

Notes on Achievements for English Men of Science

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A
Physical Science



Spottiswoode no returns [high business
powers.]

F. Mechanism; practical business
habits

He was a good musician [member of a
family party high business capacities F.G.] [musical
capacities]

Strachey. Mathematical tendency; power
of organization in official business combined
with industrial faculty in an administrative
sense. Capacity for appreciation of numerical
data; accounts, finance, statistics, and
deriving principles from them.

F. Great practical business habits, great
love of work. His sense of duty, his love
of justice, his affection for his children
which was more that of a mother than
a father, were such as I have never
seen in the same proportion in any but
one other man, and by him they were
not surpassed.

Y.S. B. All ^{the} males ^{are} intelligent above the
average, and decidedly peculiar though
it is difficult to say in what way, the
present tendencies are distinctly discernable
in the preceding generation & may possibly
have existed further back. Besides the
intellectual qualities of tendency towards acqui-
sition of precise knowledge in detail, capacity
for business, active political interest, with

an absence of poetry, want of sporting
interests, and general inaptitude for square
life and disproportion to personal exaltation
there is a certain eccentricity of manner
... combined with most decided opinions
of M. His mother & her two sisters were
highly intelligent

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B
Chemistry

Playfair Strong ^{practical} business habits which have forced upon him incessant work in public capacities; love of public work and little care for its bearing on personal interests.

P. Excellent man of business which led to high employment in his profession; love of work & singularly disinterested in character.

M. Strong curiosity for facts; powerful social affections.

Lauver In Games & sports requiring skill and thought; for figures as bearing on any subject; for numbers in the form of memory for time & for practical business. Steady & intense perseverance; power at will of concentrating the mind on one subject or of bringing the mind to bear rapidly on a succession of subjects...; great religious bias of thought; mechanical; disinterested.

F. Mechanisms and games of skill such as Whist & chess.

H. Mechanisms as shown in the love of building. Impulsiveness, strong feelings, partisanship, social affections & religious faith; disinterestedness.

Gladstone It is difficult to estimate one's own peculiarities, but I may credit myself with more than the usual amount of those underlined [religious bias of thought, love of the new & marvellous, curiosity about facts; love of pursuit; emotionalness of imagination] and with tenacity of purpose, while partisanship is so deficient that I always feel inclined to follow the lead of others.

F. Great tenacity of purpose.

Geology

Essex Considerable mechanical talent
great business aptitude, being quick in
decision & in observation; steady, the
reverse of flighty; not a partisan,
remarkably strong curiosity about facts,
love of pursuit.

F. Very musical; an excellent artist,
a good turner.

f. F. Aptitude for languages; great collection
of books & coins and objects of natural history.

f. M. Mechanical ingenuity.

Smith (Barrylin) A devoted good and
amiable father for music. Love of pursuit
of one's own branch of science...

F. Uninterested in science, public spirit &
disinterestedness; much delight in miscellaneous
work; strong feelings & partialities; extremely
broad of thought & strong, yet with scepticism as
to many commonly accepted notions.

M. Strongly; love of the new & marvellous
in science; curious about facts and love of
pursuit strong.

Amblett Good practical business talent;
no taste for a knowledge of music; fair
taste for mathematics, cultivated when
young. More impulsiveness than
steadiness, accompanied by love of pursuit
of new subjects and some disinterestedness.
F. Good business habits, but not
amiable.

Ramsay Musical; good enough man
of business; understood accounts &c.

[A modest statement for a man in high official
position! 88.]

F. The preceding ~~statement~~ ^{thought} I think would
apply to my father.

M. Excellent business habits as the
father when left a widow with 4 children.

Forbes Specially interested in applied
science of all kinds, determination
perseverance (no patience); strong feelings
believe myself thoroughly disinterested;
much religious bias of thought, but no
respect for revealed religion as a base
for bad action.

F. Thorough practical business man,
steady; desire to travel.

M. Religious & extremely charitable.

Prestwood Science of observation; impulsive
& perseverance; strong feelings; not much
religious bias except in a broad
admiration of nature, as a boy, much love
of the new & marvellous & curiosity about
facts; strong love of my own pursuits;
(neither a I believe disinterested self).

F. Music, drawing. Impulsiveness
strong feelings, social affections; love of the
new & curious about facts.

M. Regular disinterestedness.

Ed. Great strength in home, especially my
mother; a very painful hereditary complaint.

D
Biology

Lubbock [Exceptionally good business habits;
~~unfortunately~~ no religious ^{inclination} Ed.]

F. Mathematics.
G.S.B. Bodily activity

Darwin. None except in business, as
convinced by keeping accounts, ^{being} regular in
correspondence, and investing money very
well; very methodical in habits. Steadiness,
great ~~curiosity~~ curiosity about facts and
their meaning; some loss of the new and
marvellous

F. Practical business; made a large
fortune and incurred no losses. Strong
social affection and great sympathy
with the pleasures of others; sceptical as
to new things; curious as to facts; great
fore-sight; not much public spirit; great
generosity in giving away money and
assistance.

M. Said to have been very agreeable
in conversation

Hookey ^{good practical} very ~~strong~~ business habits. Some
tastes for drawing & music but the latter
was never pursued. Steadiness, fore-sight
& public spirit, well marked.

F. Language; business habits; music
all very strong

M. Love of ruling and an anxiety to
convince others of her opinion

F.M. Remarkable artistic & musical
powers, very irregularly developed.

Quintan. Strong business habits
& steadiness; very strong feeling against
meddling in scientific matters by
amateurs or mercenaries; affection
for the persons & doctrines of my teachers
and old associates in Zoology;
love of the new & marvellous, love
of pursuit; constructiveness of
imagination & great disinterestedness
I have a taste for & was formerly
a performer of music

A hasty temper, in more or less
present in all my maternal relations
and ancestors as far as I know of
them...

Paget Practical business habits; much
considerable facility in public speaking;
very small infirmities; strong partiality
to social affections; ~~but little~~

F. Strong business habits; steady.

M. ~~not infirmities~~ Strong partiality
to social affections; much religious bias of
thought; love of the new & marvellous
a curiosity about facts.

Y.S.B. Of a numerous family nearly all
~~have been remarkably active & enterprising~~
have on various occasions shown great
mental activity; there is a marked
uniformity of character among them.

F. & M. ordinary rather one of the best of the family.

Williamson W.L. Practical business
habits, a decided quality; also talent for
drawing and manual work generally;
decided steadiness in definite pursuits;
social affections present; decided religious
bias of thought; intense love of pursuit.

F. Mechanical talent shown in construction
skill in taxidermy. decided steadiness in
business pursuits, ~~as~~ interested in his
horticulture as when a youth; attentive
entirely to his plants when not prevented by
illness.

M. Business habits decidedly [facts
given being strongly in evidence] steady
in her business pursuits and in her painting
social affections most intense and warm
one of the most unselfish of women.

Stokes Practical business habits; great
love for music, love of painting and art but
does not practise them. Steady, with strong
feelings but not a passion; warm social
affections; slow to make new friendships; of a
religious bias of thought; good story teller;
instructor of music to children; great foresight
& public spirit with utter disinterestedness.

F. No practical business habits though
handworking; great love of music, love of
poetry which he wrote and of art though not
practising any branch of it. A man of power
of a high ~~spirit~~ nature the very soul of his home
he was singularly beloved by a large circle of
friends, of a deep religious bias and strong
opinions which he would have borne out to
the death. Inclined to sacrifice everything, family
interest and personal welfare to public good
and conscience.

M. Very practical, lover of music, played
the violin, fond of poetry and art though not
producing them. Of warm affections, capable
in society but not a woman of the world, practical
& independent in spirit; she was anxious for
the welfare of her family more than
caring for public interests.

Y.S.B. High artistic power in some of
its members.

Hayley Strong natural talent for mechanism,
music & art in general, but all waste and
uncultivated. Believe I am reckoned a
~~fairly good~~ good chairman of a meeting.
I always find that I acquire influence, gene-
rally more than I want, in bodies of men and
that administrative and other work gravitates
towards my hands. Impulsive and apt
to rush into all sorts of undertakings without
counting cost or responsibility; love my
friends and hate my enemies cordially;
entire confidence in those whom I trust at
all and much indifference towards the rest
of the world. A profound religious tendency
capable of fanaticism, but tempered by no
less profound theological scepticism. No love
of the marvellous as such; intense desire to
know facts; no very intense love of my pursuits
at present, but a very strong affection for
philosophical and social problems; strong
constructive imagination; small foresight.
No particular public spirit; disinterestedness
arising from an entire want of care for
the rewards & honors most men seek -
vanity too big to be satisfied by them.

F. A good musician & possessed a curious
talent for drawing heads with pen and ink.
Impulsive but kindly; nothing otherwise
remarkable.

M. Very impulsive, a strong partisan,
strong affections, marked religiosity,
and a constructive imagination worthy
of a novelist. Physically and mentally I am far more
like my mother than my father.
Y.B.S. All but one had good ears for
music and are above the average level
of ability; one sister a remarkably good
musician, one brother a man of considerable
administrative power but broke down
in middle life.

Family generally; - hot temper & tenacity
of purpose; considerable power of expression
in writing & speaking.

Gray Talent for mechanics & practical
business. Determination to succeed as far
as possible in all my undertakings; parti-
cularly devoted to the education & amelio-
-ration of mankind in every respect;
unceasing exertion in behalf of the advance-
-ment of scientific knowledge, especially
biology & zoology; have always acted
fearlessly.

F. Good business habits; self-teaching,
in having been born after his father's death
and his mother having been left with only
a small annuity was therefore only
educated by his mother & himself.

Y.B.S. Two brothers besides myself were
ardent lovers of natural history.

F. Uniformly fond of natural history
and were nursery & seed men for four
generations at least in Pall Mall. My
grandfather introduced goose culting &
flow of mustard from Holland and carried
on the manufacture in mills at Deptford.

Carpenter Always fond of construction; school
nick name "Archimedes"; if I had followed my
own bent, should ^{prob} probably been a distinguished
engineer. Has always been accounted
a good "man of business". Was not taught
music, but was always fond of it, and
taught myself the organ after I was 20, so as
to play with taste and expression, though I never
acquired any power of execution; have always
had more pleasure in sacred than secular music
which perhaps shows the predominance of the
emotional tendency.

F. An extremely good man of business; delighted
in order and regularity, and upheld this strongly
in his home and school, was fond of construction
arrangements, physical & moral. Was always
looked to by the Liberal party in Exeter and
Bristol, as one of their most valued leaders in
political and philanthropic action. Had a
decided feeling and love for music, but never
cultivated it. The sense of duty was the
predominating feature of his character, as it
was also of my mother's. I should say
that my father's intellectual character and
my own are rather notable for talent than
for genius; we have shown a good deal of
constructive power, but nothing of creative
in [strong sense of duty, see above]

M.S. My father combined in a remarkable
degree, literary and scientific ability (shown
by his distinguished career as a student
at Glasgow, and by his subsequent career)
and active philanthropic character. These
qualities were distributed as it were, among
his children [facts given in evidence]

Jeffrey Practical & methodical business
habits; steady love of pursuit
M. Musical talent, especially
for singing.

Muir Mechanism & decided business
activity
F. a steady man of business

[abstract]

Farre. A very fond of mechanical contrivances; often as a child, when confined by sickness, invented my own toys & childish musical instruments out of combs, jew's harps - &c. His ^{strong natural bias for mechanical work} ~~inclination~~ has not worn out but its development has simply been impeded by ~~circumstances~~ more serious duties of another kind, ^{which occasionally induce it. Fond of numbers} Regular business habits; no profane life is strictly methodical. In the consecutive years in earlier life I never took a day's holiday. Every ^{working} day is still mapped out into hours, half-hours & quarters.

F. Had no mechanical turn whatever; was certainly very unbusiness like in the sense usually understood of business men [of turning his time to the best account in a ^{not a conscientious} pecuniary sense]. His religious views were decidedly evangelical; fond of listening to music but had no acquaintance with it either theoretically or practically.

M. As I was only five years old when my mother died I cannot fill up these questions with any certainty

Bastian Practical business habits so far as requirements go; no ear whatever for music; cannot distinguish one tune from another. Steadiness of purpose; love of knowledge & pursuit; foresight; power and love of generalization.

4. B. S. Quickness of perception uniform
7.7. Abilities generally decidedly above the average

7m. Abilities above the average; independence and decision of character; quick perception and great retentiveness of memory

Bowman (no returns)

F. Methodical as a man of business; economical of time. Quiet, unambitious and moderate [very much attached to Science]

Thomson A decided turn for mechanical pursuits both in arrangement and construction, practical business habits; no very strongly marked mental peculiarities.

F. A natural turn for mechanical pursuits but however cultivated to a great extent beyond what might be expected in an operating surgeon; good business habits. Great love of literature & philosophy, science, with power of acquisition of varied knowledge, arrangement and generalization. Strong will; perseverance; warm friendships & strong partialities; bias of religion - philosophical - character independent rather than carefully prudent; unselfish & disinterested; public spirited; charitable in feeling and action. He raised himself entirely by his own exertions and under great difficulties from a mechanical employment to the head of his profession of medicine.

M. very practical in her habits of management; a good ear and natural taste for music. Love of literary & historical rather than of scientific knowledge; steady perseverance; matter of fact rather than imaginative; affection very strong; charitable & disinterested.

F.M. most of her family were lively in disposition, decided and independent in their judgments; careful & steady in their habits with strong feelings and affections. Some showed a decided turn for mechanical construction.

Forbes Special love of mechanics; good self-taught cabinet maker, good blacksmith, has made trap bound writing desks, lithotrites, cut models & houses &c with penknife, &c.; and fair business habits when interested in the work. Fond of music, made violins; no taste for mathematics or arithmetic. Determined at 18 years of age to try to excel in surgery; hence the characteristic above referred to. [He never took a continuous course.] Steadiness; strong friendly feelings; strong social affections, always suspicious of the new and marvellous; special anxiety about facts.

Headline Extremely ingenious in devising
mode of procuring, exhibiting, explaining
the objects of Nat. Hist., in fact he possessed
remarkable power of contrivance and invention.
Remarkable steadiness; great power of
observation in every branch of Nat. Hist.;
very public spirited and thoroughly disinter-
ested and unselfish.

F. Good man of business; extremely fond
of birds & other animals and of his
Garden; at one period had extensive
avaries, many books on natural history.

M. ^{Good housewife & needle woman, not much of a reader.} Extremely warm-hearted, and affectionate
and unselfish; a great admirer and collector
of natural and artificial curiosities.

F.F. Energy & perseverance decidedly, and
in some, cleanness of invention and contrivance.

M.F. Energy; decidedly clever & ingenious.

Marshall ^{Abstract} Steadiness; moderate feeling;
impartial; social affections strong; religious
bias towards natural religion strong, as
distinguished from dogma of any kind.
Very curious about facts; love of present
pursuit is strong.

F. An excellent accountant and had
had large & responsible business always on
hand.

M. A large brained strongly opinionated
woman; devoted to family matters.

Y.B.S. General mental activity among
all of them; all are strong and healthy.

F.F. Very active certainly in their mental
work and habits; sociable.

f.M. More slow and cautious as a family,
but steady, and circumspect, & persevering
and strong minded.

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Cobbold. Public speaking, lectures, usually with few notes; clear enunciation, drawing has constructed an extensive series of original illustrations of animal & vegetable forms on a large scale. Music; possessed of a very powerful alto voice, in addition to the ordinary chest notes which are lower and above the average strength; good ear for music; very persuasive; not discouraged by defeat; intensely religious, formerly in the evangelical sense (a tract distributor & promoter of prayer-meetings, bible classes, &c) especially distaste to novels & fiction in any shape.

F. Impulsive; highly imaginative; very strong religious feelings.

M. Good ear for music. Not impulsive sound judgment; not imaginative; no strong religious feelings; distinctly religious persons.

FF All his brothers rather impulsive, and imaginative and talented.

My numerous relatives though unknown to the scientific world are most of them characterized by great breadth of thought & rare independence of action. . . . I believe [from good grounds as stated] that these peculiarities were derived from my great grandfather. [father's father's father].

Carter Determination to succeed if possible; perseverance, resource, foresight. My motto being "whatever thy hand findeth to do, do it with all thy might," for "the night soon cometh in which no man can work."

Parker Nothing very special; certainly there is a love of pursuit of scientific facts and desire to advance my profession in public usefulness; I think also there is a steadiness in pursuit and not much impulsiveness.

F. A very good business man.
Y.S.B. A great deal of industry, I think, in all.

FF They have been good business men that is tradesmen, bankers, lawyers, &c. for 5 or 6 generations.

FM. My mother had 12 brothers and sisters all of whom appear to have had unusual ability.

Sanderson. Aptitude for mechanism, probably attributable to the desultory method of my education and my having lived in youth in a mining country. Apt at acquiring modern languages; fond of mathematics but knowledge of the subject defective from my imperfect education. [Great steadiness of character and inquisitiveness of mind never satisfied without following subject to its foundations. Great dislike to superficiality. Through in love with thing he undertakes; the most trifling and insignificant thing must be done in the best possible way. Utterly disinterested, commended by his wife.]
F. Shaped remarkable power of writing and speaking English.

Spencer. I think my own powers are very evenly balanced. I have inherited various things and have tolerable power of manipulation; take pencil portraits; modelled a bust; sing, especially fast music; pretty good in mathematics so far as I went; methodical in work & business. But I am below par in linguistic faculty, so far as it is shown in learning languages, which I always hated. I do not care for history as it is ordinarily written and have a ~~constant~~ contempt for biography. [Quarrel with autobiography? 89.]
Decidedly steady rather than impulsive; moved to continuous action by a large aim. Decided love of the news. No unusual curiosity about facts for themselves, but only with a view to conclusions. Great exactness of imagination. Very fond of castle-building as a boy. Always tending towards the ideal, detecting faults & looking for remedies. Unusual faculty of seeing kinship between things not apparently related. Strong sense of public duty leading in many cases to disregard of self-interest. The emotional traits I regard as ~~being~~ having led to success, are strong self-esteem and disregard of authority and intolerance of wrong whether in acts or opinions. Of the intellectual traits I may say that after exactness of imagination which I think I have in a very unusual degree, the most important peculiarity is the even balance of the analytic and synthetic tendencies, - also an uncommon characteristic

(Continued)

Balfour J. the
Great idea of order method in business; fond
of science from my youth; regular in all my
duties; fond of science from my youth. Impulsive,
strong feelings; sometimes leading me too far;
much religious bias of thought from early education.
At school I was often called "Fifpenty Gilted"

T. was fond of science and early interested me
in botany during walks in the country. He
also was impulsive and strong in his social and
political feelings; markedly religious; became a
strong supporter of Presbyterianism and a leader
in Evangelical circles in Edinburgh.

Bell Facility for mental arithmetic from
early youth; progress; relations of figures
carried on in the mind as cheap as that
the board; a passion for numbers but as
retentiveness of ear for tone, considerable
ability for acquiring languages but mainly
I think through the imitative faculty.
I believe a considerable faculty for the
quick dispatch of admiring truth in business.
A character strongly disposed to look
forward hopefully to the future; a few
crispings dislike to quarrels and disputes; some
intellectual discipline; much fondness for society
of agreeable & sympathetic persons; early religious
impulses strong but have in the dogmatic
side quite disappeared; the belief in a personal
anthropism between good and evil inspection of
utilitarian results has increased, with no loss
sense of the dogmatic basis for the belief;

Strongest access in a man who sacrifices public
interests to his notions; greatest pleasures in life,
enjoyment of natural scenery.

F. Strong fondness for numbers; facility for
acquiring languages and catching accent &
pronunciation; no facility for arithmetic,
geometry or mechanics; also (over-cautious)
in forming a decision except in matters with
which he was already familiar. Substant
caution - reserve as to serious subjects; only
strong bias shown, even that of contempt for
punditism and political adulation. His ideal
standard that of the gentleman rather than
the sage or the patriot. Very fond of society
and society, fond of him.

M. Some mechanical faculty; absence of
facility for numbers or arithmetic; more for
speaking foreign languages though readily
reading them. Impulsive; strong passions
considerable ardor of temperament; not
much regulated; strong religious impulses
& belief but not much fondness for religious
observances.

F. The main characteristic that of practical
and caution combined with considerable
practical capacity.

M. Little temperament. impulsive; considerable
impulsion of views founded rather on appearances
than reality; love of adventure.

Scholar I believe I may say that my organ
of order is highly developed. Of my collection of
some 7000 birdskins every one is always in its
place, labelled with name &c, all by my own
hands. I spend much time (perhaps too much)
in putting things straight.

M. Strong sense of duty; great simplicity and rectitude of character; singularly truthful habit of mind; steadfast love of justice; strong religious feeling with entire absence of bigotry or sectarian feeling.

Elm. Similar general

Y.S.B. Strength of purpose (of will) in self & mother

F.M. Similar general characteristics to those of my mother.

Buckton Mechanism, as shown by constructing a reflecting telescope with 12 inch aperture [N.B. his special science has no connection with astronomy. Ed.]; fond of music and fine arts; a fair amateur artist in oil-colour. Not impulsive; religious views liberal, but strongly non-millennialistic; rather impatient of new scientific theory unless ~~scientifically~~ experimentally supported.

F. Considerable business, habits, fair musical taste. Steady of purpose

M. Strong religious convictions

Debus. Steadiness; disinterestedness.

M. I am informed that my mother was very clever and had great powers of mind, but I know no details. Relations have often said to me "your mother had great intellectual powers"

Merkelene.

Remarkable dissimilarity in feature, form, and colour, of all my brothers and sisters and myself. There is very little family likeness among us.

[This is my & eldest sister]

Harewood Chemistry was my earliest taste and the favorite occupation of my holidays

F. My father was never much of a reader, but his chief intellectual tastes were scientific. In old age the reading of a scientific book or listening to a scientific lecture interested him more than any thing else.

Y.B.S. My brother & one of my sisters have the same scientific pursuits as myself.

F.F. Two of my father's brothers made chemistry their pursuit, and at least two more are regular attendants at the K. Institution lectures.

De la Rue very prolific in mechanical inventions; a keen experimentalist in chemistry and physics and having steady business habits but never fond of business. A power of concentration of thought to one object in hand, to the total forgetfulness of others for a time; a determination never to leave an accomplishment a matter once taken in hand. A great love for science, a complete disinterestedness in its pursuit; an appreciation of the work of others; and public spirited. Never a partisan; religious feelings not great; high moral feeling and complete tolerance of the views of other persons.

F. A prolific inventor; not by any means a good man of business, but a most energetic ^{in it} man of business. Distinguished for his steady pursuit of any matter once taken in hand; great curiosity about facts and love of the new; religious feeling not great.

M. In household matters a most careful and excellent manager. Her social affections were a charming characteristic, religious but not obtrusively so.

Y & B. myself & two others no ear for music; three others were musical.

Smith Arch (Extract) Mathematics, ^{very strongly} mechanics, practical business habits. Great steadiness of purpose; too balanced a mind to be a partisan; warmly attached to friends; great interest in biblical studies; delight & interest in new scientific discoveries. Caution in forming opinions. Not observant in ordinary life. Simple tastes; fond of animals. [absolutely true; his moral and intellectual character always seemed to me one in its truth & accuracy. Communion from an intimate friend.]

F. General abilities in many directions but not very special. Very unspecialized, for instance, he could never be got to take an interest in the mines or his own property because they do not belong to the geological formation he had made his study. Steadiness of purpose; warm social affection; great interest in religious subjects; great simplicity of character; truthfulness & high sense of honor; fond of animals.

M. Muscular; practical ability; warm family affections; absorbing interest in religious subjects; great truthfulness; very silent & reserved; great refinement; fond of animals.

Y & B. Some were very musical, hence very deficient in the service of numbers; great fondness for animals.

W. Very retentive memory, especially for people's genealogy. He one uncle knew the Army List by heart, another the Army List. Great fondness for animals.

J. M. Musical - a talent for cutting out paper & modelling [transmitted].

Carrington I was noted at school for always learning a trade, such as chair-making, boat-building & printing. I have some capacity for business as shown by the success I acquired at Brentford, where I succeeded in a concern which never "paid" from the beginning, till I took it 40 years after.
F. My grandfather was successively in seven businesses and succeeded in them all.

Scott Strong business habits. Partisanish, curious about facts; love of pursuit; patience in working at results, all strongly developed. Nearly absolute absence of originality; dislike of metaphysics.

Young I consider that I have special talent for the practical business of life, more especially in the application of my mind acquired knowledge, scientific & otherwise, promptly & effectively in the various duties of my official position. Steady in action & fairly so in thought; tendency towards strong feelings and partisanship rather than the reverse; When once I have formed an opinion and I take especial pains to form sound ones, this opinion is retained with a dogmatic spirit unpleasant to my feelings; hence my shunning from inquiring into religious beliefs and receiving pleasure from the investigation of physical subjects.

Social affections Solid. No love whatever for the marvellous and little belief in new things, by ramour, till they are tested honestly, and by sound principles; curiosity rather feeble than otherwise; love of pursuit warm; constructiveness of imagination feeble; foresight strong; public spirit fairly strong; distaste for tediousness, have always cultivated & with success.

Hirst Practical business habits good, great love of science & mathematics. Steadiness decidedly marked; bias towards freedom of thought in religious matters; love of mathematical pursuits predominant; imagination constructive in geometrical matters.

F. devoted to science and fond of elementary mathematics.

M. Musical talents fair.

Brooke. Aptitude in embroidery; in adapting means to ends e.g. the invention of self-registering magnetic apparatus.
F. Considerable taste in art; good water-colour draughtsman.

Andrews. Steady & persevering in pursuit once begun; from early life strongly devoted to his objects & the same feeling continues. Hope I have ~~undoubtedly~~ acted disinterestedly & have not failed in duty as a public citizen. Organized & delivered for many years, courses of lectures on various branches of science gratuitously to the working classes of Belfast. These had the character of being able to take clear views of the probable course of future events.

Maie. Probably the following characteristics are beyond the average: - Steadiness of determination even when the subject is distasteful; strong social & domestic affection; and instinctive religious bias, curious about facts; disinterestedness probably considerable. Y.S. D. Mathematics.

Erroe. Took very early to physical sciences, made electrical machines and air pumps at 12 years old; business habits bad except what is the result of long discipline, but always punctual in appointments. Great want of curiosity as to the ordinary subjects of human gossip, but great love of solving scientific mysteries. Little interest in science as soon as it becomes exact and reducible to numbers & weight but great interest in solving enigmas such as chemical & electrical phenomena &c.

Phillips. Incentivens; ... maximum thermometer. . . . Mathematics chiefly turned to natural philosophy problems desire to know what can be known naturally before me and to employ on every subject all that could be known. On this account Zoology, botany, geology, mineralogy, meteorology, astronomy have all in turns and often in repetition been my delight. . . . I think a large range of information and much public speaking have been my recommendations to success.

Haughton. Applied mathematics, trading. I am a very ready speaker and have a quick sympathy with others. When my feelings are excited I can readily move an audience of 2000 persons & make them laugh or cry. (A large audience is much more under the control of a skilled speaker than a small one, possibly, perhaps on account of the larger mass of those who feel and do not think.) Tenacity of purpose & steady industry; intense desire of knowledge of every kind; great sympathy with children & animals; strong religious feelings; lively imagination & keen sense of the ludicrous. My friends consider me disinterested & public spirited.

F. has a lively imagination & strong sense of the ludicrous.

M. Extreme tenacity of purpose, which no amount of repeated failure could ever turn aside.

Y.B.S. Tenacity of purpose is strongly marked in 5 out of 8 brothers & sisters. These 5 possess also lively imagination and keen sense of the ludicrous.

F.F. Lively imagination & keen sense of the ludicrous.

F.M. Tenacity of purpose.

9.15

Rope. Fond of machinery and mechanics of all kinds; perhaps not sufficiently orderly and methodical to become a good man of business. Fond of music though it was not made a part of my education, nor was the taste for it specially encouraged. No very great quickness for pure mathematics, nor in the higher branches of either "pure" or "applied". Not impulsive; not imaginative.

F. Fond of mechanics and mechanical engineering, also of military engineering. Fond of music but in early life laid it aside in favor of scientific pursuits especially astronomy, and also of public business. Not impulsive.

Y.S.B. All of rather retiring disposition perhaps increased by home education.

F.F. Perhaps shyness and retiring disposition.

Foster. As a boy took great delight in watching machinery & workmen, and in making mechanical toys, as water-wheels, wind mills, carriages driven by clock springs, &c. Discovered accidentally the action of the siphon (at about 12 years old) and thought out nearly the right explanation. Took great pleasure in my first ^{year} of Succeed at school (at 12 & 13) in which I was practically unaided, as the master used to be perplexed by my drawing the figures in ways he was not accustomed to; Fond of music, but have never acquired practical skill.

F. Has a very good musical ear and considerable skill in vocal music. Son of a working plasterer, he became one of the proprietors of the print works where he was apprenticed as a boy. Devoutly religious and an active supporter of the efforts of his own religious body... but extremely liberal in his judgment of those who are less "orthodox" than himself. Has much less sympathy with those who are inclined to stifle rational inquiry. Has

been an active promoter of unsectarian education and philanthropic movements. One of Cobden's earliest friends and supporters. For many years one of the leaders of the liberal party in his own borough (Clithero).

M. Like my father, combines strong religious feelings and strict practice with remarkable liberality.

Y.B.S. All above average stature. All rather shy and retiring.

F.F. Uniformly tall & slender; mostly long lived.

Stewart Great love of the new & marvellous
and also great curiosity about facts; - & great
power of abstraction. Love in early life
very fond of pure mathematics, at 16 & 17
I conceived independently Lagrange's calculus
of functions.

Maxwell Fond of mathematical instruments,
and delighted with the forms of regular figures
and curves of all sorts. Strong mechanical
power; extremely small practical brain.
Strongly affected by music when a child,
could not tell whether it was pleasant or
painful, but rather the latter; never forget
melodies or the words belonging to them and
these run through the mind at all times, and
not merely when the tunes are in fashion; can
play on no instrument and never received
instruction in music. Great continuity
or steadiness; gratitude & resentment weak;
stopy ^{pretty} strong; not gregarious; thoughts
occupied more with things than with persons,
social affections limited in range; given to
theological ideas & not reticent about them,
constructive, of imagination, foresight.

F. Very great mechanical talent, ¹⁸⁰⁴ ~~1805~~
business habits; Strongly affected by music;
of a mathematical turn of mind. Very
steady; ~~and~~ ^{much} partisanship; very great public
spirit; extraordinary constructive of
imagination, & foresight.

M. Guided by religious thought and very
independent of the exhortations of acquaintances,
clerical or lay. Melton was a forbidden
subject in her father's family as his mother
was a Roman Catholic and all discussion
was avoided religiously.

(In his letters note about private.)

Merrifield Practical business habits; a ready speaker; ready at contrivance, mechanical or other; a mathematician very persistent; cool & strong nerve; public spirit; curious about facts & caring little for argument; sceptical.

F. Practical business habits; ready speaker and good dialectician. Very persistent. Cool & strong nerve; strong passions but public spirited.

M. Practical business habits; musician & artist.

Y.S.B. [alike in form & physique but] great diversity of temper and dispositions
F. [as above, in form in physique] order & obstinate in temper

M. [also as above, in physique]

Fairbairn. The most prominent are perseverance and industry. I think we are more dependent on these than in relying on the efforts of genius. ... a willing mind and determination to persevere is in my opinion the most direct road to success, we must however exercise a sound judgment in the selection of subjects in which to exercise our thoughts.

Armstrong. Very strongly marked latent for Mechanism & Construction generally, exhibited as a child; little taste for mathematics. Steadiness & perseverance in the pursuit of an object is my most distinctly marked mental peculiarity.

F. an excellent mathematician but no talent for practical mechanics; strong reasoning power

M. a fine taste for literature and an excellent critic.

Balmain J. Fred. Drawing & musical

F. mechanical genius, ~~but a spoiled child~~ ~~in every sense~~ musical, fond of horticulture. [unfortunate for his career] was a spoiled child in every respect.

M. musical, highly accomplished, ~~and~~

Y.S.B. I am the only one who is not musical
M. musical, highly accomplished, strong religious bent.

Leitch Drawing, considerable as a talent not as a result. Mathematics

M. Music, much curiosity about facts & love of pursuit. Considerable energy in the members of her family

F. My father's intellectual power is my own ~~more~~ nearly akin. He had however more artistic skill and greater manipulative dexterity. He might have been a first rate portrait painter and a good sculptor. He was inventive but not in whole novel ways; he decided by far the best system of short hand which exists. Not at all a man of business. Wanting in judgment as to proportion between means & ends. Much of what I have said of myself applies to my father; but there were these differences. He was moved to activity by small ends; large ones paralyzed him. More curious about food; far less curious than I am. . . .

Extremely strong sense of public duty

M. Orderly and methodical; not at all impulsive; very uniform and balanced in conduct. Very religious in the genuine, unsuperstitious way; philanthropic in more than average degree. Great love of the new marvellous; extremely disinterested in the domestic relations

F. All the brothers extremely independent; leading to eccentricity. All given to discussion. Often hiding in disputes. All intellectually active all but one (a lawyer) conscientious & having a high sense of public duty. My father the most marked of them.

Newton [strong natural history]

Y.S.B. My youngest brother has my taste for natural history equally developed in him, though circumstances have hindered him from indulging it to the same extent

Parker If I have any special talent it is for drawing; none of my relations ever make the slightest sketch. I was busy drawing and colouring at 6 years of age; my ~~father~~ ^{mother} has forgiven him this very thing. I do all things at a white heat, but never tire of a pursuit, but I learned to brodle my impulsive temperament at 15. My feelings are quick but I have no tendency whatever to partisanship. I have been the more biased towards religion ~~because~~ ^{because} that my father & maternal grandfather lived it and did not prate about it. I am personally only a combination of these two men. I must have facts, and my mind is as free as ever in the face of the marvellous & beautiful in nature.

F. In a large sphere he would have been a thorough benefactor. [most striking instance of his conduct are given. Ed.]

M. Was my father's help-meet in all sorts of kindredness; he considered her to be the making of his family and especially of me. Y.S.B. We are a very unlike lot; my

brother's tastes are like my own, but the fire is smothered.

F. M. Strong love of knowledge, though very busy people [amply confirmatory traits instances are given. Ed.]

Allman Social affection; religious bias;
love of the new & marvellous; curious;
about facts

F. Social affection; religious bias;
disinterestedness

M. Social affection; strong, religious
bias; disinterestedness.

Uderson . No name - remarkably
free from love of the new & marvellous

Boen Take a part in a "Beethoven trio"
with violoncello.

M. an accomplished organist & pianist

Fox. Naturally impulsive but steady;
cultivated; love of pursuit; social
affection strong.

F. Considerable mechanical power
impulsive; strong affection; strong,
religious feelings; love of new; marked
foreign; very disinterested; public
spirit strong.

Currey Strong curiosity about facts
connected with the science of botany

Moor [insufficient returns]

F. very social and fond of pleasure, and
though irascible, very kind, doing
benevolent things secretly.

M. very kind and charitable, often
in a private way.

Beltman Jan

Always, fond of natural history
especially of orchids; good amateur
landscape-gardener; not a bad amateur
lecturer As to disinterestedness,
I never received or asked a single farthing
as a single farthing for any thing I ever
wrote or did.

Hill I had seen from childhood a fondness & aptitude for mechanical construction and from boyhood the same for organization. [Numerous most striking instances given] ... Remarkable in regards mental calculation, ... in particular I became quick & accurate in mentally extracting to the nearest integer the cube roots of large numbers, and indeed not exceeding two thousand millions. [Numerous important mechanical conceptions & instances of organizing power in manhood are given]

I think my power of foresight was always strong; by exercise it eventually became so great as to enable me in the extensive & sometimes perfectly novel operations I was called on to undertake, to provide for almost every contingency. I always took great interest in scientific discovery, mechanical & social improvement and in public affairs generally; was strong in my opinions and to those I gave such effect as circumstances allowed. Under the head disinterestedness, I twice made large sacrifices of income in order to carry out postal reform. F. Impulsive; strong in feelings & partiality; also in social affections. Greatly interested in scientific discovery; took great interest in public affairs up to the time of his death; courageous in maintaining his views.

M. Had considerable aptitude and I apprehend far greater potentiality for practical business; however she successfully managed the domestic part of a large household, showing herself especially valuable in times of sickness. Strong in special affection; took great interest in public affairs; courageous in expressing her emotions.

Y.B.S. In me and one or two others of my generation the sense of smell, taste & touch were unusually strong; an inheritance from my mother, who for instance could not touch grass without annoyance. I myself have repeatedly succeeded when blindfold in correctly arranging the pieces on a chessboard, distinguishing the reds from the whites; that is the stained from the unstained. I have also repeatedly performed on a mahogany table, that balancing of an egg which Columbus according to the story only achieved by cracking the shell. My sight was once so keen that I could take up a single mite from a quantity of cheese-dust. While these powers have faded with age, my taste & smell remain unusually perceptive

*much of this
is quoted
"private"*
Leons A special talent for music, sing-
& correct ear from his earliest childhood
plays both piano & organ well. Continuous
pursuit of certain studies from an early age.
Much canority, I often feel a positive pain in
pursuing any object of which I do not comprehend
the meaning and construction.

F. An excellent man of business & of cool
common sense; he had also a strong interest
in mechanical matters & was intensely interested
in new schemes. He had ^{remarkable} calm, well balanced
judgment & temper & peculiarly conciliatory
manner; he seldom or never had any enemies
and was not unfrequently asked to mediate in
disputes.

M. Fond of music & painting. Decidedly
strong feelings, partisanship & social affections,
great religious bias of thought. Strong love of
pursuit & warm public spirit as shown by
[specified ~~public~~ philanthropic efforts]

ESB. Music - but considerable differences
in other respects which I have often thought
could be accounted for on hereditary grounds.
FM. many uniformities, the chief characteristics
being cultivation & refinement of mind joined
to want of energy & bodily strength.

Guy None for music, A love
of figures & tabulations. (The same
love was remarkable in my paternal
Grandfather. I inherit many mental
peculiarities & talents from him,
none from my father.)

925

G
Mechanics

Pole music by nature considerable, by education high. Mathematics with special reference to their useful practical applications, high. practical business habits high. I attribute all the knowledge I have acquired and any success I have had chiefly to three qualities, all of which I believe I inherited

1. Independence of judgment which prompted me to learn for myself what I wanted to know
2. Earnestness, determination & perseverance in acquiring such knowledge, often under difficulties and in the face of routine business occupations.

3. A business like, practical, logical way of looking at things, which enabled me to direct attention to the important & relevant, neglecting the unimportant & irrelevant points in what I had to study & do.

F. Remarkable earnestness in any thing he seriously undertook; devoted the last few years of his life entirely, zealously, & laboriously to religious & charitable objects.
M. Sound common-sense practical views of things.

Galtier D. Fair business habit [this is greatly underrated] ^{considerably} Some mechanical aptitude; no talent for music; fond of the marvellous.

F. Good business habits; hated music, steady, not impulsive.

M. Liked music; generally unbusiness like but answers letters with great rapidity, and keeps account books which she never balances, very impulsive.

M. Strong mechanical aptitudes, but irregularly distributed.

Siemens. Mechanism & physical principles facility in concluding amicable arrangements in business matters & in carrying them through in a conciliatory spirit. Irresistible desire to realize objects in applied science when I am convinced they have been pitched too high and have led to fruitless expenditure of means & energy, although the principles have been proved. Domestic habits with love of the new but not of the marvellous.

E Geography

Osborn Practical & business habits.
Impulsive; of strong feelings and social
affections; a lover of the new; imaginative;
with considerable foresight.

F. a steady energetic soldier
by strong affections & deeply impressed
with the advantage of giving her children
a good and sound education

Back From early youth was fond of
drawing, which was of great use to me.

Statistics

Newmarch Have a special aptitude for public speaking, and greatly delight in its exercise. Have a special aptitude for business and the organization of business arrangements, like music but have no technical skill in it. Considerable steadiness of purpose & character, no very strong feelings of partisanship; great curiosity about facts of all sorts & about new discoveries; no belief in the marvellous; considerable constructiveness of imagination.

F. Had a fair faculty of public speaking. Impulsive

M. Impulsive

Greg. Very methodical; fond of and quick in understanding machinery; excellent business habits; great love of order and instinctive habits thereof. Utterly devoid of mathematics and of music. Logical; very particular as to style; but alas! I know nothing thoroughly and never learned anything as found