salutary; the art of teaching Geography in a vivid, lively manner would become common; better text-books would be written, an intelligent interest in the world of modern times would be excited, and the dry bones of ancient history would be made to live.

FRANCIS GALTON.

business they have to do;" and he supposed they might have added, "Wait till we see how they will do it." There was not one of the 33 chairmen who was not beyond the reach of such contamination, and the arrangement may have been the result of inattention and ignorance, and that supercilious indifference which was prone to show itself in English officialism when dealing with Irish affairs. The Lord Chancellor added that they dismissed the appeal without costs.

SMALLPOX IN LONDON.

On Saturday business of an important character came before the meeting of the Asylum Board, at which there was a very full attendance of members. Dr. Brewer, M.P., presided, and among those present were Mr. W. H. Smith, M.P., Mr. J. G. Talbot, M.P., Sir James Hamilton, Mr. Currie, Mr. Wyatt, Dr. Stallard, Mr. Tavener, Mr. J. Shaw-Stewart, Dr. Curtis, and Mr. Galsworthy.

A letter addressed by Dr. Bridges, the medical adviser of the Poor Law Board, to the chairman was read by Mr. Jebb, the secretary. This stated that the new cases reported numbered 624 in the fortnight, against 563 in the previous fortnight. These were simply new cases reported by the relieving officers of London. The disease might be considered stationary, but it had shown itself so capricious that it would be absolutely necessary for the Board to keep plenty of vacancies in case of any sudden emergencies.

Mr. J. G. TALBOT, M.P., on this letter being read, said the Poor Law Board ought, as the central authority, to furnish the managers with all information regarding the provisions made in each parish. As it was, the managers were held responsible for providing accommodation for all the smallpox cases in the London district, and yet no information was given them as to the needs which they were to meet. He considered that if the Poor Law Board did not supply the managers with the necessary information they should take measures to obtain it for themselves.

Mr. TAVENER added that this want of full information had been the managers' difficulty from the beginning of their work, and consequently they had been working in the dark. One effect of this was to cause a fear of providing too much accommodation, and so entailing too much expense upon the ratepayers.

The CHAIRMAN asked that the clerk should state the position of the asylums with regard to empty beds.

Mr. JEBB read the returns from the various hospitals, showing that there were 98 vacant beds in the Dreadnought and 87 among the other hospitals.

The CHAIRMAN said he wished to call the attention of the managers to the fact that there were vacant beds for convalescents in the Dreadnought at the same time that the fever asylums were filled with smallpox cases. It was necessary for the managers to be prepared to meet an epidemic of fever, as such an epidemic was certain to follow. In fact, there were now 10 cases from one parish.

The matter then dropped.

A committee had been appointed to consider the subject of vaccination, to seek an interview with the Vice-President of the Privy Council, and confer with him on the amendment of the vaccination laws so far as they affected the metropolis. The committee were Dr. Brewer, M.P. (Chairman of the Managers), Sir M. E. Hicks Beach, M.P., Dr. T. Jervis, Dr. Harvey, Mr. J. G. Talbot, M.P., Mr. J. Charrington, Sir James Hamilton, Mr. W. H. Wyatt, Dr. Stallard, and Mr. R. Galsworthy. They now reported that they had had an interview with Mr. Forster, and they submitted the resolutions at which they had arrived. These resolutions, they recommended, should be adopted by the Board, and sent to the Privy Council with a request that these resolutions should be embodied in the Bill now before Parliament for amending the vaccination laws. The resolutions were:—"That, as regards the metropolis, it seems most desirable that the control of vaccination should be placed on one uniform system, and that the powers for the whole metropolis should be vested in one body. That the Registration of Births should be made compulsory. That the Registration of Vaccination should be compared at stated short intervals with the Registration of Births and Deaths to ascertain and follow up those who make default of vaccination. That the metropolitan vaccination authority should be responsible to one governmental department only. That it seems most desirable that some powers similar to section 18 of the 26th and 27th Victoria, cap. 103 (Scotland), which enables the vaccination authority to issue orders for vaccination on receipt of the list from the registrar, should be also made applicable to the vaccination laws in force in the metropolis, so that the central authority shall be empowered to visit from house to house for the purpose of vaccinating the child of the defaulting parent. That the sale of lymph should be confided to authorised persons, and its adulteration made a punishable offence. That the metropolitan vaccination authority should be empowered to issue such warnings, to give such additional facilities for vaccination, and to make such provisions for re-vaccination as may be needed by the circumstances of the case. That it is desirable that every resident in London should have access to the station most contiguous to him or her."

The adoption of these resolutions was carried unanimously, and they were ordered to be at once transmitted to the Privy Council.

Mr. WYATT presented the report of the Hampstead Hospital, and said he regretted to inform the Board that the mortality had been very heavy during the past fortnight, and the decrease in the disease looked for had not occurred. During the last fortnight 467 persons had been admitted, and during the same time 391 had been discharged, while 35 had been sent to convalescent hospitals. The deaths had amounted to 122, leaving in the hospital 726. Since the opening of the hospital 3,966 persons had been admitted, 711 of whom had died; and of those who died 323 were vaccinated and 388 unvaccinated. The number discharged on the whole had been 2,398. The heavy death-rate in the past fortnight was attributed to the cold and ungenial weather. The medical officer reported that never before, in the whole course of the epidemic, had the hæmorrhagic cases been so numerous.

Mr. SHAW STEWART presented the report of the Stockwell Hospitals. During the last fortnight there had been 236 fresh cases received, 267 had been discharged, and 34 had died, leaving 557 at present under treatment, 165 of whom were in the Smallpox Hospital proper, and 392 in the Fever Hospital. Up to the present time 2,132 patients had been treated, of whom 1,384 had been cured, and 351 had died. The average mortality had been 16·3 per cent. The type of the disease at the present time was exceedingly severe, the medical officer here reported, and he stated that it was evident the disease was again spreading.

Mr. CHARRINGTON presented the report of the Homerton Asylum, and this stated that during the last fortnight 205 new cases had come in, Bethnal-green, Shoreditch, and Hackney sending the highest numbers. During the fortnight 33 deaths had occurred, and 80 had been discharged. The average of deaths since the establishment had been 17·1 in the Smallpox Hospital, and 13 in the Fever Hospital 13. The total number of patients up to the 6th inst. had been 1,795, of whom 305 had died, and 1,114 discharged, leaving 406 in hospital. Of 12 persons who died in the Fever Hospital, nine were unvaccinated. The medical officers of these hospitals reported that the type of the disease was very severe, and during the last fortnight those who had died had few signs of recovery when admitted.

Complaints respecting the conduct of two of the officers of this hospital were made in a formal manner by the Whitechapel Guardians, and were brought forward by Mr. BRUSHFIELD. These complaints were that the medical superintendent had refused to give sufficient information to the friends of patients or to the Guardians regarding the condition of the patients, and that the gate porter had refused to carry messages into the hospital, or to communicate with the interior on behalf of friends, because the inquiries were not made within two hours. Answers were given that patients were "all right," and a case

by fire, and other damag[illegible]
from Clapham and Brixton were also in attendance.

A DISCREDITED "ROSIÈRE."—The tribunal at Rambouillet has just given judgment in the matter of the claim of Mdlle. Fournaise to receive the substantial reward accorded to her some time since as the crowned "rosière" or most exemplary young person in the village of Dourdan. It appears that under the will of Madame de la Perelle, the founder of the annual competition, the prize of virtue was to be paid in the shape of a dowry to the successful candidate on the day of her marriage; and the question, elaborately argued by lawyers on both sides, was whether the rosière was entitled absolutely to the benefit of it, provided she were deserving up to the time of the award, or whether there was not an implied condition that she was to continue to set an example of propriety of conduct to the folk of Dourdan down to the appointed day of payment. The Court finally decided for the latter view. Judgment was accordingly given against the "crowned rosière" on the ground of intermediate backslidings, which appear to have been only too clearly established.

The Roman Catholic Seminary at Paderborn, which was closed in 1876 in consequence of the May Laws, has now been reopened. Another school at Heiligenstadt, in the Eichsfeld, will also be reopened soon.

ROYAL ALBERT YACHT CLUB REGATTA.—At Southsea yesterday the club's prize of £100 in cash, with a gold medal for the captain of the yacht, was won by the Annasona (Mr. J. D. Hedderwick), the Mirada (Mr. G. C. Lampson) taking the second prize of £30. Sleuthhound (the Marquis of Ailsa) gave up, meeting with a mishap near Cowes. The race for yachts between 20 and 10 tons was won by Freda (Mr. F. Taylor), Amathea (Mr. G. M. Cawse) taking the second prize. The Keepsake (Major Forster) won in the match for 30ft. boats, the Bonina (Mr. A. O. Bayley) being second. The race for boats of 25ft. and under was won by the Wave (Mr. E. O. C. Tagart), the Daphne (Mr. R. S. Hankinson) being second. The Chittywee (Lord F. Cecil, R.N.) won the race for three tonners, beating the Mascotte (Messrs. Quilter and Eyton).

the commissariat and transport departments have found excellent quarters.

To-day the usual water supply has been open for several hours.

I must enter a protest against the statements that Alexandria is rapidly resuming its business aspect. Nothing of the sort is taking place. With the exception of some four shops near the Bourse, and a number of wooden shanties for ready-made clothes, cigarettes, and drink, which have been run up in the square, there are no signs of returning trade. At Minet, Elbasal, and the Marina all the business premises and warehouses are occupied by soldiers. There can be no real business for months. I mention this lest merchants and tradespeople, deceived by some reports, should return here too soon. The few merchants who remained through the bombardment are leaving weekly, and of artisans, clerks, and loafers there are already thousands too many.

The Inconstant came inside the bar to-day, Admiral Sullivan having transferred his flag to the Agincourt.

The Duke of Connaught visited Sir E. Malet to-day, and afterwards called on the Khedive, returning to Ramleh by train.

The Tower Hill with 17 officers, 180 men,

HEREDITARY QUALITIES.—On Friday evening, Feb. 9, Mr. Francis Galton, F.R.S., gave a discourse at the Royal Institution on "Typical laws of heredity." We have been compelled, from want of space, to defer our report till now. The lecturer said that, although superficial observations on the height, colour, and other characteristics of a people may give the impression that such variations are a matter of chance, yet it is found, on careful examination, that, statistically considered, each generation bears a close resemblance to its predecessor, except in cases where the processes of hereditary transmission have been disturbed by changes in the general conditions of life. This seems the more remarkable when it is recollected that different classes of persons do not leave the same proportions of representatives behind them. Take the case of great stature. Giants leave but few children; a proportion of these tend to revert to the normal size; and those that are of remarkable size are less likely to live and perpetuate the peculiarity of size. Yet it will be found not only that the numerical proportion of giants in each generation is the same, but also that, taking 100 of the tallest men of any generation, they will present just the same varieties of stature as the 100 tallest men of the preceding one. We are indebted to the observations and calculations of Quetelet for the establishment of the fact that the deviations in height, &c., of every race, conform in amount and frequency to the mathematical law of deviation. Statistical tables of stature, strength, &c., based on certain numbers of people of different countries, showed practically a very close conformity with this mathematical law. Taking a supposed typical case, in which the conformity was exact, Mr. Galton had worked out the laws of heredity that would then insure statistical resemblances in consecutive generations. Wishing to obtain a practical clue to the nature of the problem, he had experimented with successive generations of peas, grouping the results according to the weights of the peas, and regarding also the dimensions of the plant. Different sets of peas were grown in different localities; Mr. Darwin, among others, having taken charge of some. The formulæ of the laws Mr. Galton has worked out were exhibited and briefly referred to as belonging to problems of the higher statistics. Their action, however, was illustrated by models. The simplest model may be described roughly in this way. A frame, 2ft. high, 18in. wide, and an inch and a half deep. The front is glass. The bottom portion of the case is divided in a single row into a number of compartments by little divisions running from the back to the glass front. All are the same height, about 4in. Above these are several rows of pins projecting from the back to the glass front. The rows are arranged so that the gaps of one row correspond in place with pins in another. Above these again is another series of divisions corresponding in number with the bottom series, and below each is a "shoot" or sloping tube, all of which converge to a central point. The top series of divisions is charged with pellets, shot, or small round seeds, each division having a sliding stop at its lower end. The stops are drawn in succession, and the contents of each division as liberated rattle down, striking the projecting pins, and, thus being scattered, fall into the divisions beneath. When all the contents have been thus liberated it is found that a line drawn along the surfaces of the heaps of pellets in the lower divisions forms a curve, highest in the centre and sloping down on both sides. Frequent repetition of the experiment produces the same curve. Whether the upper divisions are filled to all the same height, or whether they are so filled that a line drawn along the surfaces makes a curve, the result is the same. In this way the results of the processes of reversion and family variability were shown, the curve giving the degree of variation from the normal standard. The laws of productiveness and natural selection were explained with similar illustrations. The effects of these, together with that of dual parentage, help reversion in checking the step by step progress of dispersion in the race caused by family variabilities. It was shown that natural selection does not act by carving out each new generation to a definite pattern, irrespective of waste, but acts in strict conformity with the law of deviation. Individuals which deviate widely from a mean type either in excess or deficiency make but a small contribution to succeeding generations. The genealogical progress of a race was shown to consist in a constant outgrowth from its type centre and a constant dying away at the margins, and there is a tendency in the scanty remnants of all extraordinary exceptions to revert to the original type from which the race has sprung.

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FPUPILS REQUIRED. Great advantages. Premiums £24 to £30 a year. A German Governess Pupil Required, for Paris; small premium.—European Agency, 23, Berners-street, London, and Paris.

MRS. ALEXANDRE, Lady Manager of the British and Foreign Governesses' Institute (established 1858), 46, Regent-street, W., begs to call the attention of the nobility, clergy, and families requiring GOVERNESSES to her LIST of highly qualified and well-recommended ladies who are seeking re-engagements.

THE HOME, Agency, College, 267, Cornwall-road, Notting-hill, London, W.—BOARD and RESIDENCE from 7s. weekly. Positions procured at 2½ per cent. Admission to classes moderate. Apply personally on Saturday, or in writing.

A MARRIED LADY, Roman Catholic, age 30, seeks an ENGAGEMENT as USEFUL COMPANION to a lady, and would be willing to assist in the care and education of children. Thoroughly domesticated, and understands dressmaking. No salary, but a comfortable home required. Good references. Address A. D., No. 25, Liverpool-street, King's-cross, W.C.

BARMAIDS.—WANTED, by two respectable young persons, SITUATIONS as above. Ages 20 and 22. Never been out before. Would give a month. Town or country. Address M. B., post-office, Hailsham.

NEEDLEWOMAN.—WANTED, a SITUATION as good PLAIN NEEDLEWOMAN, Presskeeper, or any place of trust in a gentleman's family. Age 25. Wages £18. Two years' good reference. Address M. A. S., 1, Bank-buildings, Esplanade, Weymouth.

MÉNAGE FRANÇAIS.—FEMME de CHAMBRE et BUTLER, ou Valet de Chambre, Femmes de Chambre; ditto de Jeunes Demoiselles, Bonnes d'Enfans, Sous Bonnes Françaises, Suisses, Allemandes, CHERCHENT des PLACES. S'adresser Mesdames Oppenheim, 69, Berners-street, International Institution.

A YOUNG PERSON REQUIRES a SITUATION as YOUNG LADIES'-MAID or SECOND MAID in a nobleman's or gentleman's family. Has not been out before, but can be well recommended. Travelling not objected to. Address A. B., No. 203, Cowley-road, Oxford.

A Thoroughly obliging, USEFUL MAID WANTED, by a lady. Accustomed to nursing in illness, good needlewoman, an abstainer. Age about 30. High character required. Apply by letter, with full particulars, to Miss M. Smith, 1, Holmrook, Tunbridge-wells.

TO FAMILIES about to SAIL to MELBOURNE or SYDNEY during the month of March, 1877.—A YOUNG PERSON, with first-class references, is willing to give her SERVICES in consideration for her passage.—N. B., 24, High-street, Islington.

AYAH.—An AYAH, on way from India, wishes to RETURN immediately. Can be well recommended. Entitled to half P. and O. passage-money.—M., care of Messrs. Richardson and Co., East India Agents, 23, Cornhill, London.

THE CANCER HOSPITAL (FREE), Brompton, S.W.—FOUR RESIDENT NURSES are REQUIRED. Respectable women who have had hospital training and experience are invited to apply. A Kitchenmaid is also Wanted. Applications may be made to the Matron personally, or by letter, in which particulars of former service, experience, and age should be clearly stated.

EXPERIENCED NURSE WANTED, to take charge of one child, four years of age, and to wait on the lady. To go to the West Indies. Superior wages given. Good references required. Apply any day, before 12 o'clock, at 4, Mount-street, Grosvenor-square, W.

UNDER NURSE WANTED, age about 16. Apply on Monday, before 1 o'clock, at Kingwater, Hornsey-lane, close to the Crouch-end Station of the Great Northern Railway. Fare paid from King's-cross.

ON DEMANDE une BONNE d'ENFANTS, Française ou Suissesse-Française, pour deux enfants, dont un de 4 mois. Bons renseignements. Gages £18, tout trouvé excepté bière. Adresse Mrs. A., Vale-lodge, Dartmouth-park, Forest-hill, S.E.

SITUATION WANTED.—A lady is anxious to find a SITUATION as CARE TAKER to two or three children, not under five years of age, for her late house and parlour maid, a thoroughly respectable person. She is a very neat plain needleworker, quiet and obliging, and a member of the Church of England. Age 27. Address M. E., 5, Blackheath-terrace, Blackheath.

LADY-HOUSEKEEPER.——REQUIRED, by a young lady (23), a SITUATION as above to a gentleman. Has had experience. Is a good pianist, vocalist, &c., Fluent French (Paris). Highest references. Address G. S., 31, Lee-street, Dalston, London.

LADY-HOUSEKEEPER, Matron in School, widower's family, or any position where thorough practical, domestic knowledge is required. Many years' experience. Address Alpha, Mr. King's post-office, 7, Sussex-place, Onslow-gardens.

AS COOK-HOUSEKEEPER in very quiet family, or to one lady or gentleman. No late dinner. Apply Mrs. C., No. 11, Warrior-square-terrace, St. Leonard's-on-Sea.

COOK (thorough good) REQUIRED, for a family, 15 miles from London. Must understand dairy and baking. Wages £30 to £35. State full particulars by letter to A. L. W., post-office, Croydon, Surrey.

THREE SERVANTS WANTED: a good Cook, a thorough Parlourmaid, and a Maid to wait on two young ladies and make herself useful; must be a good needlewoman. Apply, on Monday, Mr. Dixon's, Butcher, 4, Torrington-place, Gower-street, W.C.

A Good COOK and a thorough HOUSEMAID WANTED, in a gentleman's family. No kitchenmaid kept. Must be of respectable height and appearance, and cleanly. Wages respectively from £20 and £14, all found. Personal characters required. Apply at Scarsdale-house, Wright's-lane, High-street, Kensington, on Monday morning next, between 10 and 2 o'clock.

Le Temps
21. 7. 9
Journal Paris

LECTURES ÉTRANGÈRES

M. FR. GALTON SUR LE CARACTÈRE HUMAIN

M. Francis Galton, de la Société royale de Londres, applique, depuis quelques années, un ingénieux procédé à l'étude des phénomènes d'hérédité. Il s'adresse par la voie de la presse au grand public savant et lettré pour demander que des correspondants bénévoles lui envoient sous forme confidentielle tous les renseignements dont ils disposent sur leur propre famille, la stature de ses membres, les ressemblances et différences qui les distinguent, etc., etc. Des questionnaires imprimés facilitent la tâche et réduisent tous les cas à un cadre général. M. Galton dépouille ces renseignements, les étudie dans leur ensemble et en tire ses conclusions. Grâce à cette méthode, il a déjà pu, l'an dernier, déterminer une loi fort intéressante sur l'hérédité de la taille. Cette fois, c'est du caractère moral qu'il s'agit.

Les renseignements mis à sa disposition portent sur environ 2000 personnes des deux sexes. Il n'y a aucune raison de penser que ces renseignements n'aient pas été donnés en toute sincérité. Du dépouillement très attentif auquel s'est livré le savant physiologiste anglais résulte la conclusion que sur 100 individus 48 seulement sont notés pour leur « bon caractère », tandis que 52 sont signalés comme l'ayant « mauvais ». Il paraît pourtant que les femmes (au moins en Angleterre) valent sous ce rapport un peu mieux que les hommes : la proportion pour elle est de 45 bons caractères sur 100.

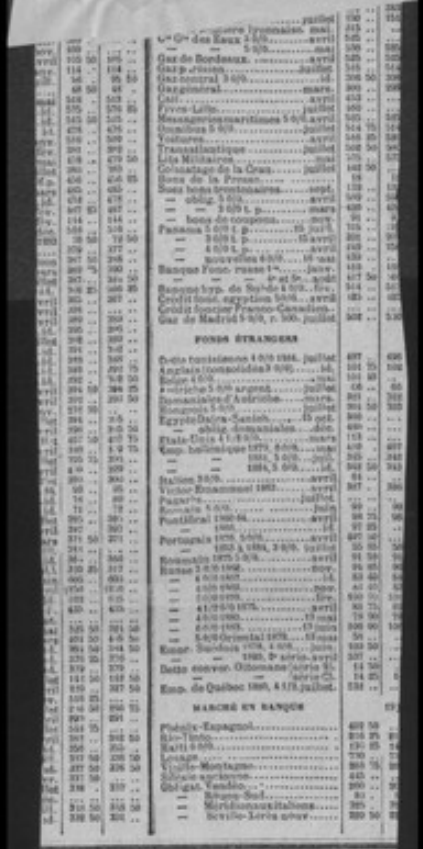
Ces chiffres pourraient sembler exagérés et presque effrayants si tout le monde ne savait par expérience combien un vraiment bon caractère est chose rare et de quelle auréole la bonté parfaite entoure la physionomie de ceux qui la possèdent. Qui n'a pas rencontré dans sa vie une de ces créatures d'élite dont la douceur exquise suffit à faire le bonheur d'une famille, à l'ensoleiller pour ainsi dire? Qui ne garde pas au cœur le tendre souvenir d'un grand-père, d'une parente, d'une amie préférée, dont la douceur était le charme unique? Et qui n'a pas constaté, à cette occasion, comme ce simple attribut est peu vulgaire?

Dans les papiers de M. Galton, les épithètes appliquées aux caractères considérés comme désagréables sont des plus variées : acrimonieux, agressif, capricieux, susceptible, égoïste, aigre, querelleur, colérique, impatient, contrariant, bizarre, despotique, prétentieux, emporté, violent, sombre, refrogné, dur, jaloux, entêté, irritable, morose, bourru, hargneux, injuste, grondeur, inégal, acariâtre, vindicatif, etc... Par contre, les qualificatifs appliqués aux bons caractères sont en général : aimable, calme, patient, égal, indulgent, doux, placible, heureux, gai, conciliant.

Inutile d'insister, dit M. Galton, sur le prodigieux total de chagrins, d'infortunes domestiques, d'inimitiés sans motif sérieux, de haines et de drames qui résulte des fâcheuses dispositions classées sous le premier chef; et, au contraire, sur le bonheur, la paix, la tranquillité apportés au cercle domestique par ceux de ses membres qui se rattachent au second groupe. Comment s'empêcher aussi de se demander personnellement dans quelle catégorie nous placeraient nos proches et nos amis s'ils avaient à se prononcer sur nous? Mais ces considérations, si intéressantes qu'elles puissent être, ne forment pas l'objet spécial de l'étude entreprise par M. Galton. Il a surtout cherché à déterminer quelle est en ces matières l'influence de l'hérédité; car si l'éducation a incontestablement une action très forte sur l'amélioration du caractère, il n'en est pas moins certain que les traits distinctifs de ce caractère s'accusent généralement dès la première enfance.

Le principal résultat auquel M. Galton soit arrivé jusqu'ici c'est qu'il n'en est pas du caractère comme de la taille, qui représente toujours la moyenne de stature des ascendants, chez les enfants d'une famille donnée pris ensemble. Le caractère est beaucoup plus individuel : chez tel enfant il participe de la ligne paternelle, et chez tel autre de la ligne maternelle. En l'absence de toute influence commune, les caractères d'une même famille seraient aussi variés que ceux de ses ancêtres (lesquels se sont en quelque sorte mariés au hasard, pour ce qui touche au caractère); le nombre des bons et des mauvais semblerait réglé par la chance, comme aux jeux de cartes. Mais il faut tenir compte d'un certain nombre d'autres facteurs très importants. Il y a entre frères et sœurs une tendance à se ressembler qui est due non pas à la fusion des particularités héréditaires, mais à la prédominance marquée d'un ascendant. Les influences de milieu qui leur sont communes peuvent aussi exercer sur eux une action générale. Mais il en est aussi qui agissent en sens contraire et accentuent les différences morales au lieu de les atténuer.

Par exemple, si tous les membres d'une famille sont naturellement doux et conciliants, d'autres trouveront dans ce fait même l'occasion de développer une tendance despotique. Dans une collection très complète d'observations à des jumeaux parfaitement identiques l'un à l'autre à beaucoup d'égards, M. Galton a toujours trouvé que l'un des jumeaux gouverne l'autre. On voit souvent s'établir dans une maison la tyrannie d'un de ses membres : cette tyrannie repose presque toujours sur l'habitude, prise par celui qui l'exerce, de se rendre parfaitement désagréable si l'on fait mine de lui résister. Beaucoup de femmes gouvernent leurs maris de cette manière, en ayant toujours une scène de larmes ou une scène de nerfs à leur disposition. L'état maladif, l'âge, les préoccupations, ont aussi une influence marquée sur le caractère. Enfin, beaucoup de gens se surveillent, à cet égard, au point de passer pour très doux alors qu'ils sont en réalité d'une violence excessive et connue seulement de ceux qui vivent dans leur intimité. Les fiancées et les belles-mères sont notoirement capables, dans cet ordre, de tours de force véritables et qui durent jusqu'au jour du contrat. Tout cela complique singulièrement le problème abordé par M. Galton, mais ne contribue pas peu à le rendre attachant.



LA SÉANCE

3 heures 50.

M. Develle préside.

La séance n'est ouverte qu'à deux heures quart.

La Chambre adopte, après déclaration d'urgence, le projet de loi portant approbation de la convention avec le Portugal pour la délimitation de nos possessions sud-africaines.

L'ordre du jour appelle la discussion du projet de loi sur le Métropolitain.

M. de Lamarzelle fait remarquer qu'il s'agit dans le projet d'intérêts essentiellement parisiens.

Le conseil d'Etat a, il est vrai, estimé que le Métropolitain avait un intérêt stratégique, mais le ministre de la guerre déclare qu'il ne pourra pas recevoir de trains militaires.

On parle d'intérêt général; mais, à ce compte, les omnibus, les tramways présenteraient aussi un intérêt général.

Les charges du projet sont écrasantes; la ligne coûtera, dit-on, 6 millions au kilomètre; le Métropolitain de Londres a coûté 10 millions, et le sol est moins favorable à Paris qu'à Londres.

Le conseil des ponts et chaussées a, dit-on, approuvé le projet; mais pouvait-il donc condamner l'initiative prise par le gouvernement?

Quant à l'exploitation, elle est absolument aléatoire.

Le conseil municipal de Paris lui-même n'a accepté le projet qu'à la veille de sa réélection. Si la population parisienne est favorable à la construction du Métropolitain, c'est en principe et non pas à un projet dont elle ne connaît pas les conditions.

On parle d'une garantie donnée par les Compagnies de chemins de fer, mais elle retombera sur l'Etat, qui garantit l'intérêt des obligations de ces Compagnies.

Selon l'orateur, ce sont les gens d'affaires qui ont organisé sur cette question une publicité scandaleuse.

Il est dès à présent certain que le Métropolitain ne sera pas prêt pour l'Exposition, puisqu'on demande un délai de trois ans.

L'affluence des étrangers coïnciderait fâcheusement avec des mouvements de terre dangereux pour la salubrité.

On ne fait pas dans le Midi les travaux de protection contre le phylloxera, travaux depuis longtemps réclamés.

Le pays s'étonnera qu'on dépense 220 millions pour un projet qui n'intéresse réellement que ceux qui auront à manier cette somme. (Applaudissements.)

M. Balhaut répond.

Il a pour le projet une sollicitude presque paternelle; c'est lui qui l'a déposé.

M. Balhaut entre dans le détail du projet.

Sur 36 kilomètres, 14 sont en viaduc ou tranchée ouverte et 22 en souterrain.

Dans le tracé, on s'est préoccupé par dessus tout des intérêts et des besoins des ouvriers.

E. W. G.

THURSDAY, MAY 31, 1883

HUMAN FACULTY AND ITS DEVELOPMENT

Inquiries into Human Faculty and its Development. By Francis Galton, F.R.S. (London : Macmillan and Co., 1883.)

AMONG all his anthropological brethren Mr. Francis Galton has no competitor in regard to the variety and versatility of his researches. So various and versatile, indeed, have these researches been, that, with the exception of "Hereditary Genius" and "English Men of Science, their Nature and Nurture," we have become accustomed to regard them as disconnected pieces of work, which from time to time were thrown off like sparks from the flame of an active mind. But in the present volume he has collected in one series most of the investigations which he has separately published during the last ten years, and this collection when read in the light of a considerable amount of additional matter, clearly shows that the sundry investigations which were separately published were not separately conceived, but have throughout been united by the bond of a common object. This object, as the title of the book indicates, is that of inquiry into Human Faculty and its Development. And it is evident, when this fundamental note is supplied, that it serves to join not only the researches contained in the present volume, but also those of its above-named predecessors, into one harmony or design.

But although there is one harmony pervading this work, the changes of theme are so numerous that we shall not be able to touch upon them all, and must therefore restrict ourselves to considering the more important.

The book begins with an essay on "Variety of Human Nature," as to features, bodily qualities, energy, sensitivity, special senses, &c. In the course of this chapter the leading results of the author's well-known investigations on composite portraiture are brought in, the audibility of high notes in different individuals, as well as in different species of animals, &c. Next there follows a chapter on "Anthropomorphic Registers," which is mainly directed to showing the desirability of keeping family records of the anthropometry of children until they are old enough to continue the records for themselves. To facilitate this process—which he deems to be one of much practical importance in view of all that is now known touching the potency of hereditary influences—Mr. Galton urges that anthropometric laboratories should be established where all the needful periodic portraiture and other observations on the life-history of children should be made and preserved on the payment of small fees by the parents. Without such systematic observation any one may pass through life without knowing that he presents so strongly marked a peculiarity as that of colour-blindness ; while the benefit to the race, a few generations hence, of a large mass of statistics of such consecutive anthropometry of numerous families would probably be of the utmost value. Indeed this suggestion as to anthropometric laboratories may be taken as the foundation of Mr. Galton's proposed science of "eugenics," to a tracing of the main principles of which his work on "Human Faculty" is chiefly concerned.

After a chapter on "Statistical Methods," we come to a consideration of "Character." So far as sex is concerned, "one notable peculiarity in the character of the woman is that she is capricious and coy, and has less straightforwardness than the man . . . and there can be little doubt as to the origin of the peculiarity. . . . The willy-nilly disposition of the female in matters of love is as apparent in the butterfly as in the man, and must have been continuously favoured from the earliest stages of animal evolution down to the present time. It is the factor in the great theory of sexual selection that corresponds to the insistence and directness of the male. Coyness and caprice have in consequence become a heritage of the sex, together with a cohort of allied weaknesses and petty deceits, that men have come to think venial and even amiable in women, but which they would not tolerate among themselves."

The type of character which leads to criminality is next discussed, and is shown by statistics to be strongly inherited. After a few pages on the allied topic of insanity, Mr. Galton passes on to consider the gregarious and slavish instincts, where he shows from first-hand observations on wild or but partly domesticated animals the immense utility of these instincts. We ourselves inherit from our savage ancestry instincts of the same kind, and thus it is that the less intellectually developed among us are so prone to submit ourselves, like sheep, to the guidance of a leader, and even to the tyranny of a despot.

Passing on to intellectual differences, a long and interesting account is given of mental imagery, the main points of which are already known to the readers of NATURE. It is remarkable that men of science, and of hard thinking generally, are for the most part totally deficient in this faculty. The discussion of mental imagery naturally leads to the resemblance which Mr. Galton has previously pointed out between his composite photographs and general ideas ; each alike are "generic images," and in many matters of detail the analogy, or, as we should prefer to call it, the illustration, holds good.

Next we come to a chapter on Psychometric Experiments, which is devoted to an account of interesting experiments on the association of ideas. The influence of early association and sentiment is shown by these experiments, and by considerations drawn from them, to be much greater than is generally supposed.

One of the most interesting chapters in the book is that which next follows on the History of Twins. It will be remembered that the main fact elicited by this inquiry is that nature counts for much more than nurture ; for it is shown that "instances exist of an apparently thorough similarity of nature, in which such difference of external circumstances as may be consistent with the ordinary conditions of the same social rank and country do not create dissimilarity. . . . The twins who closely resembled each other in childhood and early youth, and were reared under not very dissimilar conditions, either grow unlike through the development of natural characteristics which had lain dormant at first, or else they continue their lives, keeping time like two watches, hardly to be thrown out of accord except by some physical jar. . . . The effect of illness, as shown by these replies, is great, and well deserves further consideration. It appears that the constitution of youth is not so elastic as we are apt to think ; but that an attack, say of scarlet fever, leaves a permanent

mark, easily to be measured by the present method of comparison."

The essay which follows on the "Domestication of Animals" is not so interesting, because not so original, as the rest of the book; all its points are obvious to any one who has thought about the subject at all.

A consideration of the Possibilities of Theocratic Intervention next leads the way to a reappearance of the author's paper on the Objective Efficacy of Prayer. Here the logic is unexceptionable as far as it goes, but it is not such as to leave no loophole of escape for orthodox belief. The argument is that if prayer is of any avail in an objective sense, it ought to admit of being shown by the statistical method to be so. But, as the present writer pointed out nine years ago when considering this essay, the statistical method applied to such a case is of doubtful validity. To show this we may quote one paragraph from our previous criticism:—

"What, then, is the whole state of the case? To illustrate it most fairly, we shall take the strongest of the examples supplied by Mr. Galton, viz. that of the Clergy. As Mr. Galton truly observes, in no other class are we so likely to obtain men of Prayer. Suppose, then, for the sake of calculation, that one-half of the clergy are sufficiently prayerful to admit of their petitions influencing the course of physical phenomena. Next, let us suppose that one-half of their successful petitions for physical benefits are offered on behalf of individuals other than themselves: this is equivalent to reducing the number of the prayerful clergy to one-fourth. Here we ought to add that in whatever degree this section of successful prayers may influence the prayerless classes of the community, in that degree is the comparison still further vitiated. Neglecting this point, however, let us lastly suppose that one-half of the petitions for physical benefits offered on the petitioner's own behoof are answered by physical benefits of some other kind; . . . this is equivalent to reducing the original number to one-eighth. Now I do not think any of these suppositions are extravagant. Let us see the result of applying them to Mr. Galton's tables. According to these tables, the clergy as a class live, on an average, two years longer than men of any of the other classes quoted, notwithstanding we are repeatedly told that, as a class, they are the most poorly constitutioned of all. Now, neglecting the last-mentioned point, and also the fact that all clergymen do not pray for long lives; still, even on the above data, an average of two additional years over all the clergy allows, when concentrated into one-eighth of their number, an average of sixteen additional years of life to every pious divine. Of course this illustration is not adduced in order to prove that prayer has in this case been observably effectual. The greater length of life enjoyed by the clergy may be conceded due to the cause assigned by Mr. Galton—viz. the repose of a country life—or to any other cause, without in any way affecting the present argument. All we are engaged in showing is that the statistical method is not a trustworthy instrument wherewith to gauge the physical efficacy of prayer; and the above illustration has been adduced to show that even if the petitions of the pious clergy for lengthened days were somewhat more effectual than those of Hezekiah, statistics would still be so far unable to take cognisance of the fact that the observable average increase of two years over the entire body of the clergy might reasonably be attributed to other causes. Yet length of days is perhaps the most conspicuous, and therefore the most easily tabulated, of all physical benefits for which it is possible to pray."[1]

After some well considered remarks on Enthusiasm, or "to what degree the strong subjective views of the pious are trustworthy," the book begins to draw towards its final object, which is virtually that of marking out the lines of what may appropriately be called a new religion. We have of late had so many manufactures of this kind that the market is somewhat glutted, and therefore it is very doubtful how far this new supply will meet with an appropriate demand; but we can safely recommend Mr. Galton's wares to all who deal in such commodities as the best which have hitherto been turned out. They are the best because the materials of their composition are honesty and common sense, without admixture with folly or metaphor. He says: "We may not unreasonably profess faith in a common and mysterious whole, and of the laborious advance, under many restrictions, of that infinitely small part of it which falls under our observation, but which is in itself enormously large, and behind which lies the awful mystery of all existence." Having, then, this faith in the seen, and observing that, whatever the far-off divine event may be to which the whole creation moves, the whole creation is certainly moving in an upward course of evolution, Mr. Galton submits that man has now reached a level of intelligence which should enable him, not merely to know these things, but to do them. He ought to "awake to a fuller knowledge of his relatively great position," and begin to regard it as his high prerogative to cooperate with the unknown Worker in promoting the great work. He may infer the course that evolution is bound to pursue, and might therefore "devote his modicum of power, intelligence, and kindly feeling to render its future progress less slow and painful. Man has already furthered evolution very considerably, half unconsciously and for his own personal advantages; but he has not yet risen to the conviction that it is his religious duty to do so deliberately and systematically."

Several directions in which such assistance might be yielded are pointed out in the concluding pages of the book, especially in the way of "eugenics"; and there can be no question that, if the idea of promoting evolution could become generally, or even largely, invested with a feeling of obligation, the prospects of the race would be greatly brightened. The most important field of human activity under such circumstances would obviously be that of improving the race by selection, and Mr. Galton throws out several well considered suggestions as to the way in which this might be done without violating so precious a product of evolution as the moral sense, or seriously interfering in any other particular with the ordinary usages of civilised life.

We have said enough to show that in respect of its matter "Human Faculty" is an unusually interesting work; but we should not do it justice were we to conclude this brief notice without alluding also to its manner or style. There is a strand of humour woven through the serious texture of the whole, which, together with the ingenious cast of thought and the ingenuous cast of feeling, affords a most pleasing and instructive study, unconsciously presented, of the nature and nurture of an English man of science.

GEORGE J. ROMANES

[1] Burney Prize Essay on "Christian Prayer and General Laws," pp. 265-6 (Macmillan and Co., 1873), where other and more important considerations against this application of the statistical method are given. [I may observe that this essay was written on a thesis which was set by the Vice-Chancellor of Cambridge, and I still think that, upon its given basis of Christian belief, all the more important of its arguments hold, both as regards prayer and miracles.—G. J. R.]

organisms found in ordinary and malariae earths, by A. Ceci.—Transfusion of blood and its effects on nutrition, by P. Albertoni.—On the pathological anatomy of the cornea in the glaucomatous eye, by F. Tartuferi.—On the presence of a cordon or slip on the Uncus of the Hippocampus in the brain of man and some other animals, by C. Giacomini.—On the chemical composition of the egg and its envelope in the common frog (*Rana temporaria*), by P. Giacosa.—Anatomical considerations of the doctrine of cerebral localisations, by C. Golgi.

Tome ii. fasc. 3, February 1, 1883, contains anatomical considerations of the doctrine of cerebral localisations, by C. Golgi (continued).—On compensative hypertrophy of the kidney, by C. Golgi.—Experimental studies on hypnotism, by A. Tamburini and G. Seppili.—The origin of the mesoderm and its relations to the vitellus, by G. Romiti.—On the anatomy of a foetal Otaria (*O. jubata*), by L. Camerano.—On the physiology of smooth muscular tissue, by A. Capparelli.—On the physiological action of certain substances on the vesical muscles, by P. Pellacani.—On the anemia of miners from a parasitological point of view, by E. Perroncito.—On the change in form of uric acid by the action of glycerine, by J. Colasanti.—On Ptomaines, by J. Guareschi and A. Mosso.—On some endoparasitic Protista, by Dr. Grassi.

Tome iii. fasc. i., April 15, 1883, contains:—On the sanitary improvement of the Roman Campagna, by C. Tommasi-Crudeli.—On the anemia of miners (conclusion), by E. Perroncito.—On some endoparasitic Protista (conclusion), by Dr. Grassi.—On the presence of a secretive tissue in vertebrates, by C. Emery.—On vibratile endothelium in mammals, by J. Paladino.—On the attenuation of charbon virus, and on its transmission from mother to foetus, by E. Perroncito.—On the acoustic epithelium, by A. Tafani.—On the termination of nerves in the striated muscles of torpedo, by J. V. Ciaccio.—The general physiology of smooth muscular tissue, by E. Sertoli.—On a new morphological element of the blood, and its importance in thrombosis and coagulation, by J. Bizzozero.—New studies of the chestnut disease, known as the ink disease, by J. Gibelli.

THE *Bulletin de l'Académie Royale des Sciences, des Lettres, et des Beaux-Arts* for 1883, part i., contains papers by F. Henrijean, on the part played by alcohol in nutrition; by MM. Valerius and Van der Mensbrugghe, on M. Delaurier's observations on the concentration of solar rays and the transformation of electricity into heat; by W. Spring, on the colour of marine, lacustrine, and fluvial waters; by C. Le Paige, on the homography of the third order in algebra; by Baron Northomb, on the political relations of the Netherlands during the seventeenth century.

SOCIETIES AND ACADEMIES

LONDON

Royal Society, February 1.—"On the Affinities of Thylacoleo." By Prof. Owen, C.B., F.R.S., &c.

Since the communication of the paper "On Thylacoleo," in the *Philosophical Transactions* for 1871, farther explorations of the caves and breccia-fissures in Wellington Valley, New South Wales, have been made, by a grant for that purpose from the Legislature of the Colony, and carried out by E. B. Ramsay, F.L.S., Curator of the Museum of Natural History, Sydney. The present paper treats of the fossils contributing to the further restoration of the great carnivorous Marsupial (*Thylacoleo carnifex*, Ow.) They exemplify the entire dentition *in situ* of the upper and lower jaws of a mature individual; the bones of the forelimb, of which those of the antibrachium and the ungual phalanges are described, are compared with those of other Marsupials, and of placental, especially feline, *Carnivora*. An entire lower jaw with the articular condyles adds to the grounds for determination of the habits and affinities of the extinct Marsupial.

Figures of these fossils of the natural size accompany the paper.

Geological Society, May 9.—J. W. Hulke, F.R.S., president, in the chair.—Rev. William Spiers and H. A. Williams were elected Fellows of the Society.—The following communications were read:—The age of the newer gneissic rocks of the Northern Highlands, by Mr. C. Callaway, D.Sc., F.G.S., with notes on the lithology of the specimens collected, by Prof. T. G. Bonney, F.R.S. The object of the author was to prove that the eastern gneiss of the Northern Highlands, usually regarded as of "Lower Silurian" age, was to be placed in the Archæan. While admitting that this gneiss frequently overlies the quartzo-dolomitic group of Erriboll and Assynt, he held that this relation was due to dislocation accompanied by powerful thrust from the east, which had squeezed both formations into a series of folds, thrown over towards the west, so as to cause a general easterly dip. In Assynt the "Upper Quartzite" was first discussed. The author described several sections which he considered to prove that this band was the ordinary quartzite repeated east of a great fault, which brought up the Hebridean; in one place, Glen Coul, the quartzite being conformably succeeded by the brown flags and dolomite. The "igneous rocks" of Nicol ("Logan Rock" of Dr. Heddle) were regarded as the old gneiss brought up by a fault and thrown over on to the Assynt group to the maximum breadth of more than a mile. The "Upper Limestone" of authors was described as either outliers of the dolomite or a part of the Caledonian series. The "Caledonian" rocks were seen in Glen Coul to be immediately overlying the Hebridean, the Assynt group being caught in the angle between the two gneisses, and bent back in overthrown folds. The mountain groups of Assynt were described as usually consisting of cores of Hebridean gneiss swathed in or capped by sheets of quartzite. In the former case the quartzite on the western slopes was contorted into overthrown folds by the thrust from the east. In the Loch Erriboll district, the "granulite" of Nicol was considered to be a lower division of the Caledonian gneiss, though bearing some resemblances to the Hebridean. In other respects the views of Nicol were regarded as substantially correct. Along the entire length of Loch Erriboll, a distance of about twelve miles, the thrust from the east had bent back the Assynt group into overthrown folds, and pushed the Caledonian gneiss on the top of the inverted quartzite. This had produced the appearance of an "upper" quartzite passing "conformably" below the eastern gneiss. The superior antiquity of the Caledonian was confirmed by the occurrence of outliers of quartzite upon the Arnaboll (Lower Caledonian) series, and by the fact that the granite, which sent numberless veins into the gneiss, never penetrated the quartzite and associated rocks.—On a group of minerals from Lilleshall, Salop, by C. J. Woodward, B.Sc., F.G.S.—Fossil Chilostomatous Bryozoa from Muddy Creek, Victoria, by A. W. Waters, F.G.S.

Chemical Society, May 17.—Dr. W. H. Perkin, president, in the chair.—Capt. W. de W. Abney, F.R.S., delivered a lecture on photographic action studied spectroscopically. The lecturer said he wished that all chemists were photographers; photography occupied the borderland between chemistry and physics; he was firmly convinced that photographic action was interatomic. The action of a developer was then experimentally illustrated; this action is physical. Light causes the liberation of iodine in a film of silver iodide, and the developer precipitates metallic silver. The silver so reduced is infinitesimal, and must be in many cases derived from the film. The positive pole of the electric arc was found to be the best source of light. Gratings could not be used for quantitative work, as they varied so much in their ruling; a glass prism was therefore used to form the spectrum. A film of silver chloride absorbs only the violet end of the spectrum; silver iodide absorbs more, and the bromide most of all; accordingly when a photograph of the spectrum was taken on these three films it was seen that the portion of the chloride acted upon was very much less than when bromide of silver was used. It was shown that a sensitiser essentially takes up the halogen liberated by the action of light. One salt of silver may act as a sensitiser to another salt of silver. Photographic action is completely prevented by the presence of oxidisers, as bichromate, &c. Reverse photographs were discussed, and the action of sodium sulphite in preventing the evil effects of over exposure. The peculiar green condition of silver bromide which is sensitive to ultra-red rays was explained. In conclusion the lecturer said that his principal object was to warn chemists of some of the numerous pitfalls which they might encounter in scientific photography.

Meteorological Society, May 16.—Mr. J. K. Laughton, F.R.A.S., president, in the chair.—F. A. Bellamy, T. A. Mercer, Rev. H. J. Poole, and A. Wise, M.D., were elected Fellows of the Society. The following papers were read:—Composite portraiture adapted to the reduction of meteorological and other similar observations, by G. M. Whipple, B.Sc., F.R.A.S. It has often been remarked that one of the main, if

not the chief, of the difficulties the meteorologist has to contend with, is the enormous amount of preliminary labour which has to be expended in the not very pleasing task of forming the observations he may wish to discuss into tables, casting the columns of figures so obtained, and then computing the means. With the view of arriving at results by a shorter cut, the author has been led to consider the possibility of employing a method, suggested by a consideration of the highly ingenious system of composite portraiture, invented by Mr. Francis Galton, F.R.S., and utilised in his anthropological studies.—Note on atmospheric pressure during the fall of rain, by H. Sowerby Wallis, F.M.S. The author discusses the condition of atmospheric pressure while rain was falling, during 1882, and finds that, out of a total of 136 rainy days (which were available for his purpose), on 54 per cent. the rain was accompanied by diminishing pressure, on 27 per cent. by increasing pressure, and on 19 per cent. by steady pressure.—New method of reading a thermometer and hygrometer at a distance by means of electricity, by Arthur W. Waters, F.G.S.—An integrating anemometer, by W. F. Stanley, F.M.S.—Observations on the force of the wind at sea, by D.W. Barker, F.M.S.—Meteorological observations at Zanzibar, east coast of Africa, during 1880 and 1881, by Surgeon-Major C. T. Peters, M.B.—Diurnal rainfall at Bangkok, Siam, by Capt. G. H. Inskip, F.R.G.S.

BERLIN

Physiological Society, April 27.—Dr. Mendel read a paper on the anatomy of the corpus striatum and lenticular nucleus. The older view, which was supported by the valuable anatomical researches of Prof. Meynert, was that the relation of the corona of radiating fibres above the lateral ventricle ("Stabkranz") to the lenticular nucleus and corpus striatum consisted in this, that in it ran bundles of nerve-fibres, which arise from the brain cortex and end in the large ganglia, whereas Dr. Wernicke three years ago propounded the view that a connection did not exist between the brain cortex and the corpus striatum and lenticular nucleus, but that these latter were bodies of the same range as the cortex. Dr. Mendel has for some years past studied the anatomy of these parts of the brain very attentively, and has been brought back to the older view by a series of sections (of the brain) of dogs, monkeys, and men, which series he laid before the Society. He found not only the bundles of outstreaming fibres, which alone were acknowledged to exist by Dr. Wernicke, but also a larger number of in-streaming bundles of fibres which show the connection of these brain-nuclei to the cortex. In the discussion Dr. Wernicke stated that he was not convinced by the paper or preparations of the correctness of the view propounded by Dr. Mendel, whereas Prof. Munk believed that his not-yet-completed physiological experiments afford grounds for Dr. Mendel's view.

Physical Society, May 4.—Prof. Hauck laid before the Society a model of a mechanical apparatus which solves the problem of combining drawings and photograms, which are drawn in two planes into a combination figure in the third plane. Prof. Hauck then explained the principle of the apparatus, and pointed out by means of geometrical figures the conditions which must be fulfilled in order to project any given points of two planes in common points of a third plane. He then proceeded to the complicated problem of bringing points of three planes, which meet in a corner, to a common projection, and applied these figures to the special case of projecting the perspective drawing of a building from its ground-plan and elevation. The model was calculated and arranged for this case, but the apparatus, in which the motions are produced by means of polished lineals, each running upon two pins, can be put to manifold uses in physical space investigations.

PARIS

Academy of Sciences, May 14.—M. Blanchard, president, in the chair.—The following papers were read:—On the pyro-electricity of quartz, by C. Friedel and J. Curie, second part.—On the cultivation of the cacao plant, with an analysis of the constituent elements of the cacao and chocolate berries, which were shown to contain in various proportions albumen, legumine, phosphates, fat, starch, sugar, theobromine, besides the materials entering into the formation of bone.—On the action of birds in flight studied by means of photography, with figures showing the successive positions of a pigeon on the wing at intervals of one-ninth and one-eighth of a second, and a closed curve representing the trajectory of the tip of the wing obtained by means of a special contrivance, by M. Marey.—On a double sulphate of iridium and potassium, by M. Lecoq de Boisbaudran.—On the diminution of virulence in carbon bacterides and their spores under the influence of antiseptic substances, by MM. Chamberland and Roux.—On iodine associated with the sedative alkaloids of opium treated both as a preventative and curative in the case of typhoid fever, by A. Delbovier.—On the immunity against attacks of Phylloxera enjoyed by the vine cultivated in the sandy soil of Algeria, by MM. F. Couvert and L. Degrully.—Observations on the new planet 233 Borelly made at the Paris Observatory, by G. Bigourdan.—On the determination of the meridian in low latitudes, such as that of Rio de Janeiro, by M. Cruls.—On the conservation of energy and periodicity of the solar spots, by A. Duponchel.—On the laws of coincidences between the reductions of periodical fractions of the "two modes," by E. de Jonquières (continued).—On the generalisation of Thermat's theorem of numbers due to M. Serret, by M. Picquet.—On the possibility of extending to any electrolytic field the electro-chemical method in the figuration of potential distribution, by A. Guébhard.—On the influence of atmospheric pressure on the eruptions of gas and water in the Montrond Geyser (Loire), by F. Laur.—On the differences in the temperature of the sea and air, by M. Semmola.—On the quantitative analysis of sulphur and carbon in sulphocarbonates, by A. Müntz.—On the regular surface-fissures in certain rocks, such as the hard eocene limestone used in the construction of the old ramparts of Genoa, by Ch. Contejean.—On new physiological studies of the torpedo, by M. Marey.—On the functions and organs of suction and deglutition in the leech, by G. Carlet.—On a case of purulent ophthalmia produced by the infusion of the seeds of the liquorice plant, by L. de Wecker.—On the fundamental principle of the electric log now in use in the French fleet, by M. G. Le Goarant de Tromelin, who claims priority of invention over the electric log invented by M. Fleuriais.

CONTENTS

Galignani Sept 19/82 Tuesday

which ... moved; and this remedy, which is extremely simple and easy of application, is said to be very efficacious. The explanation of its action lies in the fact that any cold, whether in the shape of cold water, iced water, etc., applied to the head is good, and is the most valuable treatment which can be applied.—*Land and Water.* f. 13

MARRIAGE PORTIONS TO POOR GIRLS.—At the meeting of the Court of Common Council on Thursday a letter was read from the Foreign Office, enclosing a communication from the British Minister at Rome to the effect that the late Signor Pasquale Favale, of Donato, had bequeathed to the Corporation of London 18,000fr. free of duty, to found in perpetuity three marriage portions each year of 300fr. each for three poor girls, to be selected by lot, and between the ages of sixteen and twenty-five, such girls to be natives of London, the birthplace of his (the testator's) wife, and where he himself spent many happy years of his life. The letter was referred to the Law and City Companies Committee to consider.

TURKEY IN EGYPT.—According to the official

with the National as they are with the Khedive's Party. During the war, after the wire was cut and direct communication with Constantinople stopped, communications were kept up and information received by boats from Damietta boarding the Austrian Lloyd's steamer and other steamers coming from Beyrout which lay to off the coast till boarded. The reason why the Egyptian attack on the British position at Kassassin on Saturday last collapsed so easily was that the General in command was wounded when in front of the force, and about to launch them at our position. Their entire loss in wounded on that day was over two hundred.

Throughout the campaign the Egyptians had a complete system of spies in Alexandria and Ismailia, and knew all that was going on. They expected our attack on Tel-el-Kebir at midnight. It did not come off at that time, but the troops remained in the trenches until morning, when the attack took place; therefore it cannot be considered as in any way a surprise. The Egyptians were much puzzled by our delay in taking action after our securing Ismailia. General Wolseley ordered

which—whether we assign an earlier or later date to the Apocalypse—St. John was confessedly writing, supplied the ground-work of his imagery, and offered, as with the writings of the Hebrew prophets, a first fulfilment of his visions, regard such a supposed accomplishment as inadequate to satisfy the deep and wide stretching import of this mysterious book—meant not unreasonably being thus given over as reprobates, and treat the whole work with less consideration than it deserves? We sincerely regret that the results of so much conscientious labour, such wide and various reading, and such accurate scholarship, set forth with so much brilliancy of language and richness of illustration, should be thus discredited by self-confident dogmatism. If Dr. Farrar wishes his books to take a lasting place in theological literature, he must adopt greater calmness of tone and modesty of assertion.

Inquiries into the Human Faculty and its Development. By FRANCIS GALTON, F.R.S., Author of "Hereditary Genius." London: Macmillan and Co.

The writer of these "Inquiries" has been long and favourably known for many researches and observations, principally of a statistical character, bearing upon evolution. The many, and as regards subject-matter widely separated, essays forming the present volume, which, the author says, is "*suggestive* rather than "*exhaustive*," have been brought together in the hope that they may further our knowledge of evolution. The author desires to consider whether it is not our duty to endeavour to supplant inefficient human stock by better strains, "by such efforts as may be reasonable, thus exerting ourselves to further the ends of evolution more rapidly and with less distress than if events were left to their own course." This mighty *desideratum* is considered in various aspects, and a number of very curious and interesting questions bearing more or less directly upon its elucidation are brought under the reader's notice. Mr. Galton has advanced a number of ingenious speculations concerning some very abstruse and complex problems; and if he has not exhausted any of the numerous inquiries he has ventured to essay, he has unquestionably propounded some very curious hypotheses, and indulged himself and his readers with some amusing, though perhaps not very practical, suggestions.

His fondness for statistical inquiry has naturally led him to contemplate philosophical questions from the statistical point of view, and he endeavours to discover a "type" or an "average" in realms of inquiry which scarcely lend themselves to such a mode of research. A general peculiarity is supposed to underlie multitudes of individual differences, and distinctions of race, clan, and family are shown to be related by a common characteristic which belongs to every component of each group. By the process of "composite portraiture," he is enabled to obtain from a number of photographic portraits a single picture which shall contain that which is common to all the faces he depicts. In this way he obtains what he considers to be a typical or ideal average picture. By taking groups of persons made up of a number of individuals having common characteristics, the typical picture which is obtained is not like any one in particular, but contains, nevertheless, a certain general resemblance to them all. The details of the method by which the composite portraits were obtained are fully explained in a paper given in the Appendix, but the general plan followed was to arrange all the photograph portraits to be combined in proper position, and then to photograph each in succession on the same plate, giving to each one the same fractional exposure. If there were ten portraits, and the full time of exposure required to get a good picture was twenty seconds, each of the ten pictures would have an exposure of two seconds. The compound face thus depicted, the author tells us, has "an ideal composition." Mr. Galton gives on the frontispiece of his book a collection of fourteen actual composite photographs, several of which are very striking. One is a composite face obtained from twelve officers and eleven privates of the Royal Engineers, and certainly the face thus obtained does exhibit a type characteristic of the soldier. It need scarcely be said that it contrasts very remarkably with the composite picture of the criminals, and of persons suffering from disease depicted in the same page; nor does it appear that, as might be supposed by the uninitiated, one dominant face has overpowered the rest. There is also a composite picture of a medallion of Alexander the Great, consisting of the images of six different medals. The composite portraits of consumptive patients are very characteristic.

There are many curious remarks on the subject of sensitiveness, which will interest the readers of Mr. Galton's pages. The beginning of Quakers is accounted for upon the supposition that a number of colour-blind people took to drab raiment. As their evolution gradually proceeded, these people acquired an actual dislike to colours, and, of course, took no interest in art of any kind. By intermarriage the number of colour and art hating people increased, while the intensity of their views became more and more marked. Of late years it has been discovered that evolution could not be successfully furthered by colour-blind people, and hence the Quaker body has gradually deteriorated in power, and has lost its consequence. It is thought that, beaten in the struggle for existence, it will soon cease to be—its distinguishing peculiarities becoming merged in the more dominant characteristics of greater advantage in the battle of life. The sensitiveness of idiots is low, and they take pleasure in being operated upon, and in hurting themselves. The sense of taste in men is more acute than it is in women; hence they are the better judges of flavours, even of tea. Men are more straightforward than women, and therefore cling more persistently to the object of their choice; but we think that Mr. Galton's experience in this particular is very exceptional, or his range of observation must have been too limited to have enabled him to form a correct conclusion. We should have said the truth was the other way.

Under the head of "Character" Mr. Francis Galton offers some remarks not very favourable to the female sex:—

"The wily-silly disposition of the female in matters of love is as apparent in the butterfly as in man, and must have been continuously favoured from the earliest stages of animal evolution down to the present time. . . . . Coyness and caprice have become a heritage of the sex, together with a cohort of allied weaknesses and petty deceits, that men have come to think venial and even amiable in women, but which they would not tolerate among themselves."

Mr. Galton's conclusions appear to be arrived at from statistical investigation, which it is suggested should be more fully carried out by schoolmasters who have exceptional advantages, and who may look upon the children under their care as "the fauna and flora of hitherto undescribed species in an entirely new land." Whether parents will agree in this view concerning the duties of those to whom the training of their children is committed may be open to doubt. Mental power and the capability of observing what goes on in his own mind and in external nature seems to be to man what fleas and other parasites are to dogs, birds, and savages. Mr. Galton finds that pets that are kept clean suffer from terrible *ennui*, for, in consequence of there being no cutaneous irritation, the creatures are evidently bored, and they have not even the amusement or occupation derived from the operation of scratching themselves.

Mr. Galton is, however, convinced that the race is improving, and that evolution is really being furthered in a sort of a way, but not systematically and steadily and as a religious duty. Tall people among the well fed and well educated are more numerous than they were, and the development, both of body and mind, is advancing; but there is room for difference of opinion as to the question whether this is due to the tactics of philosophers trained in the method of furthering evolution or to statesmen and lovers of mankind guided by humbler and less ambitious considerations. The many philosophical suggestions made for improving the human race from the time of Plato to our own day have, as even Mr. Galton must admit, proved futile, because they have left out of account the most important factor of all, the influence of human will, of taste, of passion, of prejudice, of caprice. Human nature too often interferes with alliances that would be deemed by philosophers highly advantageous to the interests of the future of humanity, and certain to further the ends of evolution.

The application of human experience to the explanation of brute facts is put forth with no less confidence than *naïveté*, "an incapacity *of relying on oneself and a faith in others* are," according to our author, "precisely the conditions that compel brutes to congregate and live in herds." The assumptions comprised in the words which we have printed in italics as applied to brutes do not appear to have presented themselves to the author's mind. Is it only gregarious brute animals which "possess a want" of self-reliance from which slavish aptitudes have gradually become evolved? Mr. Galton seems to forget that gregarious instincts and slavish aptitudes, which he so much condemns as a result of primeval barbarism, are as apparent in those who, like himself, convert a mere assertion into a demonstrated truth, and a fanciful speculation into a justified belief as in those who are "willing slaves to tradition, authority, and custom;" nay, there is no more difficulty in discovering tyrants and willing slaves among the scientific than among any other sections of modern workers and thinkers. That sort of argument of which we have lately had so many striking examples in disquisitions which assume to be philosophical, and which has the inestimable advantage of being employed in support of opposite and conflicting views, is here constantly made use of in the most innocent manner. For example, the advantages and disadvantages as regards preponderance and power of large numbers and of small numbers are fully set forth. A small tribe is sure to be slaughtered or enslaved; a large one falls to pieces through its own "unwieldiness." It must be "either deficient in centralization or straitened in food or both." "Self-reliant individuals" are required; but neither too few nor too many. The importance of gregarious instincts in savage life is fully set forth; but they are not equally important to "all forms of savage life." Natural selection tends to give one leader, "and to repress superabundant leaders." As we have been taught before, this wonderful law of natural selection creates and destroys, reduces and enlarges, raises and represses, originates and annihilates.

The author's remarks on the "Possibilities of Theocratic Intervention" and on what he calls the "Objective Efficacy of Prayer" will disappoint thoughtful readers. Many of the comparisons he makes to explain his views are ill-chosen and inapplicable, and much of what is made to do duty for argument is only a string of words arranged in argument form.

The following extracts will show the way in which Mr. Galton discusses the question of the objective efficacy of prayer:—

"We simply look to the main issue—Do sick persons who pray, or are prayed for, recover on the average more rapidly than others?" "I have discovered hardly any instance in which a medical man of repute has attributed recovery to the influence of prayer." "The universal belief of the scientific world to ignore the power of prayer is a very important fact."

Is this a fact at all? What evidence has Mr. Galton to bring forward in support of this outrageous assertion concerning the scientific world?

Were the founders of ducal families, asks Mr. Galton, "the eminently devout children of eminently pious parents?" The author informs his readers that the progenitors of at least four of the existing ducal houses were not "raised into existence" on account of devout habits, and then proceeds to show that they were ennobled solely on account of their descent "from Charles II. and four of his mistresses." "The founders of our great families too often owed their advancement to tricky and time-serving courtiership." Devout men are bad business men, and "praying people are not practical." Pious enterprises are not attended with immunity from danger and insurance premiums are not reduced in favour of the pious. If prayerful habits had any influence on temporal success the fact would have been discovered by insurance offices. "Does he habitually use family prayers and private devotions?" would be one of the questions put to persons about to insure. Accidents "befall churches equally with other buildings of the same class;"—

"Hence the prayers of the clergy for protection against the perils and dangers of the night, for security during the day, and for recovery from sickness, appear to be futile in result. The distribution of still births appears wholly unaffected by piety. The nobility, probably from the want of wholesome restraint felt in the humbler walks of life, and very religious people of all denominations, probably in part from their meditations on the terrors of hell, are peculiarly subject to it" (insanity).

"All belief in the efficacy of prayer," Mr. Galton prophesies, "will be given up." The above extracts speak for themselves, and only too clearly show not only that the author of this work has proved to his own satisfaction that prayer is useless and piety a vain conceit, but that he is either not acquainted with the very elements of the prayer controversy, or that for some reason he has omitted all reference to them. If the objections urged by Mr. Galton had any real force, this matter, so disturbing to the mind of pure physicists, would have been settled long ago.

The author is careful to point out what he considers "the large effects of religious persecution in comparatively recent years (!) on the natural character of races," a theme upon which he has already enlarged in his "Hereditary Genius." A nation, he informs us, ought not to be held together by purely gregarious instincts, "a mob of slaves, clinging to one another through fear;" it should consist of "vigorous self-reliant men, knit to one another by innumerable ties," and, as he ought to have added, well versed in the new doctrines of evolution and determined to destroy their weaker brethren in obedience to the great law of the survival of the fittest in the struggle for existence. Instead of wasting his time upon the records of the past and preparing for a future state, the new animal man is to "awake to a fuller knowledge of his relatively great position, and begin to assume a deliberate part in furthering the great work of evolution." It is his "religious duty," says Mr. Galton, to do this "deliberately and systematically." This is the practical outcome of the new philosophy for the new animal—the only religious duty he has to fulfil in the new Cosmos.

We have endeavoured to discover in this work the leading ideas which the author desires to bring under the notice of his readers. His programme is sufficiently ambitious; but with every desire to give credit for the ingenuity and patience displayed by the author, we cannot say that he has even stated his case with that precision which we are entitled to look for from a statistical observer and a mathematician. The proposal to reconsider the true place and function of man in the order of the world is of surpassing interest to us all; but in the fragmentary and incomplete form in which the matter is here considered little is gained in the way of speculation, and nothing added in the shape of solid knowledge or discovery.

Whether we look at the matter from the purely speculative or from the practical side, we seem to gain little that the mind can lay hold of. To influence the future of humanity has been the desire and the effort of the best men who have lived before and since the time of Socrates, and it strikes us as almost ridiculous in a living author to put this forward as a new aim or one in any special way flowing from or suggested by the results of modern research and thought. Every father capable of reflection has not only hoped, but has tried to do so. The suggestion that it is only recently that men have thought of acting for the benefit of their successors is almost an insult to the intelligence and to the virtue of our forefathers. To say that it is our duty to influence the future of humanity and to further the evolution of a higher humanity is only another way of saying that we should obey the instinct which teaches us to care for those that come after us.

When Mr. Galton passes from the speculative to the practical region, we find much not only to question, but to condemn. Who is to decide whether a man's issue is not likely to be well fitted "to play their part as citizens?" Do not weak men have strong children, stupid ones wise, wicked good?—while, on the other hand, do we not find the weak emanating from the strong, and bad from good? The practical inferences which are the outcome of all this odd and very imperfectly worked out speculation are as much opposed to philosophy as they are to common sense and good feeling. Neither are they new. Celibacy, it need scarcely be said, has been enjoined often enough where it would undoubtedly be right, and it has not been left to modern philosophers to discover this mode of benefiting humanity in the future; but as regards the manner in which this end is to be gained Mr. Galton says not a word. Would he propose laws to regulate men's conduct in this respect? If so, who is to administer them, and who to decide and enforce the penalty of disobedience? Fancy a jury of evolutionists, or an evolutional dictator, with the power of deciding once and for all when and upon whom celibacy was to be enforced! If Mr. Galton has thought over this question we should like to have his suggestions concerning the constitution of the court that is to have the power of furthering evolution and influencing the future of humanity upon the principles suggested by him, and hinted as often enough by a number of fanciful speculators, who, skimming over the philosophic depths, and just touching the surface with the very tips of their wings, straightway consider themselves entitled to pose as the regenerators of mankind.

"Our part in the universe may possibly in some distant way be analogous to that of the cells in an organised body, and our personalities may be the transient but essential elements of an immortal and cosmic mind."

If any intelligent person sets to work to analyse this sentence, what will he make of it? Our part in the world *may be* analogous to that of a cell, say, of a leaf or other organ or structure. Our "personalities" *may be* the essential "elements" of what in fact is not personal. The individual *may be* individual, only a part of the universal. The divisible *may be* indivisible. In fact, experiment, observation, mathematics, statistics, and all the armoury of exact science lead us to the everlasting *may be* of the imagination and the fancy. The author cannot even refrain from trespassing upon the territory of those with whom he is at issue, a territory which for him is not matter, which cannot be seen, or touched, or measured, or weighed—and so cannot be proved (by his methods of proof) to exist. We are henceforth to apply ourselves to elicit the "*religious* significance" of the doctrine of evolution; whether if we substitute for religious *anti-religious*, Mr. Galton would be able to demonstrate any difference in the meaning conveyed by the words he uses we take leave to doubt.

Underground Russia. By STEPNIAK. With a Preface by PETER LAVROFF. Translated from the Italian. Smith, Elder, and Co.

This is a very singular and—if we may accept its statements as facts—a very instructive book. But it is difficult to test their truth. "Stepniak" is, of course, a pseudonym. He professes to be a leader among Russian revolutionaries, and to have been the editor of their secret paper "Zemlia i Volia" (Land and Liberty). It is obvious that such a man cannot publish his own name to the world—or give the real names of his companions, except when they have passed out of the world, for the most part by the natural termination of the scaffold. But he is vouched for by Mr. Peter Lavroff; and his sketches certainly harmonize with all that is publicly known of the conspiracy which has convulsed Russia by slaying one Czar, and—until the other day, when the long-deferred coronation was at last risked—confining another in a voluntary imprisonment. We may therefore fairly assume that the book is written by one who knows something of the inner workings of the society which he describes.

The picture which he draws of it is very curious. The real workers who are ready to risk life and limb in desperate enterprises are few in number, but their influence permeates all Russian society. Multitudes who do not formally belong to the conspiracy are strongly in sympathy with it, and are willing to aid the actors by information, concealment, money, and connivance—or even positive help—in the many attempts which prisoners make, often with success, to escape from gaols that are apparently impregnable. These sympathisers are found in all ranks. They mingle freely with the ancient nobility; they are members of the Imperial household in close personal attendance on the doomed Sovereign; they occupy the desks of Government bureaux; they even fill the ranks of the police, whose special business it is to hunt them out. Only in this way, indeed, would the continual existence of the conspirators, with a secret press in the capital of the empire and means of communication all over its vast and dreary spaces, have been possible. All the upper and educated classes of Russia—partial and superficial as the education often is—are profoundly discontented with the Government which entirely excludes them from any share in its direction, and are consequently not unwilling to lend at least a passive aid to those who are endeavouring to overthrow it.

The secret organisation has reached its present condition, according to Stepniak, by a gradual development both of machinery and of aims. Some of our correspondents have been exercised by the investigation of the origin of the term Nihilism. It is the name, if Stepniak is right, of a sect which has ceased

to exist. "The genuine Nihilism," he tells us, "was a philosophical and literary movement," which flourished between 1860 and 1870. It effected its purpose in freeing the individual from all the moral restraints of religion and society. So far as we can gather it appears to have been the philosophy of Jean Jacques Rousseau. But it dealt with the individual only. Not till after 1871—excited chiefly by the terrible spectacle of the Commune in Paris, which, while to most men it seemed an awful warning written in characters of fire, was to them a glorious apotheosis of their principles—did Nihilism change into Revolution. Revolution was pursued for five years by the peaceful methods of the press and personal propagandism, but when these methods failed to win any result, it changed into Terrorism. The revolutionaries realised that they could not cope openly with the forces of organised government: they determined to strike at the sources of government and reduce it to powerlessness by a system of individual assassination. The chief object of this was, of course, the Czar himself, though his leading Ministers were also sometimes selected as marks; and the object was pursued—as the attempt to blow up a railway train showed—with an utter recklessness as to the amount of innocent or indifferent life which might be sacrificed in the attempt.

All this is narrated by Stepniak in a light and graceful style, as if it was the most natural and harmless thing in the world. He gives us graphic sketches of the principal actors in the conspiracy—men, and, we grieve to say, women also, who, like Vera Zasoulich and Sophia Petrovskaria, have played a prominent part in these awful deeds—in terms which describe them not only as examples of heroism and patriotism, but as models of every moral virtue and every intellectual grace. This is the sentence in which he epitomises his heroes—

"Stefanovic was the Organiser; Clemens the Thinker; Ossinsky the Warrior; Krapotkine the Agitator; Demetrius Lisegub was the Saint."

It needs some self-mastery, after reading these brilliant sketches, to recall the fact that they are sketches of men who were banded together to assassinate an Emperor—who confessedly lived only for the good of his people, though he might be mistaken in the means he employed for promoting it—by such methods as planting infernal machines in the heart of a palace, blowing up a railway train, or flinging bombs into the middle of a crowded procession. It is a striking instance of the way in which great objects and unselfish motives—for it must not be forgotten that these men and women, so prodigal of the lives of others, were equally careless of their own—can blind people to the true character of atrocious crimes. The writer is not ashamed, in conclusion, to hold out a threat—though he would probably prefer to describe it as a warning—that, if the Czar continues to withhold the freedom which is demanded, an "administrative Terror" would be undertaken, "directed against the whole body of Government officials." Such a campaign, he anticipates, would make all government impossible:—

"All Russia would then be strewn with dead bodies, for the governor, the gendarmes, the procurators, the judges, could not all have their Gatchina. It would be a terrible, a grievous thing; but it has already been talked about."

And behind this lies something yet more formidable in the possibility of an "agrarian Terror," which may kindle the vast, inert mass of the peasantry into a conflagration in which all order and "everything bearing the impress of civilisation" would be utterly consumed. These are the measures which Stepniak—speaking in the name of the whole body of Russian revolutionaries—finds it possible not only to suggest and justify, but to describe in the light and airy style of a harmless essayist, who is making the most natural proposals in the world. We can only hope that he is sustained by a latent consciousness that his measures are further removed from practical politics than he would wish us to believe.

NOTES AND NOTICES.

Selections from the Writings of H. P. Liddon, D.D. (Rivington), will be valued greatly by those who cannot hope to obtain Canon Liddon's entire volumes.

The northern myths of the gods of our forefathers whose names still cling to our days of the week, should be as familiar to our children as the Goblin Songs of Greece. So we are glad to see *Tales from the Edda*, by Helen Zimmern (Swan Sonnenschein), dealing with Thor and the giants, Iduna and her apples, and all the wild and beautiful tale of Baldur and of Loki, all given very simply, without note or comment, so as to be read by children as a fairy tale.

Two books in the same livery, *The Life of John Wickliff*, and *The Life of Luther*, by William Chapman, have been issued by Messrs. Swan Sonnenschein, short and full of illustrations. What is meant by saying that by the penance of Henry II. at the grave of Becket the Church "obtained what she had long been seeking, the power of controlling King and country"? The Church obtained nothing fresh; she only did not use the privilege called "benefit of clergy." An interesting collection of brief tales from the history of all times is to be found in Ella Baker's *Tales of All Times* (Swan Sonnenschein).

Fables for You, by Eleanor B. Prosser ("Home Words" publishing-office), is very well illustrated, and the fables are terse and spirited. Some of these are thoroughly fresh—*e.g.*, "What the Wall Answered when the Indiarubber Ball Complained of it for Giving him such a Blow." "That's the way with your agitators, they go about hitting their heads against stone walls and then complain when they get what they deserve."

The indefatigable Temperance Society has as usual a whole collection of little books, striking the same note—*Jack in the Water, Motherless Alice, Birdie's Mission, Saved in the Wreck.*

Mr. Alexander Barrett's *Bulfa: his Life and Works* (Remington), will be read with interest by the musical world, and no one can help liking the happy-hearted Irishman, though, when he has fairly mounted the ladder, the accounts of his repeated successes become a little monotonous to the outsider.

The numerous amateur actors of our day will do well to remember against next winter's exigencies Mr. Henry Dakin's little shilling manual, *The Stage in the Drawing-room* (Griffith and Farran). It explains how to be secure that the moon rises when called for, that the curtain falls at the right moment, and that the fire—of red and yellow gelatine, with a lamp behind it—does not become too real.

There are a strange collection of Spanish legends, half awful, half grotesque, in Mrs. S. G. C. Middlemas's *Round a Posada Fire* (Satchell). They are mostly connected with images in churches. There is one in which an image called the Christ of the Vega, as the protector of travellers on the plain, acts the part of the cranes of Ibycus towards a murderer who came to pay his devotions, lifting an arm and saying, "*Yo soy testigo.*" The arm ever after remained outstretched. Another makes the Passion flower or Rose of the Passion, springing up on the spot where a Jewish maiden, martyred for having become a Christian, had been secretly buried. If we had full evidence given of the time and place where these tales have been gathered, and that they have not been cooked, they would be very valuable.

Parables of Spring (Religious Tract Society) are translations of some of the excellent addresses of Professor Gaussen to his Sunday scholars.

A second part of Mr. Bourdillon's *Lesser Lights* (Society for Promoting Christian Knowledge) deals with a fresh course of the minor characters of Scripture.

True to Himself (Swan Sonnenschein) is the title of a short life, in simple language, of Savonarola.

The ambulance lectures of Professor Esmarch have been translated into English by the Princess Christian under the title of *First Aid to the Injured* (Smith and Elder).

Talks about Science (Griffith and Farran) consist of an interesting series of lectures by the late Thomas Dunman. Those on frogs and lobsters are specially curious and instructive.

Among the tales of the Religious Tract Society, *Nil's Revenge: a Story of Swedish Life*, deserves special notice, as one that will catch the attention of boys as well as girls, if read aloud. It is full of spirit and interest. *Cosmo and his Marmoset* (Religious Tract Society) is not equal to it, though fairly pretty.

Though telling us that he does not believe in ghosts, Mr. H. H. Romilly has related in his *True Story of the Western Pacific* (Longmans) a very remarkable appearance of a murdered man, or something in his shape, in the Island of Rotumah, a recent annexation to Fiji, though 300 or 400 miles north of the Fiji group. It is a narrative of a mysterious murder of a native, and the difficulty of carrying out British justice where the natives were the witnesses and the prisoner was the interpreter! The assassin was sentenced to death, but the punishment was commuted to hard labour. In old times it would have been said that it was this leniency that incited the form of the murdered man to walk. For assuredly when he he had been dead for many months something much like him did walk before the eyes of the natives, chiefs, and all, and Mr. Romilly, though incredulous, denies it not, and is sure there is some mode of explaining it.

A correspondent writes that a proposal has been made that the St. Mary's National Schools of Scarborough shall be closed as voluntary elementary schools, and, if funds are not forthcoming to convert them into high grade schools, they are to be handed over to the local school board. It is a melancholy reflection that in such an important town as Scarborough there is so much indifference to the vital question of religious education that these well-known Church schools are threatened with extinction. It is hoped that means may yet be devised by the vicar of the parish, Archdeacon Blunt, to avert such a calamity to the Church and the poor of Scarborough.

In a volume of sermons by Dr. J. M. Neale mention is made of a great religious reform brought about in a public school by the moral courage of one boy. He adds:—

"He did not live very long; and *I saw his monument in the chapel of that school.* But this I am very sure of, that of all the things that are called glorious now—great victories, great conquests, great overcoming of difficulties—this is one of the most truly glorious."

Can any reader say where this monument is to be found?

MINOR EXHIBITIONS.

The annual exhibition of pictures by artists of the French and Flemish schools (chiefly), at *Mr. Wallis's Gallery*, in Pall-mall, perhaps only deserves to be reckoned among minor exhibitions in regard to the size of the gallery and the comparatively limited extent of the collection numerically. It has for a good many years been one of the most interesting and pleasant of the annual London exhibitions; and if it is not now quite what it was, this is partly owing to the fact that some few of the greatest artists among the usual contributors have been removed by death, or that, as in the case of Meissonier, their works are now less numerous and too valuable to be easily secured for an exhibition on this side of the Channel. On the other hand, some regular contributors have advanced greatly in the importance and artistic value of their works. Among these may be especially named Heffner, whose small and always interesting landscapes need to be among the minor attractions of this gallery, but who has risen during the last two or three years into a landscape painter of deserved eminence. His landscapes this year, "A Silvery Eve," and another with no title (Nos. 43 and 75 in the Catalogue), are not quite equal to those of the two previous years; but they show in the main the same excellences, a great power of giving the perspective effect of flat country and a remarkable brilliancy in the indication of sunlight—these qualities being a little marred by a certain hardness and suspicion of mannerism which deny Heffner a place amid the small band of contemporary landscape painters of the first order, but leaves him conspicuous amid the second rank. Another important contributor of late years is Professor Müller, also a mannerist, but with a manner so powerful that his scenes of Oriental life, admirable in the drawing and characterisation of the figures, and glowing with fierce Eastern sunlight, would be always among the most telling items in any collection of modern paintings. "An Arab School," in the present collection, is one of his most successful works; but still more interesting is the set of studies made by him of figures or heads, and fragments of architecture. These are among the most interesting incidents in the picture exhibitions of this year, and would alone render the gallery in Pall-mall worth a visit. Two or three fine works by Israels, one of the few really great painters who have the power of investing subjects of humble life with a pathos and poetry which renders the technical excellence of the painting a secondary matter, are among the special points of interest in the collection. Of kindred excellence, though of inferior artistic power, is the large painting of gleaners, "The Harvest of the Poor," by Billet, one of a group of French painters who may be considered as the artistic sons of Jules Breton, whose tender and pathetic style is evidently the main source of their inspiration. Seiler is another of the regular contributors, the interest of whose work has been steadily increasing; his small painting of "Rembrandt in his Studio," holding colloquy with an old Jewish official, who forms a prominent figure in one of his actual paintings, is masterly in effect of light, in the character of the figures, and the painting of details. Among the hard realistic pictures of modern life, some of which are usually to be found in this exhibition, the "Wedding during the Carnival at Venice," by De Haas, stands out for force and brilliancy of painting, not without a touch of vulgarity. As usual, there are divers specimens of the painting of military scenes in which certain French artists are so pre-eminently successful; none this year of the highest order; "Making an Abattis," by Médard, is the most important.

The mention of military paintings reminds us of the two large specimens of this class of art which have been exhibited in the *Fine Art Society's* rooms in Bond-street—"Tel-el-Kebir," by De Neuville, and "Kassassin," by W. C. Woodville. The latter artist has developed a faculty for painting galloping horses in difficult positions of foreshortening, which he has made the most of in the foremost figure of the charger with his rider galloping right out of the picture, so to speak, at the spectator; the picture seems to have been painted for the sake of this effect. Visitors were handed a description of the engagement, reprinted from the *Daily Telegraph*, enlarging gloriously on the devastation among the Arab infantry after the charge. That a set of heavy mounted dragoons at full gallop should ride down and annihilate such troops as their opponents is natural enough; but it is hardly a matter to paint a picture of. M. de Neuville's picture of getting over the trenches at Tel-el-Kebir is better artistic work, and free from vulgarity and sensationalism; it is valuable as representing in a forcible and realistic manner the actual facts of an attack with well-trained troops, especially the cool and business-like character of the proceedings of those still unhurt, while men are being knocked over right and left of them. In these respects it stands in painting alongside of some passages of Erckmann-Chatrian in literature. Mr. Wyllie's painting of the bombardment of Alexandria is of less force and interest than the other two.

In singular contrast to these scenes of violence and bloodshed, another room in the same galleries has a collection of paintings of children by various leading English artists of the day. It was a happy thought to induce these painters to contribute each his ideal of child-life; and some of the results are charming, though they are not all exactly what one would have expected from the title of the exhibition. Sir F. Leighton, for example, has produced a picture of a girl of fourteen or fifteen apparently, but with an expression and manner older than her years, which can hardly be classed as that of a "child" in the usual sense of the term. In the refined finish of the painting, and in the exquisite and almost ideal sweetness and grave beauty of the figure, this recalls his remarkable child-picture called "Study," in the Royal Academy three or four years ago. That was more strictly a child-figure, but the two are a good deal alike in sentiment. Mr. Millais's "The Captive," we presume is not intended as a child-picture, but is merely placed among the others for exhibition; it is one of the most beautiful works he has produced. "Fresh from the Nest" is the title of his actual child-painting, in which it appears as if the artist has done what we suspect he has in one or two previous paintings of a similar type—painted the child's face first, and then added an incident, in this case a bird in the hand, to which the attitude and expression of the figure seem to have no relation. The child is not looking at or thinking of the bird she holds, but looking rather vacantly out of the picture, which gives a listless air to her quite out of keeping with childish nature. Mr. Leslie has painted a charming little schoolgirl on the "first" and the "last day of the holidays," and Mr. Calderon has given the name of "The Captain of the Eleven" to a picture of a lad who knows neither how to stand at his wicket nor how to hold his bat; the "stumps" are uneven in length and there are no "bails." It is to be presumed Mr. Calderon has never been a cricket-player; but it is odd that painters should be content to be so inaccurate in details sure to be detected by so many. The only contributor to the exhibition who has poortrayed real children with a true insight into childish character and manner is Mrs. Allingham; her "Children's Tea" is excellent; but even better is "Young Customers" (exhibited at the Water-colour Society some years ago); the grave look of responsibility of the elder of the two little mites, who is extracting money from her purse, is delightful. As a realisation of the charm of childhood this little figure is worth more than anything else in the exhibition.

One of Mr. Millais's most successful recent works is "The Stowaway," the central object of the small exhibition at 10, King-street, St. James's. This is a painting of an unfortunate youth who has hidden himself in an obscure corner of a ship, and is looking up as if in fear of discovery, his face forming the high light of the picture, the surfaces in which are (almost unavoidably, perhaps) of a too uniform and dingy brown tint to give an agreeable effect of colour generally. The face is very delicately painted; there is, however, a certain degree of sentimentalism about the picture which may make it a popular engraving (for which purpose it seems to have been mainly painted), but will not commend it to the sympathies of those who look higher than the "popular" mind. The rooms contain other good works, the pleasure of looking at which is, however, spoiled by the too prominent intrusion of the commercial element on the part of the keepers of the gallery.

The *Dudley Gallery* contains a small collection of works by twelve French artists, most, if not all, of whom belong to the "militant" school of French art, with whom exhibition at the "Salon" is considered vulgar, as exposition at the Royal Academy is (professedly) considered vulgar by some among English artists. Among the works of these twelve irreconcilables are some that are very bold, others that may be better described as very impudent. Upon the latter it is not worth while to waste words, save to observe that a picture which, on a small scale, would be regarded as a rough but clever sketch, appears in quite a different light when magnified into a splash on a large canvas. Among the works which really have interest are Roll's two very realistic and powerful half-length portraits of "An Old French Workman" and "An Old Quarryman," very prosaic, and one of them very ugly, but yet redeemed from vulgarity by that force and character which a French artist seems somehow able to impart to a subject and treatment which, in the hands of an English painter of the same calibre, would probably be either vulgar or merely mediocre. Several of the portraits by M. Besnard, and his large but rather unfinished painting "At Church," are of remarkable merit; and there is originality and breadth of style in the landscapes of M. Damoye, though these, and those by M. Flameng, may also, like some of the figure-pictures, be called rather sketches than pictures. The same remark might apply to the life-size plaster statue of St. John the Baptist by M. Rodin; which, if a sketch, is however a powerful and spirited one. There is, as the French themselves would express it, a certain *cachet* about the exhibition which, in spite of some eccentricities, makes it worth seeing. It may be doubted whether as much can be said for another French exhibition—that of the works of the "*Impressionistes*," in Bond-street. These painters form a clique in Paris very much as the pre-Raffaellites once formed a clique in London, but with exactly the opposite principle of work. The English reformers thought that conscientious painting of details would insure a true and powerful total effect; the Impressionists think that details are of no consequence, provided that the general effect, as it might be seen in a momentary glance, be seized and represented. There are one or two among their number who, painting on this principle, have realised startling effects of light, by the sacrifice of other qualities to this one, and there are a few brilliant essays in colour and manipulation. But a majority of the works exhibited appear to be the work of men of no real genius, who wish to pass for geniuses by exhibiting only unfinished sketches; and some of the large-size figure pictures are of such crude coarseness of execution that one wonders equally how any one could have brought himself to paint them, or how, being painted, any one guilty of such work should have had the assurance to exhibit it publicly. The movement is an artistic imposture, and a very shallow one.

A good deal of attention has not unnaturally been aroused by the exhibition in the *Conduit-street Gallery* of Mr. Tinworth's