

**De Candolle, Alphonse**

**Publication/Creation**

1873

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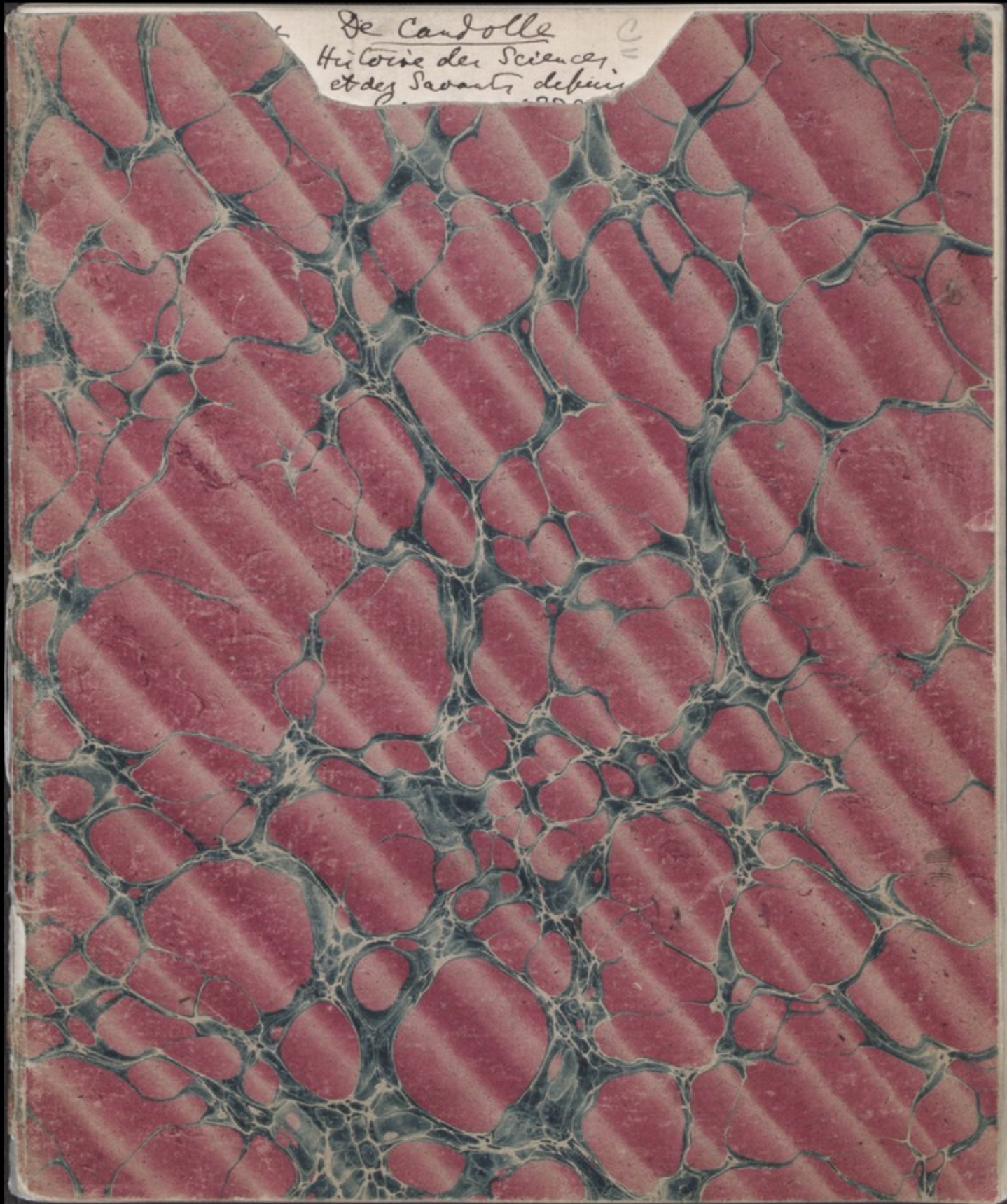
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De Candolle  
Histoire des Sciences  
et des Savants depuis  
1789



In Forthmuth  
450 words to be kept



Alphonse

De Candolle

Histoire des Sciences  
et des Savants depuis deux siècles  
Geneve. 1873.

PLR 1

- 3 Naturalists have got to learn that the infinitely small is as much a reality as the infinitely great
4. All stationary condition is in all probability <sup>only in appearance</sup>
7. Isolation probably as necessary as time, to consolidate new forms.
13. Man believes himself to be very susceptible of change - hence probability of modification under selection - my (De C.'s) researches prove ~~the fact~~ <sup>rather the</sup> ~~fact~~ <sup>contrary</sup>
- x 16. Edgar Quinet 'La Création' - 2 remarkable volumes
25. Royal Soc: London names 50 foreign members  
Academie des Sciences Paris 8 associés étrangers  
x 40-70 Correspondants  
Royal Academy of Berlin foreign members.
29. wishes to find a name for 'scientific discoverers'  
but cannot find one & uses 'Savants' as a makeshift.
31. There is no complete list hitherto published of the French associés - mentions where they are to be found in separate lists - In 205 years there are 92 + 3 notabilities whom he does not reckon
32. His authorities about their lives almost all biograph. dictionaries

de shells Bernoulli

Murchison, après avoir achevé honorablement une carrière militaire, est devenu un illustre géologue.

36. List of the 92 Associates with tabulated particulars  
 42. Their nationalities are the result of many researches, also those of the Correspondants with following table (p. 44) which are those of the years 1750 1789 1829 & 1869. He cannot get a complete list to hand.
44. List of the 92 Associates & Correspondants, as above, 212 in all
57. Royal Socy. of London. Lists of 1750 was 150 in number, that of 1789 was 96; He cuts these down to 72 & 65 respectively. In 1829 the maximum was already fixed at 50. Total 235 in all
61. Academy of Berlin - nominations at first irregular but at the beginning of this century they improved. In all cases foreigners are mixed with Germans. The latter have been eliminated in the table p. 54 for the above periods. 195 in all
74. Growing speciality of Savants. In old times they were famous in more than one branch.
75. Where there are no investments for money, like funds, the time of men is occupied with their own affairs - It is much easier to administer a fief, <sup>in fief</sup> of 500,000  $\text{fr.}$  than one in lands of 100,000  $\text{fr.}$  and more <sup>easy</sup> in public securities.
76. To end of last century the lists contained many details, 'minimes' & abbés - now there is the Abbé Haüy & the Jesuit Secular. but the abbés are not parish priests - they had letrados & they have been suppressed by the Revolution.

Hooker told me that the missionaries said him nothing but that some  
overlooked female country doctor, died.

This is a non-secular unless the capacity of all classes & their tasks  
is alike. I maintain, & so does de C: further on, that they are not alike.  
Exhibition, patronage, fellowships - benefactions.

78. Singular disproportion of catholic ecclesiastics - also of missionaries either catholic or Protestant.
79. The latter have never made natural history collectors. None has nothing botanical & there to be Propaganda, though the points were absolute matters of Brazil Spanish American Philippines & elsewhere. The Protestants have been a shorter time at work and have not been such masters, but they have had abundant leisure.
80. The growing specialization makes it important to separate tuition from purely scientific work. - Savants may lose in clearness of ideas by not having to lecture, but on the other hand they w<sup>d</sup> not be tempted to sacrifice truth to clearness - facts being naturally complex.
82. Birth of <sup>not French</sup> savants - noble 41 <sup>per cent</sup> middle 52 labouring 7  
 yet the labourers are 66 to 75 per cent of the pop.  
 Birth of <sup>36</sup> French savants taken from Normal Society list since  
 labouring 28 middle 47 labouring 25
85. He makes a supplementary list of 24 of his own choice  
 giving 46 33 21
90. If natural talent & taste were the only causes that made a man a savant the labouring class would have been infinitely better represented.
90. Poor men cannot be scientific - learning does not pay. It is a work of abnegation & cannot be recommended to the humilif.



This is most inexact. I say genius is heredity just  
~~as much as the structure of the brain~~ like structure as  
 this Dr C himself admits. I don't say that genius  
 is the sole cause of success - quite the contrary.

I do not see that he has. I have taken much  
 higher names, selected with great care, & studied their  
 histories from all kinds of sources. His men are so unknown  
 to fame that he can learn hardly anything about them.

92. The test of the disposition of a man, whether or no he is qualified to be an investigator is not examination but to see if he is curious about real facts & loves truth to herself. also he requires certain doses of perseverance & capacity  
 "L'individue doit vouloir et pouvoir"
93. Do our documents enable us to disentangle what is due to heredity & to subsequent causes. If so, we shall have made a step in advance of W. Galtus current researches. ... The title & first phrase of his book show that he regards heredity as the dominant cause. Yet I do not see that he has proved this nor that he has scrutinised the question in a sufficiently special manner.
94. I have employed biographical documents more complete than those of W. Galtus. I may flatter myself that I have penetrated more fully into the heart of the question W. Galtus has studied & of the principal sources from Aristotle to the present time following (d'après) the biographical dictionaries ... but I ... we agree upon the facts but in the interpretation of the facts they will remark a great difference between our opinions.
95. In botany from the first until 1851 there have been more than 5000 authors. (table de Pritzel. Leipzig 1851) & probably <sup>2<sup>d</sup></sup> as many in the other sciences but say 2000 for each of the other 8 sciences, or 14,000 authors in 2 centuries. allow

This would rather relate to security.

Ouch! I have done this better.

x

94 continued  $\frac{3}{4}$  <sup>or 12,000</sup> ten of these to be non-French & therefore eligible to be Associates, only 92 have been elected or only 7 or 8 per 1000. There are 4 cases of Father & Son viz 3 Bernoullis, 2 Eulers, 2 Herschels

98 It is impossible to know the number of Sons of Associates who occupied themselves in some way in Science. but among the Correspondents are Cassini, Saupure, de Caudolle, also other Sons of Associates, now also may yet be named. He adds as deserving notice 3 more Bernoullis & the Son of Linnaeus.

99. Gives very imperfect accounts (avoided) of their other distinguished relations & these only by male line. Finds more eminent descendant than ascendant & agrees with me.

101. From these facts he concludes in a sense, rather contrary to the action of heredity properly so called & thinks it has little effect except in the mathematical sciences. but that Education & ample advice preponderates. because

1. All young men have some college Education if they differ it must be from family causes but these need not be only heredity ~~the least~~ not incredible - but he says 'the descendants of men accustomed to work with their brain are more disposed to study than those of men who have not developed their muscles.

2. A large proportion are Sons of clergymen 13 out of 90 Associates only 5 are Sons of medical people - now if capacity for the sciences

\* most weak.

did it ever occur

a confession

still more so.

also arts.

was an affair of heredity there would be many more tons of doctors in the West.

- 104 13. If heredity ~~was~~ gave an instinctive aptitude the probability of scientific men in the same family w<sup>d</sup> be alike in all countries, (but it is greater in Switzerland). Hence education & count for much.
- 105 note. Has made a list of all Scots attached to one or other of the 3 Societies. They number 29 only 11 of these have no near relation known in Science & of those 11 3 only had no surviving son. The other 18 have had 20 relations & others in Science 11 cases F.R.S.; 5 brothers; 2 Gr: E.P.
106. It is exceptionally rare that a savant had a mad or idiotic father except the disease was the result of a rickety or old age. A Savant must at least receive such & such moderate gifts from his parents. & they must be combined in a happy manner so as to raise him above mediocrity.
- 107 Says that in this way a man endowed with a strong dose of perseverance, attention & judgment, without much deficiency in other faculties may succeed in various professions. He does not believe in innate & superior vocation except probably for mathematics.
- 109 Biographies of naturalists shew that they sometimes have a peculiar & determined disposition (pneumat) for observation.
- 110 Compares mathematical & natural history aptitudes the one for rigorous reason in a single line the other attending to many more parts in various.

Herschel, Herschel.

very good.

112 In admitting a certain degree of heredity of faculties there must be two sorts of heritage one appropriate to mathematical & the other to natural history studies

112 You seldom see in the same faculty poets or artists & savants or literary men of a high order.

113 Again distinguishes between general & special heredity.

114. Education. - Curiosity is the principle motive to discovery for real things. If you tell a child continually not to occupy himself about such & such things - & not to be curious you make him indifferent & timid

115 Au point de vue moral, c'est une bonne habitude de chercher ce qui est vrai. Il en résulte plus de véracité chez la moyenne des individus.

A chance word may determine a series of researches. So

116 a book without pretence as W<sup>m</sup> Marcel & Faraday.

Good teaching, what is contained is

117 It is strange how often the masters of illustrations, even those who are mediocre & how often the pupils of the most celebrated professors have been second rate. -

118. Libri attacks weight to the causes which increase the general moral force of men. In Germany the universities have long existed but it is only of late they have so progressed.

120. Religion. leaving aside the Greek Church <sup>you preach</sup> the Roman Catholics are <sup>more</sup> ~~more~~ <sup>x as half</sup> of the Protestants & yet they have furnished only  $\frac{1}{4}$  as many associates. 29. Productive ratio = 1:6



Nesbitt & Hugganott, etc.

Conception!

"

"

"

\* There must be some prof. error here. See p 40. Since 1827 are  
 given professions of 21 parents of associates since 1827. only 1 of these  
 associates was catholic & of the 20 parents of the rest only 2 were clergy  
 & 2 quakers (Long & Dalton) leaving 14 not clergy (at least).

122. By Noval Soc: London lists the non-Engl. Catholics are 4 times less productive than non-Engl. Protestants, comparing populations living side by side. Not the Engl. or Irish Catholic with French lists though they number  $\frac{1}{5}$  as many as the Protestants. Austria is not represented and Catholic Germany is almost wholly deficient. In Switzerland the <sup>scientific</sup> productivity of the Protestants is 26 times greater than that of the Catholics. Hence religion has a great effect.

124. The principle of authority diminishes curiosity & augments timidity. This timidity ~~ought to~~ <sup>must</sup> become in some degree hereditary - as ~~terms of man~~ <sup>the case</sup> ~~timidity~~ <sup>is</sup> ~~in~~ <sup>in</sup> animals & in man certain ~~populations are~~ <sup>more</sup> ~~constant~~ <sup>more</sup> courageous than others (races closer & fainter are). So a population educated for many generations under the principle of authority must become naturally more timid in intellectual matters.

125. A large number of the Savants are sons of Protestant ministers - fortunately for science their fathers were not compelled to be celibate. If you cut off from the list of Savants the sons of clergymen an equality will almost be reestablished\* between the scientific producing power of the two creeds. Thus a rule of pure discipline has had serious effects on science. The number of persons able to bear a family with moral simple & laborious habits is small & cannot bear to be reduced.

But there were four descendants of refugees - when did the parents arrive?

Remark this - If there was what might be done by cattle intermarriage.

127. Geneva shows the best effect of religious restraint  
 from 1535 to 1725 the reformer reigned, every body was  
 educated but no Genevese during all that time was distinguished  
 in Science. 1720-1730 the Calvinist power diminished. In  
 1739 one was elected associate & ever since then Geneva has  
 produced scientific men in a remarkable proportion.
127. Family loquacity - some to far niente some to doing  
 nothing to nothing - some that it is right to labour for God  
 without reward. - Also standards for imitation.
129. Many political refugees employed their descendants to avoid politics
- x 130 Weiss. Histoire des réfugiés protestants de France depuis  
 la révocation de l'édit de Nantes jusqu'à nos jours 2 vol 800  
 Paris 1853
131. Table of <sup>scattered</sup> descendants of Protestants expelled. There were  
 40 of whom 35 were in Switzerland.
132. He supposes the total European population to be 1 million  
 of which the French part was half. This supplied 4 French  
 associates 25. & the million. All the other non-French Christian  
 populations are probably 150 <sup>to 300</sup> millions & ought at same rate  
 to have supplied 1500 associates but they actually gave 100 or one  
 eighteenth as many.
- 135 in note, the refugee population is not likely to have been  
 increased because it consisted chiefly of persons of a middle or  
 superior race with few proletaires.

*[Faint, illegible handwriting, likely bleed-through from the reverse side of the page.]*

Quere the same as le Grand Equivoant nobleffe.

136. The refugees in other countries have produced fewer savants but more men distinguished in other ways. - In Geneva they became distinguished for science chiefly in the 3<sup>d</sup> or 4<sup>th</sup> generation showing the effect of the place in directing their studies.

138. The refugee traditions were, not to be idle. to work with or with  $\times$  to the public, to avoid politics,  $\times$  to look for approbation to the distinguished men of all countries - Now local families of the same energy would rather look to local reputation - Also their property would be in law which requires overlooking. The refugee families have more leisure

The refugees of the XVI century have contributed most to science in proportion to their numbers. They the Huguenots, were distinguished gentlemen of letters for Protestantism had their great hold on these. - There after the 1700<sup>s</sup> <sup>1</sup>edit Nanters were chiefly merchants, industrialists or agriculturists. & their descendants were like them.

140. J. Jacques Nouffon descended from a Huguenot bourgeois of Paris who became citizen of Geneva in 1555

X Note. His origin is given in Galiffe, Généalogies Genevoises, Vol 8<sup>o</sup>

141. The English emigrant Puritans resembled in disposition the Huguenots - They were Franklin & Rumford.

There have been many political <sup>French & Catholic</sup> ~~Refugees~~ refugees - these have produced no scientific descendants

This is very good.

- 141 continued To the Mormon Emigration to the United States gives small intellectual results. It is composed of hard working men - sometimes run away with political ideas, little favorable to the sedentary & unrewarded labour of Science - A great part comes from Ireland, a most unscientific country.
- 142 Influence of Opinion. He notes 6 tendencies: 1. Accretion; 2. pleasure; 3. politics; 4. religion; 5. discovery of truth; 6. arts.
145. Can religion & science march together. He <sup>thinks</sup> ~~deems~~ that they can. <sup>although</sup> ~~because~~ in science a man only seeks truth regardless of consequences, while a man attached to a particular form of religion is persuaded that he has the truth & does not like it to be discovered. It is repugnant to him to hear certain deductions criticised - The scientific man weighs evidence
- 146 & holds by the balance of evidence & is always ready to abandon his position when a new one seems better. But both are alike in pursuing ideas in preference to material interests.
- 147 Religion, art & science occupy one side of the moral sphere of man & love of self the other.
- Governments generally conform too much, teaching with scientific progress - Science lives on liberty & individual labour
- 148 Note speaks of complaints of professors having time occupied in <sup>un-</sup>learn
- 149 Sovereigns ought to bear academicians, leisure; constitutional governments hardly know the power to do so. The public will understand.



Surtzertan has greatly come off since the preceding period.  
 Men out of the total 12 Associates, <sup>see p. 161</sup> def 3, Haller & Euler, are said to be  
 de Caudelle counts 4, that is de la Nier & de Cronoy besides. but he  
 says p. 140 that ~~the first~~ <sup>he</sup> descends by mother from Hugo & in p

150 Democracies are helpful in their way, for when they persecute it is not for long, their majorities being variable - they also do not attract the best men to politics.

151 The principle of aristocracy is individual speciality, that of democracy to consider all persons as equally good for every thing. It is kinder to true specialities but raises the average of the nation.

153. A small country has advantages over a large one in not offering high political prizes. Its best men aspire to a European fame. Also they assuredly cannot suffice to educate their youth who without loss of anxious proper travel to the best universities in Europe.

154. Importance of a language in wide use.

156. Geography. No apocrypha has been born South of the Pyrenees, nor of central Italy.

157. Inconveniences of a hot country to naturalists.

160 Classification of the 92 Associates by nationalities, taken in the XIX<sup>th</sup> Century. Germany 17. England 14. Denmark 1. United States 1. Italy 4. Sweden 1. Switzerland 2.

162 Hence the population of a country is a very secondary element to the production of the highest order of scientific men. To succeed it faut vouloir et pouvoir.

165 the small Protestant countries offer the most remarkable <sup>production</sup> Switzerland Scotland. -

167 The small towns are usually their birth places, except Paris

I do not. - The numbers vary no more than other statistical results from small numbers.

These Tables should be recalculated.

There is an error in this in taking the pop<sup>n</sup>: generally because increasing pop<sup>n</sup> have an undue proportion of children & therefore skew at a disadvantage. It would be better to take the associates correspondents of 1869 as compared with the pop<sup>n</sup>: of 1829, because the children of the former date would have become men & would afford the stock out of which the selection was made. In this case France & England would have the respective values of 0.012 and 0.011 instead of the tabular values 0.010 & 0.008. But this is still unjust to England whose infant mortality is great & whose pop<sup>n</sup>: therefore includes more children than France. Also the large pop<sup>n</sup> of Ireland <sup>see p. 190</sup> is included, & Ireland supplies <sup>allow for collection etc. of children for the companies. 18 millions approx. be 0.014</sup> nothing. The true comparison would be between the rates to the pop<sup>n</sup>: ~~between the~~ above the age say of 45.

169. Italy may be considered as a whole to there was greater uniformity of culture than in the separate states of Germany or Cantons of Switz: where the savants of one never so to live in another
170. Comparison of 'Associates' by nationalities with the 'joint Associates and correspondents' also by nationalities. He thinks their difference will record <sup>in calculations</sup> to show the English to be more original because  $\frac{A}{A+C}$  is greater with them than with the Germans. England  $\frac{294}{226}$ , Holland  $\frac{65}{83}$  Germany  $\frac{25}{25}$ . He says Englishmen are not perhaps a hour more leisure besides their character being more original (note) has tried in vain to separate Associate professor from non-Professor.
172. Table. nationalities - epochs.
- 184 Table XI on the Scientific value of a million inhabitants of various countries
- 185 Table XII In which the order of scientific value of the various nations is given - Switzerland has an immense superiority
189. Holland is low on the list yet her pop<sup>n</sup> is remarkably instructed. It is not ~~her~~ knowledge which has weakened but her desire of to seek for truth without pecuniary advantage.
190. The small pop<sup>n</sup> of Geneva 35,000 had 0.0500 of the Associates & sometimes 0.100 of the Assoc. & Correspondents together. Hence the scientific value of a million as in Table XI w<sup>d</sup> be fabulous. (mean. It would be 29,000 as against 0.035 for Switz generally &  $\frac{0.009}{0.035}$  for Germany) or 3000 times as much. —

Quote the original. - a complete concealment

193. Advantages of small towns & countries to science. They are all frontier & inhabitants must compare their own institutions with those of their neighbors. & environment to escape tyranny in Italy

195. Race. Europeans & their descendants are the only people who play a part in the sciences. Race stands in advance of all other conditions - this is to be understood throughout

196. List of favorable circumstances

1. Compulsory; 2. lettered class; 3. national traditions; 4. circumstances
5. family traditions; 6. elementary education; 7. educational appliances
8. Public curiosity; 9. Liberty of ~~speech~~ publication; 10. Social considerations
11. Liberty of profession & residence; 12. tolerant church; 13. Clergy favor science; 14. Clergy married; 15. a widely spread language 16. small country; 17. Climate; 18. civilized neighbors.

198. + used when favorable, - when unfavorable.

200. The favorable conditions in Switzerland

202. The protestant & catholic cantons

204. Extreme tolerance to religious profession in 1735

207. Has a grid at Bâle & at the German cantons for money seeking - Democracies ~~will not tolerate~~ <sup>are repugnant to</sup> gratuitous service and to established positions

208. The Helvetic Society shows that out of  $2\frac{1}{2}$  millions of population about 1,600 persons are more or less disposed to make scientific researches - these are chiefly in the Protestant Cantons

1. The first part of the manuscript is a list of names, some of which are followed by a small number in parentheses. These names appear to be related to a specific family or lineage.

2. The second part of the manuscript contains a list of names, some of which are followed by a small number in parentheses. These names appear to be related to a specific family or lineage.

3. The third part of the manuscript contains a list of names, some of which are followed by a small number in parentheses. These names appear to be related to a specific family or lineage.

4. The fourth part of the manuscript contains a list of names, some of which are followed by a small number in parentheses. These names appear to be related to a specific family or lineage.

5. The fifth part of the manuscript contains a list of names, some of which are followed by a small number in parentheses. These names appear to be related to a specific family or lineage.

again for heredit.

6. The sixth part of the manuscript contains a list of names, some of which are followed by a small number in parentheses. These names appear to be related to a specific family or lineage.

7. The seventh part of the manuscript contains a list of names, some of which are followed by a small number in parentheses. These names appear to be related to a specific family or lineage.

8. The eighth part of the manuscript contains a list of names, some of which are followed by a small number in parentheses. These names appear to be related to a specific family or lineage.

9. The ninth part of the manuscript contains a list of names, some of which are followed by a small number in parentheses. These names appear to be related to a specific family or lineage.

10. The tenth part of the manuscript contains a list of names, some of which are followed by a small number in parentheses. These names appear to be related to a specific family or lineage.

- 211 Singular analogies between Kale & Holland  
Too severe an instruction prevents persons following out new things To know much & the contrary to absorbing oneself in a Speciality
- 212 - France. the Spoliation of benefices
- 215 No French ecclesiastics whatever on the lists of non-French Societies. The principle of authority dominates more than ever in the Church
216. The well to do class has augmented largely but the people lose pleasure & fiction much more than study & facts. The journals & their false news & feuilletons - different to German papers who when debarred from politics, grow facts.
217. Yet Germany at the end of last century preferred fiction
218. Paris has a selected population - out of his servants of high distinction it were born there & led elsewhere.  
note. Fortunately the most dangerous part of a population of a large town is that which leaves fewest descendants (illegitimacy)  
'Selectum' is the principal cause of the superiority of the Parisian
221. England -
222. Irishmen show more disposition to the work of the imagination than to positive research.
- 225 Scotland. - Hope a good future for England. Regrets the growing tendency to ask Government aid. Ought to study the cost effects in other countries



The first part of the manuscript is a list of names and titles, including "The King of the Kings", "The Lord of the Lords", and "The Prince of the Princes". These titles are followed by a series of names, some of which are written in a stylized, calligraphic script. The text is arranged in a columnar format, with each name and title occupying its own line. The handwriting is consistent throughout, suggesting a single scribe. The overall appearance is that of a formal document or a list of nobility.

226. Bernoulli, Her scientific advance is recent, & dates from 1830-40.  
The cause must have begun to act yet earlier say 1820-40 or so. & we must compare Bernoulli of those dates with her neighbours &c.
228. In XIX<sup>th</sup> century accession of Jews to the learned classes - Educational movement & change of opinion favorable to heretics &c.
229. Her universities had always been the same. <sup>some</sup> even to 300 or 400 years. Oken's lectures about creation in 1827 at Munich were nonsense.
230. Profound & general changes of opinion are generally difficult to explain except at that after revolutions men desire peace. Hobbies weary. But they usually result from the reflexions of those who were children when certain great events occurred - The present generation of Frenchmen has been formed by Thiers, Victor Hugo & Alexandre Dumas. The youths of to day are formed under very different sentiments.
231. Italy, Emancipation has never been wanting.
233. The rich class has always been distinguished for culture & has yielded many servants - Unfortunately now there is great commercial deterioration.
235. United States. New England was very favorably circumstanced. There is now danger from immigration of men of a very different stamp & from emigration of the old stock.
236. Americans are very capable of sacrifice to an idea. - They are over curious about imaginary things - Religion sects - Spiritualism.
237. Traditions favorable to steady social pursuits are absent.
238. Poland ~~has~~ Copernicus but her emigration has yielded nothing.

see "Office, Holy" Many Cycl: for authorities - (Lorenzo)  
a very able & elaborate article.

x

Heri sh'la Dawn.

Race

- 240. Russians are much occupied with landed estates & military service but are ready to work gratuitously & the women are zealous for instruction.
- 241. Belgium here left from expelled Protestants who she has not recovered.
- 243. Spain & Portugal, quotes Galton -
- 244. Fears much that Galton's figures are not exact
- 245. The Arabs notwithstanding what modern say, had only a pale reflexion from the degenerate schools of antiquity.
- 247. Final reflexions
- 248. Importance of race.
- 249. Evidently many of the influences of 196 are connected. This adds to their importance.
- 251. Draw on a map of Europe the principal coasts of modern history & we shall see how necessarily the causes favorable to science have accumulated in a triangular space between Middle Italy, Scotland & Sweden here on the Renaissance - the Reformation & political liberty in England.
- 252. Again about the triangle - or sector
- 253. Often illustrious men blaze forth, just as the social state which had nursed them breaks to pieces, but they were the result of influences many years past.
- 253. Résumé. the first causes are 1. Race, European accustomed to generation, at least in some claps, to intellectual labour. 2. Climate



? as to ancient Greece

x

x

all gleaned from my book.

Quote this: strong Concilia to Herod: genius

- 254 not too hot; 3. adjacent to centres of intellect: culture; 4 habits of liberty
- 260 Germany after 1815 for the first time, had rest (7 years - 30 years war) circumstances may turn almost the whole of the men in a nation who are capable of a scientific career, away from it.
- 262 speaks of an hereditary tendency to intellectual occupations
263. List of recent grand discoveries & the countries that produced the discoveries. Spectral analysis; transformation of forces; ancient extension of glaciation; antiquity of man; natural selection; alternate generation. These give evidence corroborative of all the rest.
266. Scientific work is much more collective, than it may appear.
- 267 average capacity of a nation
- 268 It is the fashion to look on nations of unequal capacity & on families as equal in the same job: but if one reflects one soon sees that the causes of inequality, act with a still greater force on the latter & that the differences must be very sensible.
270. Great poets & artists have ordinarily preceded scientific men. He agrees with latter but begs his readers to give more weight than he has done to surrounding circumstances.
271. The great scientific epochs coincide with a development of moral & social ideas. — He unfortunately cannot find a criterion of evidence in the latter as so much depends on the form in which they are put. Almost every <sup>single</sup> idea exists
- 275 The literary man has to use what exists. Also, <sup>the</sup> personal position of the writer greatly enhances the effect of his writings & his reputation.

One does not rob the other.

x quote from this.

Conception after crucifixion

Stuff & nonsense.

- 277. Revue from French Academy
- 280. There are decided resemblances between the two categories, hence they go together.
- 281. History of the Savants has not appeared so favourable to effects of heredity as Galton state.
- 282. 'Etat momentané' lors de la conception' &c
- 285. Tendency of mixed populations to form sub races, thus German Jews are extraordinarily nuptical. Material likeness does not go with intellectual tendencies.
- 287. On teaching in schools. — For number of years boys are wholly taught abstract or internal things
- 289. Drawing of real objects should be taught

295. Dominant language. estimate of pop. 100 years hence

	at present	hence
	million	million
English. England 124 million	} ——— 160	77
U.S. & Colonies 736 "		62
Germany	124	40 1/2
French	109 1/2	40 1/2

- 298. Hence Germany & France will be to England what Holland & Sweden now are to themselves. Works published or translated in English will have an enormous circulation, so all outlandish books will be translated in English, that German French will the rest may read them.
- 299. The relative ease of using different languages for every



Stiff

Ask if there are foundling hospitals abroad. In investigation

Cancellation - check 7.

300. Purposes — Latin is lofty tongue — translate an ode of Horace word for word & it gives the idea of a building whose door is on the third floor. It is no longer a spoken language. Civilization now requires short words & phrases.
301. English is much the most practical except in its absurd orthography
302. In families where 2 languages are spoken French always beats German — & (303) English beats French
304. Responsibility of English authors to keep the language pure
307. Has a joint commission English, U.S. & Australia to amend orthography
309. The law of balance in the organs & the functions
310. Quotes Büchner translation française approve par l'auteur, à Paris chez Rheinwald.
311. Again l'état temporaire des parents au moment de la conception
313. In observers of heredity elderly people are wanted who recollect parents at same age. They should be good observers
324. Bredder has proved that in many sorts of domestic animals certain breeds (lignées) are more intelligent than others
326. In human physique, heredity is incontestable now moral & intellectual phenomena are certainly bound up with physique in many if not all cases hence moral & intellectual manifestations are in some degree under the influence of heredity

Stuff

Q's authority

x

He misrepresents me. - I shake of very pious people

Nelson son of a clergyman - Clergymen cannot in England afford  
to put their sons in the army

330. It is very curious to compare a school of mixed German & Italian children - they differ more than grown up people

331. Again about the moment of conception - quotes from Lucas - (332) *l'Enfant du Jubilé*

333. On bastards

337. It is asserted that in the U.S. the negro race has become more robust owing to selection in parents

343. In selection, adaptation does not mean selection

344. Success is often due to improper means.

362. Thinks it impossible to rear fine races - no chance of continuity of effort

368. In civilized countries there are categories of professions suitable to inferior individuals who would have perished in a savage society but who if they are intelligent honest & well educated thrive now.

X 272. Longevity & health - quotes *Le Compte d'Angevill*  
*Étude Essai sur la Statistique de la Population Française*  
 1. vol 4<sup>th</sup> Paris 1836 with maps. Normandy & Brittany  
 have equally few expected conscripts but longevity is much greater in Normandy

380. Number of savants sons of pastors - He says I expect the contrary

383. No son of pastors are Generals

Give working out at end of this MS

offer to procure them for her

385. Ancient & modern opinion is that the poor are the great suppliers of population. Proletarii 'ad prolem generandam'
388. Speculation on the inevitable extinction of family names, which he thinks original.
391. H. Spencer views that productivity is antagonised by high development. - This must be especially true as regards females
392. Note brain often affected in Swiss girl students by overwork
393. When a religion is once introduced into the poorer classes it extends rapidly over their proletarianism. Thus the Irish introduce Catholicism
403. Comparison of the Jews & the Christians <sup>1805</sup> the practice of each in the religious profession of the other
404. Mortality among children is smaller for Jews than Christians (+ Muslims)
409. L'Anglais est un animal politique  
 notes wishes he had had facts about Quakers

Southern Burn 1846. History of the French Protestant refugees  
settled in England  
other works see p. 496

England originally cast pastoral.

1100

Flemings - Carlisle & border lands  
(name Fleming common in western island - Conn.?)  
They transplanted to South Wales. 'Gower' is still a distinct com.

1200

Flemings at Worsted near Norwich - hence  
worsted work - also Brighton - Washsea.

Edward III was father of British commerce &  
introduced Flemings' looms.

1300

War between Eng. & France, blocked out English  
wool from Flemish market, more Flemings came  
over & were protected by charter - 1450's castles  
from Michael, that the channels of the E. had been  
seriously modified by them. - Woolley "Blanket"  
made Flemish, a? got their name from their  
great clock makers - German manner. Silk weavers  
in Italy - armourers

Queen Elizabeth too. First Saw mill - paper mill  
- wire mill, gun & Dutch - Bremen. Need to make  
felt hats by Spaniards - Baltimore - Glass by  
Venetians

1400

1500

Foreigners were the artful aim in all that respect  
special skill

1600

1700

1800

The 'curse of foreigners' were repealed,  
although by the native workmen  
guilted by obstruction & troublesome

Wat Tyler the Flemings were the first  
to attack.



