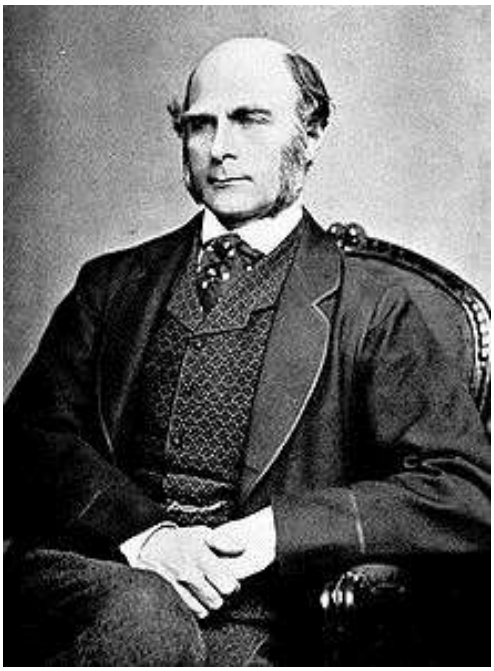
Opening Pandora's box

Francis Galton and the birth of eugenics



Laura Mecredy

S0738301

Supervisor: Joost Augusteijn

Second reader: Patrick Dassen

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Photo on title page: Photographer unknown, 'Francis Galton', http://www.tumblr.com/tagged/francis%20galton, consulted on 4 July (2013).

Foreword

"He slept beneath the moon,
he basked beneath the sun;
he lived a life of going to do
and died with nothing done"

- James Albery[1]

In a letter from 1906 to his cousin Millicent Lethbridge, the English polymath Francis Galton (1822-1911) admitted being obsessed with the last two lines of this epipath by James Albery.[2] Galton must have worried, at the age of eighty-four when death could soon be approaching, that he had many plans in his life but few accomplishments.

Yet when he died in 1911 he had contributed a great deal to modern science and had founded the concept of eugenics, which would eventually have a great influence on history, in both bad (the holocaust) and good ways (modern genetics). Galton had opened the Pandora's box of eugenics with far-reaching consequences.

I would like to thank Vincent Captein and Nicholas Mecredy for their help and support while writing this thesis. I would also like to thank my thesis supervisor Joost Augusteijn for his guidance in realizing this thesis. With their help the completion of this thesis is no longer a *going to do*, but a mission that is *done.*

[1] D.W. Forrest, *Francis Galton. The life and work of a Victorian genius* (London1974), 271.
[2] Francis Galton to Millicent Lethbridge, 25 March (1906), Galton Archives, from: Forrest, *Francis Galton,* 271.

Introduction

'Eugenics is the science which deals with all influences that improve the inborn qualities of a race; also with those that develop them to the utmost advantage.'[3]

This definition of the concept of eugenics was given by the English scientist Francis Galton (1822-1911) in his speech *Eugenics. Its definition, scope and aims* from 1904. He coined the word *eugenics,* which was derived from the Greek words *eu*, meaning 'good', and *genos,* meaning 'birth'. Galton declared that his eugenic ideas were inspired by the Ancient Greeks, however despite being an ancient idea, it was not until the late 19th century that society and governments actively started to promote eugenics. Negative eugenics, which tries to improve the race by *not* having children, has tainted our modern society with forced abortions and sterilizations, and ultimately the Holocaust, in which the Nazis tried to create a superior race, known as the *übermensch,* and to eliminate the 'inferior' Jewish race. A parent's choice to terminate a pregnancy in case of an expected handicap can also be seen as a form of negative eugenics. Positive eugenics, in the sense that it aims to improve the race by having children, is the idea of combining good genes to produce children with even better genes, and, in the greater picture, to improve the human race. Modern technology has even made it possible to select an embryo with the preferred genes, in order to produce a child without hereditary illnesses.

Galton first spoke about eugenics in 1865, and after his death in 1911 his idea of eugenics was transformed by others. It lead to the idea that sterilization was justified and it was implemented in the Nazi philosophy and the Holocaust, and thus has had a large influence on our modern day society. Where sterilizations and extermination were part of the Nazi eugenic philosophy, Galton's original ideas about eugenics were far less extreme. This leads to the question what Galton himself originally envisioned when he coined the term. We now view eugenics from our present perception of the world in which the Holocaust and eugenics are intrinsically connected. Event from the past, however, should be viewed as it was at the time, without all that came afterwards. By returning to Galton's own time his views on eugenics, and the response he received from his contemporaries, can be viewed in their original context. The main question of this thesis is: 'what formed Galton's ideas about eugenics, and how did his contemporaries in British society respond to his ideas?'

[3] Francis Galton, 'Eugenics. Its definition, scope and aims', *Sociological Papers* 1 (1905), 45-79.

Although there are five biographies[4] and an autobiography[5] about the life and works of Francis Galton, there is little literature that focuses solely on his work in eugenics. This master thesis aims to fill this gap in the existing literature about Galton and eugenics in two ways. It focuses solely on Galton's role in the development of the concept of eugenics. It also combines primary and secondary sources to give an overall picture of Galton's involvement with eugenics and the response that followed from a pre-holocaust society that was not aware of the dangers of eugenics. Several scientists have given their opinion of Galton's role in the development of eugenics, but these views have not yet been combined to give a more complete picture. The historians do not always agree on how Galton formed his eugenic ideas. An example of this is that one of Galton's biographers, Martin Brookes, regarded Galton's seemingly emotional detachment as the result of his work at a hospital where he shut himself off emotionally to cope with what he experienced, whereas Michael Bulmer, one of Galton's other biographers, sees this suspected detachment as part of Galton's character. John C. Waller, one of the historians that wrote about Galton, suggests that these different opinions should be combined to cover all the bases: 'the next biographical study of Galton will have to integrate the social, political, intellectual, institutional, psychological, and strategic circumstances that helped to shape his scientific career.'[6] This thesis aims to cover all these bases.

In 1909 the first work about Galton's life appeared, his autobiography *Memories of my Life*, followed by the largest biography *The Life, Letters and Labours of Francis Galton*, which consisted of four large volumes and was written by Galton's friend, colleague and admirer Karl Pearson in the period from 1914 until 1930. It remained quiet after this for a long time, but in 1974 D. W. Forrest published his biography of Galton, followed by Nicholas Gillham in 2001, Michael Bulmer in 2003 and Martin Brookes in 2004. Other researchers have also published extensively about Galton and about eugenics. The most important which will feature in this thesis are Ruth Schwartz Cowan, Raymond E. Fancher and John C.

[4] Martin Brookes, *Extreme measures. The dark visions and bright ideas of Francis Galton* (New York 2004). Michael Bulmer, *Francis Galton. Pioneer of heredity and biometry* (Baltimore 2003), D. W. Forrest, *Francis Galton. The life and work of a Victorian genius* (London1974), Nicholas Wright Gillham, *A life of sir Francis Galton. From African exploration to the birth of eugenics* (Oxford 2001), Karl Pearson, *The life, letters and labours of Francis Galton. Volume I-IIIb* (Cambridge 1914, 1924, 1930).
[5] Francis Galton, *Memories of my life* (Third edition; London 1909, first edition 1908).
[6] John C Waller, 'Becoming a Darwinian. The micro-politics of sir Francis Galton's scientific career 1859–65', *Annals of science* 61 (2004), 163.

Waller.[7] All these historians, along with Galton himself have their own views about Galton's role in the formation and spread of modern eugenics.

The first chapter of this thesis covers the period from 1822 until 1865. In this chapter the possible foundations for Galton's ideas about eugenics will be traced, such as influences from his youth, education, travels, his marriage, and his family life. The second chapter starts in 1865, in which Galton published his article *Hereditary Talent and Character*. In this article Galton first proposed the concept of eugenics. In the years between 1865 and 1901, he wrote three books about eugenics. The four works: *Hereditary Talent and Character* (1865), *Hereditary Genius* (1869), *Inquiries into Human Faculty* (1883) and *Natural Inheritance* (1889) form the basis of this chapter in which the focus lies on what Galton said about eugenics, how his ideas evolved, or remained the same. The discussion of each work is followed by the response from society to the particular work. This response comes mainly from reviews in journals and newspapers, but also from other scientists and from Galton's own family. It will be analysed whether the responses were positive or negative, and on which elements of Galton's work the reviewer focused.

Despite Galton's sustained efforts to gain support for the idea of eugenics, it was not until around 1901 that the idea really took hold in Great Britain, Germany and the United States. The third chapter will cover the final decade of Galton's life, from 1901 until 1911. During this period Galton was not physically able to do all the eugenic research he wished to do, but he did give a number of speeches on eugenics. In the first part of this chapter Galton's speeches for the *Sociological Society* are discussed, together with the response from the audience. As in chapter two, the focus is on whether the responses were positive or negative and what the respondents commented on specifically. In order to do further research on eugenics Galton founded the Eugenics Record Office/Eugenics Laboratory. He was also the honorary president of the Eugenics Education Society that promoted eugenics. His involvement in these two organisations is analysed, alongside the relationship between the members of these two organisations. Galton also used his ideas on eugenics in the utopian novel *Kantsaywhere,* a work that showed what he saw as the ideal eugenic society. This work is discussed because it shows what Galton's thoughts on eugenics were in the very last months of his life.

[7] Important works by these historians are: Ruth Schwartz Cowan, 'Nature and nurture: The interplay of biology and politics in the work of Francis Galton, *Studies in the History of Biology*, 1 (1977) 133-208, Raymond E. Fancher, 'Francis Galton's African ethnography and its role in the development of his psychology', *The British journal for the history of science* 16,1 (1983) 67-79, Waller, 'Becoming', 141-163.

Chapter 1 Galton forms his ideas

In this chapter it will be discusses how Francis Galton formed his ideas about eugenics between 1822, the year of his birth, and 1865, when he made them public in his book *Hereditary Talent and Character*. Historians have given several explanations as to how and why Galton's interest in eugenics grew. The chapter is divided into six different parts, in which these explanations will be explored. Section 1.1 covers the period from 1822 until 1844, and focuses on Galton's youth and education. Section 1.2 stretches from 1840 until 1852 and covers Galton's travels. In section 1.3 Galton's health and childless marriage are discussed, with section 1.4 focusing on Galton's relationship with his cousin Charles Darwin and specifically how Darwin's book *On the Origin of Species* sparked Galton's interest in heredity and eugenics. Finally section 1.5 examines Galton's religious beliefs. The chapter ends with a sub-conclusion.

1.1 Galton's youth and education (1822-1843)

Francis Galton was born on February 16th 1882 in Birmingham into the family of Violetta and Samuel Tertius Galton. Francis was preceded by six sisters, two of which had died in infancy, and two brothers. His father came from a wealthy Quaker family, but he had converted to the Church of England in his adulthood. Samuel Galton was an entrepreneur and owned a bank. Francis' mother Violetta was the eldest daughter from Erasmus Darwin's second marriage to Elizabeth Poole, and was born into a family of medical men and scientists. Charles Darwin and Francis Galton were half-cousins on Galton's mother's side of the family. Charles was a child to Robert Darwin, the youngest son of Erasmus Darwin and his first wife Mary Howard. Erasmus Darwin was a physician, natural philosopher and a founding member of the discussion group the Lunar Society of Birmingham.[8]

Francis Galton was born six years after his brother Darwin Galton. Francis' sisters were excited about their new brother and he was the centre of attention. His twelve-year-old sister Adèle played an important role in the young boy's life as she became his educator and did her very best to teach him to read and write. At two-and-a-half years old he knew the English and Greek alphabets, had read his first book, and could sign his own name. At the age of five he was already acquainted with the works of Homer.[9] According to his biographer

[8] Brookes, *Extreme measures*, 8-15.
[9] Ibidem, 15-18.

Martin Brookes, the exposure to classical literature by his sister Adèle may have inspired Galton's fascination with Greek culture and society. Galton later even claimed that the Ancient Greek were the model future generations should aspire to.[10]

By the time Francis was old enough to attend school, he was far ahead of his fellow classmates. Apart from the effort that his sister Adèle put into his education, this can be attributed to Galton's high intelligence. At almost five years of age Galton was at the same skill level as a normal eight or nine year-old. The American psychologist Lewis Terman characterized Galton's performance 'so exceptional as to be termed that of a genius.'[11] Whether or not Galton was a genius is debatable, but certainly he was far ahead of other children his age.

It seemed like Galton himself was not convinced of his own exceptional intelligence. In his autobiography *Memories of my Life*, he wrote about how some people put him on a pedestal: '(…) she [Adèle, L.M.] believed, and succeeded in making others believe that I was a sort of infant prodigy.'[12] Brookes suggests that Adèle might indeed have pushed Francis too hard: 'While natural abilities were self-evident, there were also signs to Adèle's punishing scheme was pushing her brother's precocious talents too far. (…) But every now and again he would drop hints that all was not harmonious in his mind.'[13] For example, when his father examined him at the age of five in arithmetic and asked Francis if he was tired, he answered: 'I am not tired of the thing, but of myself.'[14] Galton's first biographer Karl Pearson also suggests that holding Galton back would have been a more 'judicious course'.[15]

Galton's home education thus proved very successful, as it enabled him to focus on his own interests, such as science. It also made Galton aware of his high intelligence. However, he was also aware of the limitations of his own capacities, as he noticed that studying became too much for him. His family might have pushed the young Galton more than he was capable of coping with.

Between the age of five and eight, Galton attended the local dame school.[16] According to Gillham, Galton was very happy at this school. He was made head boy even

[10] Brookes, *Extreme measures,* 15-18.
[11] Forrest, *Francis Galton,* 7.
[12] Galton, *Memories,* 13.
[13] Brookes, *Extreme measures,*18.
[14] Pearson, Karl, *The life, letters and labours of Francis Galton. Volume I* (Cambridge 1914), 69.
[15] Ibidem, 69.
[16] A dame school is a private elementary school kept by a dame, a lady. 'dame school', *Oxford English Dictionary* (2013),

though many children were older than him.[17] Forrest says Galton found the other boys vulgar because they had never heard of classical works such as Marmion or the Iliad. His teacher Mrs French 'did not know what to make of the young gentleman who was "always to be found studying the abstruse sciences".'[18] This shows that Galton's interest in science and literature had already started at an early age.

When he was eight Galton was sent to a boarding school in Boulogne. In a letter to his sister Adèle on October 30th 1830 he wrote: 'I am very happy at school.'[19] Both Gillham and Pearson however suggest that Galton was probably miserable at this school. Galton might not have dared to admit this because his teacher looked over his shoulder while he wrote his letter.[20] In his autobiography Galton stated that he hated the school and he confessed being glad to be able to return home at the age of nine: 'The school was hateful to me in many ways, and loveable in none, so I was heartily glad to be taken away from it in 1832.'[21]

Galton's next school was at Kenilworth. Forrest suggests that judging from the books Galton read there, this school must have been 'heavily spiced with theology'.[22] According to Gillham, Galton was 'happy again, trapping birds, engaging in archery and playing cricket.'[23] Galton remembered his time at Kenilworth as 'three happy years'.[24] The school was kept by the clergyman Mr. Attwood, who, according to Galton, 'showed so much sympathy with boyish tastes and aspirations that I began to develop freely'.[25] Galton's time at Kenilworth thus had a positive effect on his development, as he was again able to follow his own interests.[26]

At fourteen Galton was sent to King Edward's school in Birmingham. Brookes says that Galton already showed his dislike of this school in the letters that he sent home,[27] as can be seen in a letter to his sister Adèle on October 27th, 1837: 'Another boy has left and is believed to be in a consumption. Indeed I never knew such an unhappy and unlucky school as

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http://www.oed.com.ezproxy.leidenuniv.nl:2048/view/Entry/47043?redirectedFrom=dame+school#eid7412097 consulted on 19 June (2013).

[17] Gillham, *Life,* 25.

[18] Violetta Galton, *Biographical sketch of Francis Galton by his mother,* Galton Archives, from: Forrest, *Francis Galton,* 6.

[19] Francis Galton to Adèle Galton, 30 October (1830), from: Pearson, *Life,* I, 71.

[20] Gillham, *Life,* 25; Pearson, *Life,* I71.

[21] Galton, *Memories,*18.

[22] Forrest, *Francis Galton.,* 7-8.

[23] Gillham, *Life,* 26.

[24] Galton, *Memories,*18.

[25] Ibidem, 18-19.

[26] Ibidem, 20.

[27] Brookes, *Extreme measures,* 25.

this ; 2 more will leave at Christmas, and I would give anything if I could leave it too.'[28] Later in his life, Galton again expressed his discontent with this school: '(…) The character of the education was altogether uncongenial to my temperament. I learnt nothing, and chafed at my limitations. I had craved for what was denied, namely, an abundance of good English reading, well-taught mathematics, and solid science.'[29] Instead of learning more about science, the focus was on Latin and Greek grammar.[30]

Galton had often been an unhappy pupil since he had first gone to school and even after King Edward's School, he was still not allowed to follow his own interests. Galton's bad experiences at school and the limitations that his schooling offered might have undermined his confidence in the British educational system. It may also have caused Galton to develop the idea that one's education is subordinate to one's natural intelligence in the improvement of the human race.

At the age of sixteen, Galton was sent to a hospital to gain work experience as a medic. His mother's wish was that he would become a doctor, as this was her family tradition.[31] While working at this hospital, Galton treated people's broken bones and other injuries to the limbs.[32] This work taught him much about the human body: 'The mechanism of the body began to appear very simple in its elementary features', Galton wrote in his memoirs.[33] Another example is Galton's comment about riots while he was working at the Birmingham General Hospital in 1839: '(…) It was curious to observe the apparent cleanness of the cuts that were made through the scalp by the blow of a policeman's round truncheon.'[34]

Brookes suggests that Galton became more immune to the troubles of his patients during his work at the hospital: 'Daily exposure to death and disease inevitably engendered a partial immunity to the personal tragedies unfolding in front of him. His first visit to the operating theatre provoked a typical response of horror and revulsion. But this soon gave way to a more detached, scientific, point of view. (…) Amid the din of death wails, a detached analytical mind was beginning to take shape.'[35]

Brookes sees Galton's 'detached analytical mind' mostly as a way of coping with his traumatic experiences at the hospital. Bulmer agrees with this, but also argues that Galton's

[28] Francis Galton to Adèle Galton, 27 October (1837), from: Pearson, *Life*, I, 86.
[29] Galton, *Memories,* 20.
[30] Ibidem, 20.
[31] Forrest, *Francis Galton*, 9.
[32] Galton, *Memories,* 34.
[33] Ibidem.
[34] Ibidem, 31.
[35] Brookes, *Extreme measures,* 29-30.

'detached intellectual interest'[36] could also have been 'attributed to nature rather than to nurture'.[37] Galton himself also noted a change in his emotional involvement during his time in the hospital. In *Memories of my Life* he writes: 'The cries of the poor fellows who were operated on were characteristic; in fact, each class of operation seemed to evoke some peculiar form of them. All this was terrible, but only at first. It seemed after a while as though the cries were somehow disconnected with the operation, upon which the whole attention became fixed.'[38] Judging from this remark it seems that Galton indeed distanced himself more and more from what he experienced at the hospital; it was a trait he developed and did not always possess.

Bulmer states that Galton had a 'tendency to see people as cases to be studied or examples to be counted rather than as fellow humans to be sympathized with, which remained part of his character.'[39] This tendency would later also become visible in Galton's scientific view of the eugenic marriage, where he idealised a match between two people who were eugenically right for each other, instead of two people who loved each other.

At the age of seventeen, Galton's parents sent him to London's King's College to obtain better theoretical instruction.[40] Before leaving for London, Galton and his father had discussed taking a degree in mathematics at Cambridge, and when his time in London was up Galton indeed went to Cambridge.[41] His cousin Charles Darwin had advised him to take up mathematics: 'He said very truly that the faculty of observation rather than that of abstract reasoning tends to constitute a good physician.'[42] Mathematics would remain important in Galton's life as he used statistics to substantiate his eugenic ideas.

During his time at Cambridge, Galton was 'immensely impressed by many obvious cases of heredity among the university students.'[43] By checking the names on the Classical Class List and seeing that the Senior Classics had family members who also reached a similar high position at the University, Galton observed that certain families provided multiple Senior Classics. He later noted in his autobiography that 'this fact alone would justify a serious

[36] Bulmer, *Francis Galton,* 39.
[37] Ibidem.
[38] Galton, *Memories,* 35.
[39] Bulmer, *Francis Galton,* 39.
[40] Forrest, *Francis Galton,* 12.
[41] Gillham, *Life,* 31.
[42] Francis Galton to Samuel Tertius Galton, 6 December (1839), Galton Archive, from: Forrest, *Francis Galton.* 16.
[43] Galton, *Memories,* 288.

attempt to inquire into Hereditary Ability'[44], and that he 'found the power of heredity to be as fully displayed in every other direction to which'[45] he turned.

Despite the fact that Galton could finally study the subjects that he enjoyed most, his intense studying at Cambridge led to a breakdown in his third year, which caused him to return home.[46] Galton ascribed this breakdown to overwork and gave up working for honours: 'I had been much too zealous, and had worked too irregularly and in too many directions, and had done myself serious harm.'[47] Galton did eventually obtain his medical qualification by attending a few medical lectures.

By 1844 his father's health deteriorated and by October of that year Samuel Tertius passed away. Galton inherited sufficient wealth to be independent of a profession and was thus able to abandon his medical studies.[48] He had been stimulated to study by his parents, but now that his father had died there was less pressure on him to complete his studies. Instead of becoming a physician Galton chose to go travelling, as will be shown in the next section of this chapter. His father's early death changed Galton's life course as he now had the opportunity to go travelling and he would later explore the subject of eugenics, something he might not have done if he had become a doctor.

At Cambridge Galton had only obtained a poll degree, a normal bachelor degree, and refrained from continuing studying for honours in mathematics.[49] According to Fancher, Galton's early experiences 'set the stage' for his later eugenic ideas. The importance of differences in people's intellectual abilities and accomplishments had been taught to Galton from an early childhood, and he had hoped, and at first even expected, that he himself belonged to the rank of genius. When he did not live up to expectations, even though he had all the resources required to excel, he could not blame his surroundings for his failures. From a young age Galton had given all he had, more even than he could handle, to achieve the highest position. His health and his intelligence, however, let him down and he could not reach the top.[50]

Galton did indeed notice, that he was a good, but not the best, student. For example, when he was fourteen he talked about an upcoming mathematics competition at his boarding

[44] Galton, *Memories*, 288-289.
[45] Ibidem, 289.
[46] Francis Galton to Samuel Tertius Galton, 2 November (1842), Galton Archives, from: Forrest, *Francis Galton*, 22.
[47] Galton, *Memories*, 79.
[48] Forrest, *Francis Galton*, 22-27.
[49] Pearson, *Life*, I, 173.
[50] Fancher, Raymond E., 'Biographical origins of Francis Galton's psychology' *Isis* 74, 2 (1983), 232.

school in a letter to his father. In this letter he discussed his chances and compared himself to other students: '[Two, L.M.] others very equal (…) They know what they do more perfectly than I do but then I have learnt many more proofs, (…) so it is very doubtful.'[51] A few years later Galton was again disappointed when he came second instead of first in a competition. He expressed his discontent to his father on October 22nd 1840: 'I am much vexed at not being first, but there was much more competition than usual.'[52]

At the age of twenty-seven Galton visited the phrenologist C. Donovan who attributed Galton's 'mediocrity' (as Fancher calls it) to the confirmation of his brain; it 'must have confirmed his suspicion that he had failed because he had lacked the *innate* gifts necessary for great success. His own upper limits, and those of all other people as well, seemed to have been fixed independently of all effort or training.'[53] Fancher bases this idea on Galton's book *Hereditary Genius* from 1869.[54] In this book Galton spoke about the natural inequality of people: 'I have no patience with the hypothesis occasionally expressed, and often implied, especially in tales written to teach children to be good, that babies are born pretty much alike. (…) It is in the most unqualified way that I object to pretensions of natural equality.'[55] Galton compared the limits of physical fitness with the limits of intellectual fitness. He talks about how 'the eager boy' at first believes he can accomplish anything intellectually, but in the course of his life discovers that he has limitations. By accepting these limitations he will find 'true moral repose'.[56] As Galton's story is similar to his own experience, where he discovered his own limitations at university, the story seems largely autobiographical.

In his professional life as a scientist Galton was successful, but could still not better such contemporaries as David Livingstone or Richard Francis Burton.[57] Fancher argues that Galton must have felt to stand in the shadow of his famous half-cousin Charles Darwin.[58] Taking into account that Galton had similar or even better opportunities in life than these fellow scientists, 'he could only conclude that their success was due to their innate genius-determined partly, no doubt, by their larger heads.'[59] Although Galton was off to a flying start with the effort that his family, and especially his sister Adèle, put into his education, he could

[51] Francis Galton to Samuel Tertius Galton, 26 March (1837), Folder 108C, Galton Archives, from: Fancher, 'Biographical' 230.
[52] Francis Galton to Samuel Tertius Galton, 22 October (1840), from: Pearson, *Life*, I, 127-128.
[53] Fancher, 'Biographical', 232.
[54] Ibidem, 232.
[55] Galton, Francis, *Hereditary Genius. An inquiry into its laws and consequences* (London 1869), 14.
[56] Ibidem, 15-16.
[57] Fancher, 'Biographical', 233.
[58] Ibidem.
[59] Ibidem.

not live up to expectations. Despite his determination, he could not compete with the best of his class. This failure to be the best could have contributed to Galton's idea that not all men are created equal, and that some are more intelligent than others. Galton saw that those students at Cambridge who had family members who had had achieved greatness were more likely to perform the best.

These thoughts combined (that some are more intelligent than others, that this intelligence is inheritable, and even with the best opportunities in life not all can reach the top) might have led Galton to think that the best way to produce the most intelligent and most healthy of the species was for those who possessed these traits to mate. Galton himself said the differences between the students at Cambridge inspired his hereditary theory. Because of his own bad experiences at school he could have had less faith in education and saw it as a secondary factor to heredity, as he did not think that nurture would improve the human race. According to Bulmer and Brookes, Galton had a detached view when it came to his patients. This could have been a survival mechanism to cope with the intense experience, but it could also have, as Bulmer suggests, been in Galton's personality. This, however, seems less likely as Galton himself says the ability to detach from the emotional aspects involved in the hospital work might have given him the opportunity to view eugenics as a clinical idea, instead of concerning the emotions of the people involved.

1.2 Journeys abroad (1840-1853)

In the summer of 1840 Galton travelled on his own for the first time. What was supposed to be a working holiday in Giessen in Germany to study with organic chemist Justin Liebig, turned into an adventurous trip through Eastern Europe.[60] From 1844, after Galton's father had died and he had finished his degree at Cambridge and his medical studies, until 1853, he travelled to the Middle East and Africa.[61]

The trips Galton made in these years gave him an impression of the world outside of the United Kingdom; he met people from different races, cultures and religions. These contacts influenced his ideas about race and culture. Galton did not think highly of the African race and by today's standards Galton's ideas might even be qualified as racist. His observation that Africans were all different but overall less intelligent than Europeans is reflected in the concept of eugenics that he would form in the years after his travels.

[60] Brookes, *Extreme measures*, 37.
[61] Gillham, *Life*, 47-92.

According to Gillham, a section *The Art of Travel*[62] about the 'management of savages' 'reflected Namibian impressions that would later be influential when his interest shifted to human heredity.'[63] The central question of this section is therefore: how did Galton's travel experiences influence his concept of eugenics that he would form in his post-travel years?

Before looking at the role Galton's travels played in the formation of his eugenic ideas, the racism that shines through in his eugenic ideas will be discussed. How Galton's racist ideas were formed is not known, but that his ideas about Africans and other races were racist by modern standards can clearly be seen in the following examples from his writings.

The first example of Galton's racist view is found in a letter about slavery that he sent to *The Times* in 1857. Galton did not share the belief that 'the African is our equal in brain or in heart.'[64] He said that the African did not 'care for his liberty as much as Englishmen or serf-born Russians.[65]As long as the slave was treated well, Galton supported slavery: '(…) If we can by any legitimate, or even *quasi*-legitimate means, possess ourselves of a right to their services, and if we can insure that our mastership shall elevate them, and not degrade them, by all means work them well (…).'[66]

Another example of his negative view of the Africans is the following quote from his book *Tropical South Africa*: 'A row of seven dirty, squalid natives came to meet us. (...) They had Hottentot features, but were of a darker colour, and a most ill-looking appearance; some had trousers, some coats of skin, and they clicked, and howled, and chattered, and behaved like baboons.'[67] Galton thus saw Europeans as superior to Africans. Within this group of the African race, as Fancher remarks, Galton observed different groups of natives, 'many innately differing, but all more or less inferior races'.[68]

According to Forrest, Galton's racist views were no different from his Victorian contemporaries such as the travellers Samuel Baker and Richard Francis Burton, who 'adopt an equally derogatory tone whenever they refer to the African negro.'[69] Like Forrest, Brookes attributed Galton's racism to the Victorian frame of mind. He argues that Galton's readers

[62] Francis Galton, *The art of travel. Or shifts and contrivances available in wild countries* (Fifth edition; London 1872, first edition 1855).
[63] Gillham, *Life,* 100.
[64] Galton, Francis, 'Negroes and the slave trade', *The times* 26 December (1857).
[65] Ibidem.
[66] Ibidem.
[67] Francis Galton, *Tropical South Africa*, (London 1853). Quotations in this paper are taken from the second edition, published with unaltered text but a new title as Narrative of an explorer in tropical South Africa, (London 1889), 10.
[68] Fancher 'Francis Galton', 79.
[69] Forrest, *Francis Galton,* 98-99.

saw nothing out of the ordinary in this racist portrayal: 'Galton's assessment of African peoples as generally uncultured and inferior merely echoed the racist consensus then prevalent throughout Europe and the United States.'[70] Brookes describes Galton's portrayal of the Africans as a 'vicious, racist rhetoric'[71] and argues that Galton's racism in *Tropical South Africa* was more extreme than that of his contemporaries: 'The brusque arrogance with which he dispatches his assessments, and the sheer frequency with which he reiterates his racist views, suggest a hint of mania, a deep seated passion in his prejudice.'[72]

Galton not only wrote negatively about Africans in his works on travel, he also uses his travel experiences in his works on eugenics. He noted that an inquiry into different races even gave him the idea to investigate hereditary genius: 'The idea investigating *Hereditary Genius* occurred to me during a purely ethnological inquiry, into the mental peculiarities of different races'.[73] In *Heredity Genius* Galton referred directly to his African travels as a source of inspiration for his ideas of different levels of intelligence between races: ' (…) The number among the negroes of those whom we should call half-witted is very large. (…) I was myself much impressed by this fact during my travels in Africa. The mistakes the negroes made in their own matters, were so childish, stupid, and simpleton-like, as frequently to make me ashamed of my own species.'[74]

Also Fancher sees a link between Galton's ideas about the supposedly inferior African race and his later eugenic ideas: 'When later combined with Darwinian ideas about inheritance and evolution, this conviction of persistent "mental peculiarities of different races" helped produce Galton's hereditarian psychological theories, and eugenics. Thus unflattering depictions of the African's character and intellect formed important parts of Galton's argument in both of his seminal works, *Hereditary Talent and Character* and *Hereditary Genius.*'[75] In *Hereditary Genius* he claimed that the African chiefs were mostly inferior to the European explorers: ' (…) The white traveller almost invariably holds his own in their presence.'[76] Fancher suspects that Galton's own encounter with one of these chiefs, Jonker Afrikaner, leader of the Nama tribe, contributed to Galton's idea that these chiefs were inferior to the explorers.[77]

[70] Brookes, *Extreme measures*, 112-113.
[71] Ibidem, 112
[72] Ibidem, 114.
[73] Galton, *Hereditary genius*, vi.
[74] Ibidem, 339.
[75] Fancher, 'Francis Galton', 79.
[76] Galton, *Hereditary genius*, 339.
[77] Fancher, 'Francis Galton', 74.

Furthermore, in *Hereditary Genius* Galton compared the intelligence of intelligent dogs to the lowest levels of intelligence found in humans. This comparison may have been inspired by the fact that Galton had witnessed the resemblance between the intelligence of an African tribe and dogs.[78] Galton concluded that certain more intelligent dogs were even more intelligent than some humans: 'Certainly the class G of such animals is far superior to the g of humankind.'[79] It is likely that Galton's eugenic ideas were inspired by his travels abroad and his experiences.

Galton also gave a racist characterisation of other races than the African negroes. For example, in *Hereditary Genius* he argued that the intelligence of the Aboriginals was even lower than that of the negroes.[80] While his negative description of the Africans might have been inspired by his travels, this could not have been the case with the negative description of the other races. He had never met people of races such as the American Indians, Hindus, Arabs and Mongols, in person.[81] He admits this by stating that he based his description of other races on the observations of others: 'Excellent observers have watched the American Indians under all these influences.'[82] This shows that Galton's racist ideas were not only based on his own experiences, but must have been inspired by his contemporaries.

According to Brookes, Galton's idea of a racial difference in intelligence was not based on any scientific research, but provided a 'quasi-justification for eugenic progress'. The fact that Africans were two grades lower in intelligence than the Anglo-Saxons showed that they had evolved to a higher level. There was 'still plenty of room for improvement' as the Anglo-Saxons were two levels below that of the Ancient Greeks.[83]

To conclude, Galton's negative ideas about the African race might have been inspired by, or could have been strengthened during his travels in Africa. Galton himself said that he witnessed racial inferiority in Africa, but he does not make clear whether he already had these before he started his travels. We can however say with certainty that Galton's experiences in Africa strengthened his negative view on the African race.

His racist ideas later formed an integral part of his ideas on heredity and eugenics. Fancher for example gives several examples from Galton's eugenic works in which Galton shows racial inferiority. One of the key arguments in Galton's later works is that there is a

[78] Fancher, 'Francis Galton', 75.
[79] Galton, *Hereditary genius*, 36.
[80] Ibidem, 339-340.
[81] Francis Galton, 'Hereditary talent and character' *Macmillan's Magazine* 12 (1865), 321.
[82] Ibidem.
[83] Brookes, *Extreme measures,* 164-165.

difference in eminence between different races, for example between the Anglo-Saxons, the Ancient Greeks and the African race. These differences in races led Galton to believe that there was a justification for his aim to breed humans to improve the race. His travels abroad thus contributed to his eugenic ideas, as Galton himself admitted in *Hereditary Genius*.[84] While the idea of racial inferiority was not based on any scientific evidence, Galton still used this thesis as support for his idea that there were different levels of intelligence, an idea that would later form an integral part of his eugenics.

1.3 Galton's health and childless marriage

Francis Galton's youth, education and his travels contributed to his view of the world and may have formed his ideas about eugenics. Historians have however also argued that there were other factors that may have influenced his ideas, such as Galton's and his family's (failing) health and the childless marriage with Louisa. In this section the influence of these two factors on his ideas about eugenics are discussed.

1.3.1 Health

During his time at Cambridge (1840-1843) Galton was forced to step back from his studies due to illness.[85] Forrest says Galton claimed he was ill because of over-reading combined with an attack of rheumatism.[86] In the early 1850's Galton again became 'seriously ill' and was nursed back to health by his mother and sister Emma.[87] In the years thereafter Galton often suffered from 'giddiness and other maladies prejudicial to mental effort', but he always recovered from these illnesses.[88] Galton wrote about his health problems in his letters home when he was at university and made long hours as an apprentice. It seems plausible that he suffered from stress, as he had worked too hard as a student. In the years to come Galton had several mental troubles. His illnesses as a student might have been sign of the mental issues that were yet to come: in 1866 he experienced a mental breakdown. Galton's own health issues, alongside those of his family, could have sparked his interest in heredity and the improvement, both intellectually and health wise, of the human race.

For Galton the inheritance of good health was an important issue in his concept of eugenics, as can be seen in the following quote from *Hereditary Talent and Character*: 'A

[84] Galton, *Hereditary genius*, 339.
[85] Brookes, *Extreme measures,* 42.
[86] Forrest, *Francis Galton.*, 20.
[87] Galton, *Memories,*154.
[88] Ibidem, 155.

man must inherit good health, a love of mental work, a strong purpose, and considerable ambition, in order to achieve successes of the high order of which we are speaking. The deficiency of any one of these qualities would certainly be injurious, and probably be fatal to his chance of obtaining great distinction.'[89] Even though Galton does not explicitly mention himself in this quote, he could have had himself in mind and blamed his own failing health as the reason why he could or did not obtain great distinction.

Forrest suggests that the mental problems preceding this breakdown could have sparked his interest in heredity,[90] but unfortunately does not elaborate on this argument. It is indeed probable that Galton wanted to learn more about heredity to discover how such traits as mental instability were passed on within families, and eventually to improve the health of the human race, since he had seen in his own life how an unstable mind limited him in his studies and in his work.

Galton was not the only one in the family with health issues: his sister Adèle suffered from a spinal curvature and his sister Lucy died young at the age of thirty-nine. She was in 'suffering health' as the result of a 'acute rheumatic fever when a child.'[91] Galton's father Samuel Tertius died at the age of sixty-one. Galton's mother, Violetta Galton, however, reached the age of ninety-one, and the other Galton children took after her, all reaching their seventies, eighties or nineties. The health problems of his family members may have strengthened Galton's idea that the health of the human race could be improved by correct eugenic breeding. Roger Sandall thinks that the fact that Galton's disabled sister's spinal curvature, which made her unable to enjoy the physical activities her brothers and sisters could participate in, might have subconsciously left a mark on Galton, as he often spoke negatively about the disabled.[92] Sandall bases his claim on two passages from *Inquiries into Human Faculty.* In this book Galton claimed that 'The proportion of weakly and misshapen individuals is not to be estimated by those whom we meet in the streets; the worst cases are out of sight.'[93] Galton adds: 'Our human civilised stock is far more weakly through congenital imperfection than that of any other species of animals, whether wild or domestic.'[94]

[89] Galton, 'Hereditary Talent' 318.
[90] Forrest, *Francis Galton*, 85.
[91] Galton, *Memories,* 84.
[92] Sandall, Roger, 'Sir Francis Galton and the roots of eugenics', *Society* 45, 2 (2008), 175.
[93] Francis Galton, *Inquiries into Human Faculty and its Development* (Second edition; London 1907, first edition 1883), 16.
[94] Ibidem.

In the part of *Inquiries into Human Faculty* that Sandall refers to, Galton discusses the mentally and the physically disabled. Galton also says that these weaker people may have their strong points and can endure hardship better than those who are stronger.[95] In *Hereditary Talent and Character* and *Hereditary Genius* Galton again spoke of people with weak health, but did not go into detail about their health issued as he did in the referenced part of *Inquiries into Human Faculty.* As Galton specifically says that the 'worst cases are out of sight' and mentions 'the suffers at home' and 'the crippled', it does seem likely that he had his own childhood experience with his sister Adèle in mind when he wrote these passages.[96]

Galton's wife Louisa also suffered from bad health and Galton's great-great cousin Hesketh Pearson recalls that she often claimed to be dying: 'She used to prepare for death periodically, and then, when everyone was hoping for the best, she would make a gradual and painful recovery. A constant saying among her husband's nephews and nieces was "aunt Louisa is dying again", and when her death actually occurred no one believed it till after the funeral.'[97]

Good health was important to Galton's eugenic idea and the health problems he and his family, as well as his wife Louisa, suffered from could have contributed to his focus on producing healthy and eminent offspring. In his own life Galton witnessed the limitations that came with health problems as he suffered for mental breakdowns. His own sister was crippled and was not able to participate in many physical activities with her siblings. Galton also had examples of good health in his family, such as his mother Violetta, who was already more than eighty years old when Galton published *Hereditary Talent and Character*. The examples of good and bad health within his own family, and the fact that Galton often listed good health as an important factor in producing a better race, make it probable that Galton's interest in heredity and eugenics was partly inspired by his own family background. Despite the fact that Galton did not make it explicit, his own encounters with health problems could have caused this feature to be an important element of his eugenic ideas.

1.3.2 Childless marriage

After his travels Galton returned to England from Africa in 1852 and met Louisa Butler, who came from a distinguished and religious family. Their relationship quickly progressed and on

[95] Galton, *Inquiries,* 16.
[96] Ibidem.
[97] Hesketh Pearson, *Extraordinary people* (London 1965), 148.

August 1st 1853 the couple wed.[98] Galton's 'attachment to Louisa does not appear to have been a romantic or sexual one', says Forrest.[99] Louisa was less attractive than Francis, but she came from a circle of intellectuals and was an intelligent woman herself. According to Forrest Galton was 'undoubtedly thinking back to his own situation'[100] when he wrote: 'I protest against the opinions of those sentimental people who think that marriage concerns only the two principles; it has in reality the wider effect of an alliance between each of them and a new family.'[101] Galton was glad to have married into a family that is 'good in character, in health and in ability, than into one that is either very wealthy or very noble, but lacks these primary qualifications.'[102] According to Brookes, Galton and Louisa had 'little common ground' between them and Brookes suspects that Galton was mostly attracted to the intellectual circle that a marriage with Louisa provided, rather than to the woman herself, given that he speaks little about her in *Memories of my Life,* speaking mostly of her friends and family.[103] Galton did, however, describe the union between him and Louisa as a 'happy marriage'.[104]

An important difference between Galton and Louisa was their view on religion. Louisa was a pious Christian and Galton had mostly rejected religion, especially after reading *On the Origin of Species*. According to Forrest, Galton's 'turn against religion' likely affected his marriage with Louisa.[105] However, Galton was still involved in religious customs such as visits to church and family prayers, so there does still seem to be harmony in the household when it came to religious rituals.[106]

The marriage between Galton and Louisa seemed to revolve not only around the couple themselves, but also their families and friends. Several historians suspect that the marriage, and mainly the sterility of it, inspired Galton to pursue eugenics. By the 1860's it was becoming clear that the marriage between them would remain childless. Forrest links Galton's interest in heredity to this period in his life: 'His growing interest dates from about the time when it was evident that his marriage was likely to prove infertile.'[107] Sandall also suggests that Galton's childlessness contributed to his interest in eugenics: 'For one reason or another the marriage of this brilliant Victorian was infertile, and as each year passed without

[98] Forrest, *Francis Galton,* 54-58.
[99] Ibidem, 57.
[100] Ibidem, 58.
[101] Galton, *Memories*, 158.
[102] Ibidem, 158.
[103] Brookes, *Extreme measures*, 107-108.
[104] Galton, *Memories*, 154.
[105] Forrest, *Francis Galton*), 84.
[106] Karl Pearson, *The life, letters and labours of Francis Galton. Volume IIIa* (Cambridge 1930), 271.
[107] Forrest, *Francis Galton,* 85.

issue an obsession with heredity, fertility, procreation, and their connecting causes and effects—especially their effect on the reproduction of highly gifted people like himself—grew and grew.'[108]

As none of Louisa's sisters and neither of Galton's brothers had children, it is most likely that the infertility was genetic. Forrest states that because Galton and especially Louisa both came from academically talented families, the lack of children combined with the knowledge that their children would likely be academically talented, could have strengthened Galton's interest in eugenics and heredity: 'His own and particularly Louisa's family were now instances before his very eyes and it is not unlikely that his speculations over the possible fruits of their union, frustrated by the lack of direct confirmation, were diverted into a wider context.'[109]

Gillham also suggests the barren marriage between Louisa and Galton inspired his eugenic ideas: 'Why the marriage was barren is unknown, but it probably troubled Galton, especially as he began thinking about improving mankind through selective breeding. After all his own marriage represented the union of two distinguished pedigrees.'[110] Daniel Kevles shares a similar idea to Gillham: 'Galton may well have diverted frustration over his own lack of children into an obsession with the eugenic propagation of Galton-like offspring.'[111] Galton's great-great cousin Hesketh Pearson thought that Galton's childlessness saddened him: 'The Galtons had no children, and it must have saddened Uncle Frank because he loved them.'[112]

Galton's marriage to Louisa had thus remained childless, and as Forrest, Kevles and Gillham suggest, this influenced his eugenic ideas. It seems likely that Galton's own lack of offspring inspired his research of heredity and eugenics. Galton knew that both he and Louisa came from distinguished and intellectual families and theoretically, they formed the type of couple that would be fit for a eugenic marriage. In reality, Louisa's and Galton's physical condition was not as well as their mental capacities. This may have lead Galton to the conclusion that despite their high intelligence, they were a lesser eugenic couple. A eugenic marriage in Galton's mind had two elements: the couple with the good genes should marry young and they should have many children that they pass these good genes on to. Galton himself could not live up his own ideal of the eugenic marriage because of his health

[108] Sandall, 'Francis Galton', 171.
[109] Forrest, *Francis Galton.*, 85.
[110] Gillham, *Life*, 96.
[111] Daniel J. Kevles, *In the name of eugenics. Genetics and the uses of human heredity* (Middlesex 1985), 9.
[112] Pearson, *Extraordinary*, 148.

problems, he and Louisa married reasonably late at the age of thirty, and they did not produce offspring. It is probable that because Galton could not live up to his own ideals of a eugenic marriage, he was saddened or even frustrated. By the time Galton published his first work on eugenics it was clear that his own marriage would not produce offspring. Despite the fact that Galton did not admit or even see this connection himself, the lack of his own offspring may thus have caused Galton to fantasise about an ideal marriage, in which the next generation would provide a stronger, more intelligent and healthier race.

1.4 Charles Darwin and *On the Origin of Species*

In this section the influence of *On the Origin of Species*[113] on Galton's eugenic ideas will be discussed. Galton himself, alongside historians, names *the Origin of Species* as a source of inspiration for his eugenic ideas. Galton's cousin Charles Darwin was an important person in Galton's life. It was Darwin who had advised Galton to take up mathematics as an addition to his medicine degree.[114] *On the Origin of Species* was also a source of comfort for Galton to him after he had shed his Christian beliefs.

Being cousins, Galton and Darwin had known each other for a long time. As adults they did not see each other very often and mostly corresponded through letters, frequently commenting on each other's latest work, such as a note to compliment Galton on his book *Tropical South Africa* in July 1853.[115] Galton held his cousin Charles in high regard, as can be seen from his very positive accounts of his visits to Downe in Kent, where Darwin lived. Galton noted that he made his visits to Darwin 'with a sense of the utmost veneration as well as the warmest affection.'[116]

In his autobiography Galton clearly stated that Charles Darwin's *On the Origin of Species* encouraged him to pursue further research into heredity and eugenics: 'I was encouraged by the new views to pursue many inquiries which had long interested me, and which clustered round the central topics of Heredity and the possible improvement of the Human Race.'[117] He instantly connected with Darwin's ideas and ascribed this to their common ancestry: '(…) I felt little difficulty in connection with the *Origin of Species,* but devoured its content and assimilated them as fast as they were devoured, a fact which perhaps

[113] Darwin, Charles, *On the origin of species by means of natural selection* (London 1859; reprinted Cambridge 1964).
[114] Gillham, *Life,* 32.
[115] Charles Darwin to Francis Galton, 24 July, (1853), from: Gillham, *Life,* 96.
[116] Galton does not describe when these visits took place exactly, but they might have taken place around 1860, from: Galton, *Memories,* 169.
[117] Galton, *Memories,* 288.

may be ascribed to an hereditary bent of mind that both its illustrious author and myself have inherited from our common grandfather, Dr. Erasmus Darwin.'[118]

In Galton's response to a congratulatory letter from Darwin about *Hereditary Genius* in 1869, he writes how *On the Origin of Species* affected him: 'I always think of you in the same way as converts from barbarism think of the teacher who first relieved them from the intolerable burden of superstition. I used to be wretched under the weight of the old-fashioned arguments from design, of which I felt, though I was unable to prove to myself, the worthlessness. Consequently the appearance of your Origin of Species formed a real crisis in my life; your book drove away the constraint of my old superstition as if it had been a nightmare and was the first to give me freedom of thought.'[119]

According to Bulmer, the part of *On the Origin of Species* about natural selection and adaptation of species to their environment especially inspired Galton's interest in heredity and eugenics.[120] Darwin showed that species 'became adapted to their environment through natural selection acting on heritable variations.'[121]

Waller argues that Galton's investigation into heredity and eugenics would not have been possible without *On the Origin of Species*: '(…) Even though Galton had ideas on heredity and (arguably) eugenics before 1859, without the publication of the *Origin of Species* his investigations of hereditarianism and selective breeding are simply unthinkable.'[122]

Historian Schwartz Cowan however thinks that Galton started to attribute so much influence to *On the Origin of Species* only later in his life, because his initial reaction to the book was 'pedestrian in the extreme'; Galton had written to Darwin*:* 'I hear you are engaged in a second edition. There is a trivial error in p. 68 about rhinoceroses, which I thought I might as well point out and have taken advantage of the same opportunity to scrawl down a dozen other notes which may or may not be worthless to you.'[123] Schwartz Cowan, however, did not mention the first part of Galton's original letter which is in fact a positive and enthusiastic response to Darwin's book: 'Pray let me add a word of congratulation on the completion of your wonderful volume, to those which I am sure you will have received from every side. I have laid it down in the full enjoyment of a feeling that one rarely experiences

[118] Galton, *Memories,* 288.
[119] Francis Galton to Charles Darwin, 24 December (1869), from: Pearson, *Life,* I, plate II.
[120] Bulmer, *Francis Galton,* 43.
[121] Ibidem.
[122] John C. Waller, 'Ideas of heredity, reproduction and eugenics in Britain, 1800–1875', *Studies in History and Philosophy of Biological and Biomedical Sciences* 32, 3 (2001), 481.
[123] Schwartz Cowan, 'Nature', 165.

after boyish days, of having been initiated into an entirely new province of knowledge, which, nevertheless, connects itself with other things in a thousand ways.'[124] The argument that Galton's initial response to Darwin's book was 'pedestrian to the extreme' is thus in fact wrong.

Waller even argues that Galton had 'ulterior motives' for publishing *Hereditary Talent and Character.* Waller states that Galton wanted to enter Darwin's inner circle so that he could quickly become part of the scientific elite. Galton had not been able to find a subject that interested this lobby until he read about evolution and heredity in Darwin's book. By publishing an article that elaborated on Darwin's evolutionary theories, he hoped to gain the admiration of Darwin and his intellectual circle: '(…) His determination during the 1860s [was, L.M.] to be accepted among the ranks of the Darwinian inner circle. (…) Earnestly seeking to ingratiate himself with the Darwinian lobby, he then toyed with a variety of potential research projects relevant to Darwinian evolution.' Galton finally achieved this goal when he began doing research for his first article in 1864.

Waller thus sees Galton's shifting between different interests in the early 1860's as proof for his claim that Galton was searching for a subject that would gain him entrance into Darwin's inner circle.[125] He claims that Galton's admiration for Darwin and his interest in several different subjects during the early 1860's proves that Galton was trying to gain access into Darwin's inner circle.[126] Waller, however, does not offer proof that Galton was actively trying to enter the inner circle, nor that Galton other interests were not seen as worthy by Darwin and his fellow scientists. Waller thus only provides us with a theory without giving the necessary evidence to support it. To the contrary, it is clear from Galton's own writing that he greatly admired Darwin and he shared his ideas. It is therefore unlikely that Galton had an ulterior motive for choosing a Darwinian subject such as heredity and eugenics. Galton could have simply have wanted to develop his theories on heredity and eugenics because Darwin's book raised his curiosity.

Galton himself stated that *On the Origin of Species* played an important role in the formation of his eugenic ideas and also gave him an explanation to the questions Christianity did not have an answer for. Some historians, such as Bulmer, have argued that Galton was indeed very much inspired by Darwin's work. According to Waller, without *On the Origin of*

[124] Francis Galton to Charles Darwin, 9 December (1859), from :Pearson, Karl, *The life, letters and labours of Francis Galton. Volume 2* (Cambridge 1924), plate XVIII.
[125] Waller, 'Becoming', 141.
[126] Ibidem, 150.

Species, Galton's investigation into heredity and eugenics could not even have been possible at all. Schwartz Cowan however argues that Galton's fascination with *On the Origin of Species* was formed only later in his life, and tries to support this claim by citing Galton's initial response to Darwin's book, which she describes as 'pedestrian to the extreme'. Research has however shown that Schwartz Cowan failed to include the first part of Galton's letter, which was in fact very positive and enthusiastic about *On the origin of species*. Waller claimed that Galton was trying to join Darwin's inner circle and he had found a way to do so with publishing about heredity is. Without sufficient proof Waller's claim does not hold and it could just as likely been Galton's belief in Darwin's ideas that (further) developed his ideas on heredity and eugenics before the publication of *Hereditary Talent and Character*.

Concluding, it can be said with certainty that Galton already felt admiration for Darwin's work at the time of its publication. Darwin's theory on evolution provided Galton with the scientific basis for his ideas on heredity and eugenics. There is little to no evidence to doubt Galton's claim that *On the origin of species* inspired his ideas about heredity and eugenics.

1.5 Galton's religious beliefs

As shown above, *On the Origin of Species* greatly influenced Galton in the formation of his ideas about heredity and eugenics. Before reading it, Galton already had his doubts about Christianity and as will be explained below, the book gave Galton the last push to break with the church. It will also be shown that without the rejection of the Christian faith, Galton could not have formed his eugenic ideas.

According to Forrest 'Galton's religious belief did not survive the experience' of reading Darwin's book and he finally broke away from Christianity. In his works about eugenics Galton would even become very critical of Christianity. He showed his disapproval of the practice of celibacy in the medieval church[127] and he claimed that praying was not at all efficient.[128]

While very important, Darwin's book was not the only influence that drove Galton away from Christianity. Fancher and Bulmer both argue that the abandonment of Galton's orthodox religious faith in the 1860's was also caused by his interaction with scientists such as Herbert Spencer, John Tyndall, G.H. Lewes, John Lubbock and T.H. Huxley. These

[127] Galton, 'Hereditary Talent', 164.
[128] Galton, Francis, 'Statistical inquiries into the efficacy of prayer' *Fortnightly Review* 12 (1872), 128.

scientists favoured explanations based on empirical science instead of supernatural modes of explanation and they rejected orthodox Christianity.[129] Bulmer says: 'Galton's rejection of Christianity dates to the time of his association with these scientific naturalists.'[130]

Bulmer and Fancher's claims are supported by evidence from Galton's own writing. An important example is the fact that the 1860 edition of *The Art of Travel* featured a passage speculating how Adam and Eve might have learned to make fire. This shows that Galton initially accepted a literal interpretation of the bible. In the 1867 version of the book, the passage had been removed completely, showing that Galton had replaced his biblical interpretation with a more scientific one.[131]

Galton's break with Christianity is also illustrated by the fact that he was present at the British Association meeting at Oxford in 1860, where Thomas Huxley and Samuel Wilberforce, Bishop of Oxford, debated Darwin's theories. At this meeting, Galton chose the side of the scientific naturalists, such as Huxley, Spencer and Tyndall. These naturalists saw the scientist's role as that of a scientific priesthood and the fact that Galton proved himself a leading member of this group, shows that he had chosen science over religion.[132]

From the above examples it has become clear that in the 1860's Galton broke with his Christian beliefs, criticising the church in his works on eugenics. As will be shown in the next chapter, Galton's criticism of the church and his eugenic ideas, which were completely the opposite of the Christian dogma, lead to very negative responses from the religious press. Galton's ideas on eugenics and heredity did not at all fit into the Christian world view and his rejection of Christianity and acceptance of the evolution theory created an environment for him to develop his ideas on eugenics and heredity.

1.6 Sub-conclusion

In 1865 Galton published his first article on eugenics: *Hereditary Talent and Character*. There are several factors that may have formed Galton's concept of eugenics, which have been presented in this chapter.

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[129] Fancher, Raymond E., 'Eugenics and other secular religions' in: C. D. Green, M. Shore, and T. Tea eds., *The transformation of psychology* (Washington 2001) 3-20, from Bulmer, Michael, *Francis Galton. Pioneer of heredity and biometry* (Baltimore 2003), 37-38. And Bulmer, Michael, *Francis Galton. Pioneer of heredity and biometry* (Baltimore 2003), 37-38.
[130] Bulmer, *Francis Galton*, 38.
[131] Ibidem.
[132] MacKenzie, Donald, 'Eugenics in Britain', *Social Studies of Science* 6, 3/4 (1975), 507.

First, in his youth Galton was stimulated to excel at school and was made to believe that he was a genius. The realisation that he could not reach the top, while others did, might have sparked Galton's eugenic idea that the human race could be improved through selective reproduction. He saw that his fellow students at Cambridge who reached the position of Senior Classic had family members who had also achieved this high position. Galton noted that this experience inspired his ideas about eugenics. Galton's unhappy time at school during his youth, where he felt he was learning little, might have contributed to his later belief that the race should be improved by nature, instead of by external factors such as education.

As a medical student Galton at times seemed emotionally detached from his patients and saw his work as purely scientific. While Brookes thinks this possible detachment was a product of the emotionally straining work at the hospital, Bulmer thinks it could also have been Galton's scientific and less emotional world view. From Galton's own writing it seems that this was a trait he developed during his hospital work and did not previously possess. Galton's scientific look at life might have contributed to his eugenic ideas in that he saw human breeding as a way to improve the human race, while human relationships and love were less important. Within his own marriage Galton valued the connection between him and his wife's intellectual family. As Forrest noted the relationship did not seem based on sexual attraction and Brookes added that the couple had little common interests. Despite these claims for historians Galton himself did call his marriage a happy one.

Second, Galton was a passionate traveller: from 1840 until 1853 he visited the Middle East and Africa. Galton's racist ideas were either formed or strengthened by his travels in Africa. These racist ideas later became an integral part of his ideas on heredity and eugenics. Fancher gives examples of experiences in Africa that Galton possibly used in his works on eugenics. Galton himself also says that what his claims in *Hereditary Genius* is based on his own experience during his time in Africa. It is safe to assume that the differences that Galton saw between the races, which justify his eugenic ideas, were partly formed during his travels.

Another possible influence on Galton's ideas about eugenics might have been his own health, and that of his family, which had often been a source for concern. Good and bad health within his own family could have caused his interest in heredity and inspired his eugenic ideas, as he states among others that his aim is to create *healthy* people.

Another aspect from his personal life that possibly led to Galton's eugenic idea is his own childlessness, as historians Forrest, Gillham and Kevles suggest. Francis and Louisa Galton both had a distinguished heritage, qualifying them as a couple that Galton had in mind that could improve the human race, except for some health issues. Galton's own childlessness

might have frustrated and saddened him and inspired in him the idea that the human race could be improved by eugenically correct breeding.

As Galton himself stated, *On the Origin of Species* inspired his ideas on heredity and eugenics. There is no reason to doubt Galton's claim as he was already enthusiastic about Darwin's book when it was first published, and he continued to show his enthusiasm during the rest of his life. Waller suspected Galton was trying to join Darwin's inner circle to improve his own scientific career, however he does not give any proof to support this theory and it is more likely that Galton was simply inspired by Darwin's theory on evolution and that he felt admiration for his cousin, rather than having ulterior motives to research heredity and eugenics. Waller also states that without Darwin's work Galton's hereditary and eugenic ideas would not even have been formed. This theory seems correct as Darwin's work inspired Galton and gave him the scientific foundation for his ideas. Another factor that seems necessary in Galton's pursuit of heredity and eugenics in his rejection of the Christian faith, as his ideas do not fit within the Christian dogma.

In this first chapter the influences on Galton's first work on eugenics, *Hereditary Talent and Character*, have been discussed. As Galton says, his further work evolved from these first papers. In the next chapter Galton's later works about eugenics will be analysed, looking both at Galton's own ideas and their evolution, and the response that he gained from society.

Chapter 2 Galton develops his ideas and makes them public

In the first chapter of this thesis presented the experiences in Galton's early life which could have formed his eugenic ideas. In this chapter these ideas, the changes that occurred in them over the years, and the responses from the British society will be discussed. The period that is chosen for this chapter stretches from 1865, the year Galton's first work on eugenics *Hereditary Talent and Character* was published, until 1901, when Galton gave a speech on eugenics, the Huxley Lecture, at a time eugenics was gaining popularity in Great Britain.

In 1865 Galton first published his eugenic ideas in *Hereditary Talent and Character,* which formed the basis for his later works on eugenics, however within society at the time there was little interest in his ideas. Nevertheless Galton continued to publish about his ideas in the following decades. In this chapter, Galton's four most important works about eugenics and heredity will be analysed. These are: *Hereditary Talent and Character* (1865), *Hereditary Genius* (1869), *Inquiries into Human Faculty* (1883), *Natural Inheritance* (1889). They have been chosen because Galton himself stated in 1909 that these works contained his most

important ideas about eugenics, in which he still believed at that time.[133] For each of them a summary is given, focusing especially on Galton's thoughts on eugenics. Then, for each work the reviews found in letters, newspapers and journals will be analysed. By doing this both elements of the thesis question: 'what formed Galton's ideas about eugenics, and how did his contemporaries in British society respond to his ideas?', will be answered.

2.1 *Hereditary Talent and Character* (1865)

2.1.1 Galton's ideas about eugenics in *Hereditary Talent and Character*

The article *Hereditary Talent and Character* was divided into two papers that were published in *Macmillan's magazine*. According to Gillham, Galton chose this magazine because he wanted to reach a 'wide, intellectually challenging audience.'[134] In *Hereditary Talent and Character* Galton published his ideas about eugenics for the first time. In the first paper he stated that, contrary to popular belief, talent is inheritable: 'I find that talent is transmitted by inheritance in a very remarkable degree; that the mother has by no means the monopoly of its transmission; and that whole families of persons of talent are more common than those in which one member only is possessed of it.'[135] According to Galton, although little was known about the process of inheritance, animals had been bred to enhance certain features. He argued that humans could be bred in a similar manner, where intelligence would be the most important feature.[136]

To show that talent runs in families Galton listed the names of several notable people and their equally notable family members, focusing on relatively open professions such as law and science.[137] This list showed for example that Senior Classics (the very best students) at Cambridge often came from the same family.[138] This led Galton to believe that talent ran in families and that humans could be, and had to be, bred by selecting the most eminent among the species. According to Galton it was a 'popular belief' that men of great eminence were of 'feeble constitution, and of a dry and cold disposition.'[139] He expected there would be criticism of his plan to breed for eminence because of this popular belief and he rejected this

[133] Galton, *Memories,* 289-290.
[134] Gillham, *Life,* 156.
[135] Galton, 'Hereditary Talent', 157.
[136] Ibidem, 157-158.
[137] Ibidem, 159-162.
[138] Ibidem, 162-163.
[139] Ibidem, 164.

expected criticism: ‘There is no reason to suppose that, in breeding for the highest order of intellect, we should produce a sterile or a feeble race.’[140]

Galton furthermore criticised the medieval church for keeping intelligent men celibate. He argued that the most intelligent people should not be practising celibacy, but should rather procreate.[141] He also objected to the modern practice of intelligent men pursuing a career at a young age instead of starting a family. This practice limited the amount of children that these intelligent men could father. Galton encouraged young intelligent men and women to have as many children as possible.[142]

Galton ended the first paper by explaining his vision of how the human race could benefit from eugenic marriages: ‘What an extraordinary effect might be produced on our race, if its object was to unite in marriage those who possessed the finest and most suitable natures, mental, moral and physical!’[143] He described a Utopia where eminent youths would be examined and when found suitable, they would be rewarded for marrying and starting a family.[144] Galton hoped that his eugenic ideas would become common practice, so that humanity would be equipped to deal with a more complex society: ‘If a twentieth part of the cost and pains were spent in measures for the improvement of the human race that is spent on the improvement of the breed of horses and cattle, what a galaxy of genius might we not create![145]

In his second paper Galton continued his explanation of his eugenic ideas by listing the qualities that made an eminent man: ‘good health, a love of mental work, a strong purpose, and considerable ambition.’[146] According to Galton, the key to improve the human race was good breeding: ‘No one, I think, can doubt, from the facts and analogies I have brought forward, that, if talented men were mated with talented women, of the same mental and physical characters as themselves, generation after generation, we might produce a highly-bred human race, with no more tendency to revert to meaner ancestral types than is shown by our long-established breeds of race-horses and fox-hounds.’[147] To accomplish this better breeding in marriages, humans had to be grouped into ‘castes’. People in ‘caste A’ should be encouraged to marry and produce children, and those in ‘caste B’ should be

[140] Galton, ‘Hereditary Talent’, 164.
[141] Ibidem.
[142] Ibidem.
[143] Ibidem, 165.
[144] Ibidem.
[145] Ibidem, 166.
[146] Ibidem, 318.
[147] Ibidem, 319.

refrained from producing children. Eventually, this would lead to the disappearance of a 'caste B'. [148] Galton visualised a society in which marriage between people from 'caste B' would be discouraged in the same way that marriages between cousins are discouraged.[149]

Galton also argued that illnesses, such as alcoholism and gout, and character traits were inheritable.[150] Descent was just a question of nature, and not of nurture: an embryo stemmed directly from the embryo of its parents. He rejected the view that each child is born with a god-given element.[151] He concluded his article by tackling the ideas of original sin: 'The sense of original sin would show, according to my theory, not that man was fallen from a high estate, but that he was rapidly rising from a low one.'[152]

Concluding, Galton's main idea was that talent was inheritable. He proved this by looking at eminent people and their relations. From this he deduced his eugenic ideas that would form the basis of improvement of the human race. The two main ideas were that a) intelligent people should marry within their own group and b) that they should marry at a young age and have many children. Although the inferior caste should be stimulated not to have children, Galton did not suggest which position in society this group should occupy and how they would be stimulated not to have children.

2.1.2 The reception of *Hereditary Talent and Character*

Galton's eugenic ideas were quite controversial for the time, however the publication of *Hereditary Talent and Character* met with little response within and outside the scientific world. According to Gillham '(…) the article evoked hardly a blip on the contemporary radar screen.'[153] Brookes states that 'given the number of hornets' nests he trampled over so unflinchingly, it is surprising to discover that *Hereditary Talent and Character* aroused barely a response.' He suggests that the tone of the article might have been too off-putting and that Galton tended to 'teeter into fanaticism' and 'overstate his cause'.[154] Perhaps Galton's eugenic ideas and his attack on the church were too controversial for his contemporaries and were not seen as worthy of a response. This explanation by Brookes does not however, clarify

[148] Galton, 'Hereditary Talent', 319.
[149] Ibidem, 319-320.
[150] Ibidem, 320.
[151] Ibidem, 322.
[152] Ibidem, 327.
[153] Gillham, *Life*, 157.
[154] Brookes, *Extreme measures*, 151-152.

why Galton's second work *Hereditary Genius*, which essentially contained the same ideas as *Hereditary Talent and Character*, met with a much larger response.

A possible explanation for this was that Galton was not well known in 1865. Charles Darwin would mention Galton's article in his 1868 book *Variation in Plants and Animals under Domestication*[155] and this possibly made Galton more well-known in British society. Another reason is that *Hereditary Talent and Character* was an article and *Hereditary Genius* was a book. A book might reach a wider audience and be noticed more easily by the press, thus leading to more response.

Upon searching for reviews for *Hereditary Talent and Character* none could be found. Important contemporary journals such as *Nature* and *Catholic World* did not pay any attention to Galton's work. Most surprising is the fact that there was no response from the religious press and religious journals, given the fact that Galton attacked the Catholic Church quite vigorously in his article. The few reactions to *Hereditary Talent and Character* that did appear will be described here.

The first response was a letter from Galton's friend Frank Buckland, which he wrote on May 31st 1865. Buckland's response to the article was very positive: 'Your theory is most excellent, and I shall endeavour to collect facts for you with a view to its elucidation.'[156] Buckland did not comment on Galton's more controversial ideas, which he explained in the second part of the article. Pearson suggests that this might have been caused by the fact that Galton only sent Buckland an advance copy of the *first* part of the article.[157]

Surprisingly, Galton's cousin Charles Darwin did not respond to *Hereditary Talent and Character*.[158] The lack of reaction from Darwin, who Galton greatly admired, probably disappointed Galton very much. Waller even suggests that Galton's mental health problems, that occurred after the publication of *Hereditary Talent and Character*, were partly caused by a lack of praise from Darwin. Waller argues that Galton's mental problems were only finally cured when Darwin mentioned Galton's essay in his book *Variation in Plants and Animals under Domestication* in 1868.[159] This is supported by Galton's admittance in *Hereditary Genius* that he was pleased by being mentioned in Darwin's book: '(…) I feel assured that, in as much as what I then wrote was sufficient to earn the acceptance of Mr. Darwin (…), the

[155] Charles Darwin, *Variation in plants and animals under domestication* (London 1868).[156] Frank Buckland to Francis Galton 31 May (1865), from: Pearson, *Life*, II, 86.
[156] Frank Buckland to Francis Galton 31 May (1865), from: Pearson, *Life*, II, 86.
[157] Pearson, *Life*, II, 86-87.
[158] Ibidem.
[159] Waller, 'Becoming', 150-151.

increased amount of evidence submitted in the present volume is not likely to be gainsaid.'[160] Waller's theory might be correct as Galton highly valued Darwin's opinion and was very happy when he finally responded to Galton's article. Galton's breakdown and his recovery after Darwin's mention of him is his book coincide with Galton's recovery from his breakdown, suggesting the two have a connection.

Concluding, although Galton saw *Hereditary Talent and Character* as a very important work on eugenics, at the time of publication journalists and scientists paid very little attention to it. This shows that Galton was not very well-known around this time. Also, the fact that *Hereditary Talent and Character* was an article and not a book might have contributed to the fact that it met with little response from society.

2.2 *Hereditary Genius* (1869)

2.2.1 Galton's ideas about eugenics in *Hereditary Genius*

Even though Galton did not receive a large response to *Hereditary Talent and Character* he continued his research in heredity and eugenics, leading to his first book on the subject: *Hereditary Genius. Hereditary Talent and Character* formed the basis for this book.[161] The content of *Hereditary Genius* was very similar to *Hereditary Talent and Character,* and the goal of *Hereditary Genius* was mainly to elaborate on the idea of eugenics.

The title of the book refers to the idea that genius is inheritable. Galton's thesis in *Hereditary Genius* was that 'Hereditary Genius' is genetically rather than environmentally determined.[162] The first part of the book was devoted to 'appropriate methods of classification and selection.'[163] Galton examined obituaries to find his criterion of eminence, establishing that one in four-thousand people of the general population of middle age can be considered eminent.[164] Galton rejected the belief that all people are born equal: 'I have no patience with the hypothesis (…) that babies are born pretty much alike, and that the sole agencies in creating differences between boy and boy, and man and man, are steady application and moral effort. It is in the most unqualified manner that I object to pretensions of natural equality. The experiences of the nursery, the school, the university, and of professional careers, are a chain of proofs to the contrary.'[165] According to Galton, people all have a different level of

[160] Galton, *Hereditary genius.* 2.
[161] Forrest, *Francis Galton,* 85.
[162] Ibidem, 88.
[163] Ibidem.
[164] Ibidem.
[165] Ibidem, 14.

intelligence. If people accept this fact by doing work that is most suitable for them, this will give them 'true moral repose.'[166]

In *Hereditary Talent and Character* Galton already proposed that one caste of people should be stimulated to procreate and the other caste should refrain from doing so. In *Hereditary Genius* Galton expanded this idea: 'There is a continuity of natural ability reaching from one knows not what height, and descending to one can hardly say what depth.'[167] Galton used capital letters to represent higher than average intelligence, and small letters to represent lower than average intelligence. 'A' is slightly above average, 'a' slightly below average, 'F' reaches to the levels of genius, and 'f' includes 'idiots and imbeciles'.[168] In Galton's mind 'negroes' did not fit into this scheme, as they have on average a much lower level of intelligence than Caucasians. [169]

To show that talent is hereditary, Galton researched judges in England between 1660 and 1865. He discovered that out of 286 judges, one in nine was the father, son or brother of a judge.[170] This complemented his 'evidence' from *Hereditary Talent and Character* that talent runs in families.

Galton argued again that eminent people should marry at a young age, and that weak people should refrain from marrying at all. However, he was aware that in reality, the opposite is usually the case: 'I shall argue that the wisest policy is, that which results in retarding the average age of marriage among the weak, and in hastening it among the vigorous classes; whereas, most unhappily for us, the influence of numeral social has been strongly and banefully exerted in the precisely opposite direction.'[171]

Galton then discussed the Malthusian idea that all couples should marry late to prevent the world from overcrowding. Galton agreed with this idea, but argued that only intelligent people would be smart enough to understand this concept, eventually causing their number to decrease, and the number of unfit to increase. 'It may seem monstrous that the weak should be crowded out by the strong, but it is still more monstrous that the races best fitted to play their part on the stage of life should be crowded out by the incompetent, the ailing, and the desponding.'[172] Just as in *Hereditary Talent and Character,* Galton blamed the medieval

[166] Galton, *Hereditary genius,* 16.
[167] Ibidem, 26.
[168] Ibidem, 35-36.
[169] Ibidem, 339.
[170] Ibidem, 55-103.
[171] Ibidem, 352-353.
[172] Ibidem, 356.

church from stimulating this process, as they kept the strong and intelligent from procreating due to celibacy in the church.[173]

Galton ended *Hereditary Genius* with his eugenic dream. He envisioned a society in which income would be based on one's qualities and merits instead of one's heritage. Also, he highly valued a society in which 'marriage was held in as high honour as in ancient Jewish times; where the pride of race was encouraged (…) where the weak could find a welcome and a refuge in celibate monasteries or sisterhoods, and lastly, where the better sort of emigrants and refugees from other lands were invited and welcomed, and their descendants naturalized.'[174] This was the first time Galton spoke openly about what should be done with mentally weak people, apart from discouraging them to marry and have children. In the next section we will see how others responded to his controversial ideas.

2.2.2 The reception of *Hereditary Genius*

Hereditary Genius received mixed reviews from Galton's contemporaries. Louisa Galton wrote in her annual record for 1869: 'Frank's book *Hereditary Genius* published in November, but not well received, but liked by Darwin and men of note.'[175] Forrest shares Louisa's opinion that the book was well received by scientists and less so by others: 'In spite of its literary merits the non-scientific reviewers of *Hereditary Genius* gave the book a poor reception, mainly on account of their distaste for Galton's critical strictures on the church and the clergy. The contemporary scientific reviewers were much more positive.'[176] Pearson also comments on the negativity towards *Hereditary Genius*: 'If it met with a cool reception, it was because the world was not ripe for it.'[177] Galton himself noted about the reception of the book: '*Hereditary Genius* made its mark at the time, though subjected to much criticism (…)'[178]

Emel Aileen Gökyigit, however, thinks Forrest and Pearson give a too simple picture of the reception of *Hereditary Genius*. For this reason she further researched the subject.[179] As Gökyigit has done the most extensive research on the reception of *Hereditary Genius* and

[173] Galton, *Hereditary genius*, 357.
[174] Ibidem, 362.
[175] Pearson, *Life*, II, 88.
[176] Forrest, *Francis Galton*, 101.
[177] Pearson, *Life*, II, 114-115.
[178] Galton, *Memories*, 290. [179] Gökyigit, Emel Aileen, 'The reception of Francis Galton's Hereditary Genius in the Victorian periodical press', *Journal of the history of biology* (1994), 217.
[179] Gökyigit, Emel Aileen, 'The reception of Francis Galton's Hereditary Genius in the Victorian periodical press', *Journal of the history of biology* (1994), 217.

most of the reviews about *Hereditary Genius* cannot easily be accessed in full, the next section uses the passages from the reviews mentioned by Gökyigit and other historians when the original complete review is not available.

Gökyigit divides the response to *Hereditary Genius* into three categories: scientific, religious and neutral. 'Neutral' in this case stands for the reviewers who had no religious or scientific basis. She chose this division because these three groups each reviewed *Hereditary Genius* differently.[180] This division is used in this section to discuss the reviews from each of the three groups separately.

2.2.2.1 Response from the scientific group

Galton's cousin Charles Darwin was already an important scientist when *Hereditary Genius* appeared in 1869, and looking back in 1909, Galton says that his opinion was the one he valued most: 'The verdict which I most eagerly waited for was that of Charles Darwin, whom I ranked far above all other authorities on such a matter.'[181] Darwin wrote to Galton to give his opinion on *Hereditary Genius*; he thought very highly of the book: 'I do not think I ever in all my life read anything more interesting and original -- and how well and clearly you put every point! (…)You have made a convert of an opponent in one sense, for I have always maintained that, excepting fools, men did not differ much in intellect, only in zeal and hard work; and I still think this is an eminently important difference.'[182] Galton's response to Darwin's letter was equally enthusiastic: 'It would be idle to speak of the delight your letter has given me, for there is no one in the world whose approbation in these matters can have the same weight as yours.'[183] Although Darwin was partly convinced by Galton's argument, he does not reject his own idea that men differ mostly in 'zeal and hard work'.

Charles Darwin was not the only one within the scientific world who commented on *Hereditary Genius*. Another important scientist who shared his opinion on the book was the naturalist and co-discoverer of natural selection Alfred Russell Wallace.[184] Wallace's review in *Nature* consisted mainly of a summary of the book, while giving a critical note on some points. Wallace responded to Galton's suggestion that the eminent should marry early. Wallace argued that not the amount of children *born*, but the amount of healthy children who *reach adulthood* counted towards improving the race. Prudent men had a better chance of

[180] Gökyigit, ' Reception', 219.
[181] Galton, *Memories*, 290.
[182] Ibidem.
[183] Francis Galton to Charles Darwin, 24 December 1869, from: Pearson, *Life*, I, plate II.
[184] Gökyigit, ' Reception' 221.

producing these healthy children than imprudent men who did not have the means to provide for their children. Wallace agreed with Galton's criticism on celibacy in the church, because this caused the moral deterioration of the human race. Wallace concluded with a compliment on Galton's work: 'These concluding chapters stamp Mr. Galton as an original thinker, as well as a forcible and eloquent writer; and his book will take rank as an important and valuable addition to the science of human nature.'[185] While Darwin was not completely convinced of all that Galton had to say, Wallace shows a higher level of agreement with Galton's argument in *Hereditary Genius,* with Wallace's only critique to look at the amount of children who reach adulthood instead of the amount of children born.

An anonymous reviewer in the *Journal of Psychological Medicine* also responded to Galton's book. As with Darwin and Wallace, the reviewer focused mainly on the scientific element of Galton's work and did not comment on the morality of Galton's eugenic ideas.[186] Gökyigit argues that Darwin, Wallace and the review in the *Journal of Psychological Medicine* all demonstrated an 'essential commitment to an amoral scientism.'[187]

In the light of the extreme forms that Galton's ideas on eugenics would take in the 20th century it is surprising the scientific world did not see any of the dangers that eugenics brought along with it. The scientific group focused on the science behind Galton's work and ignored the morality of his ideas. Perhaps they did this because they saw their own role as objective scientists who only had to look at the scientific aspect of a work and not at the social implications of it.

2.2.2.2 Response from the religious group

While the scientific group had been mainly positive about *Hereditary Genius*, the religious group was not as kind. Gillham reflected on the negativity in the religious press, and how Francis Galton and Louisa Galton reacted to these reviews: 'One can imagine Galton, but perhaps not Louisa, chuckling at scathing, but anonymous reviews in the *Catholic World* and the *British Quarterly Review*.'[188] According to Gillham[189] the religious press was critical of *Hereditary Genius* because of Galton's portrayal of Divines, clergymen who wrote important

[185] Wallace, Alfred Russell, 'Hereditary Genius', *Nature* 17 March (1870) (Electronic version, found at http://people.wku.edu/charles.smith/wallace/S161.htm), 502-503.
[186] Author unknown 'Review of *hereditary genius*', *The Journal of Psychological Medicine: A Quarterly Review of Diseases of the Nervous System, Medical Jurisprudence, and Anthropology*, 4 (1870), 399-417, from: Gökyigit, ' Reception', 221-222.[187] Gökyigit, ' Reception', 221-222.
[187] Gökyigit, ' Reception', 221-222.
[188] Gillham, *Life,* 171.
[189] Ibidem, 165.

theological writings, as not 'an exceptionally favoured race in any respect; but rather, that they are less fortunate than other men.'[190]

Gökyigit says that the religious press was not only critical of Galton's portrayal of Divines: 'Not only did religious audiences not welcome his comments on Divines, they attacked his ideas on free will, charity, and the potential future of the British population.'[191] She states that the religious group viewed Galton as a scientific author, and as a 'follower of a rapidly and aggressively expanding naturalistic movement'. They were angry about what Galton said about Divines and Catholics, and about his scientific reasoning to support his theories.[192] Where the scientific group had praised Galton for the scientific worth of his theory and ignored the moral implications of his eugenics, the religious group saw a threat in his ideas about eugenics and did not care for Galton's scientific reasoning.

One of these religious reviews can be found in *Catholic World*. The main criticism of the author was that the facts presented were used for far more than that they themselves proved, and that Galton attempted to 'induce a law (...) that will hold good beyond the particulars observed and analysed.'[193] The author did not agree with Galton's treatment of animals and humans as similar, which conflicted with common theological beliefs. Gökyigit argues that the reviewer was most likely concerned with the disappearance of the traditional Christian distinction between body and soul.[194] A review in *The British Quarterly Review* shared the negative sentiments that appeared in *Catholic World.* The author of this Protestant review mainly discussed the conflict between science and religion, but also noted the significance of environmental influences.[195] Galton ignored these influences and would continue to do so, leading to criticism from the neutral press in this period of Galton's life, and even in the last decade of his life when Galton's stance on the issue remained the same.

A third religious review, *Hereditary Piety* by Frances Power Cobbe, that appeared in the *Theological Review* in 1870, differed greatly from that of *Catholic World* and *The British Quarterly Review*. While the two previously mentioned reviews were representative of the religious group's reaction to *Hereditary Genius,* Cobbe's review stood out. The negativity of the reviews in *Catholic World* and the *British Quarterly Review* were mainly aimed at modern

[190] Galton, *Hereditary genius,* 274.
[191] Gökyigit, ' Reception', 222.
[192] Ibidem.
[193] Author unknown, 'Hereditary genius', *Catholic World, 11* April-September (1870), 721-722.
[194] Gökyigit, 'Reception', 225.
[195] Author unknown, 'Review of *hereditary genius', British Quarterly Review 51* (January and April 1870), 242-244, from: Gökyigit, 'Reception', 226-228.[196]Frances Power Cobbe, 'Hereditary Piety', *Theological Review, 7* (1870), 211-234, from: Gökyigit 'Reception', 226-228.

science, which attacked traditional theological beliefs. Cobbe's article however tried to fit Galton's scientific ideas into these theological beliefs. According to Gökyigit, Cobbe greatly misunderstood Galton's book and her review was 'a relatively naive attempt to integrate two philosophies that were essentially at odds.'[196] Galton was aware of Cobbe's review at the time and commented on it in a letter to Charles Darwin on 8th of April 1870: 'Miss Cobbe's review is very characteristic. She has not, however, quite caught what I am driving at in religious matters.'[197] Although it is not clear whether Galton knew Miss Cobbe at the time, Pearson states that they were in touch in 1877.[198]

Galton's scientific ideas conflicted with Christian dogma and this conflict was discussed by the religious press. They mostly criticised Galton for ideas such as the stimulation of human breeding.The bible says on this issue: 'God created man in his own image'[199], it is there not up to man to meddle in God's creation of his people.

Gillham suggested Galton did not care much about these critical religious reviews. While it is difficult to prove this, something could be said for Galton not valuing acceptance of the religious group. Cobbe gave a positive review of Galton's book, but had not understood his point in religious matters. Even though Cobbe misinterpreted Galton's ideas on religion, she did try to find a way to draw the two closer together. Galton did not take her review seriously at all and might be content with the visible rift between his ideas on eugenics, heredity and religion and the Christian dogma.

2.2.2.3 Response from the neutral group

The neutral group consisted of those without strong scientific or religious connections. These were mostly literary and political reviews. According to Gökyigit they lacked the extreme positive and negative reviews found in the scientific and religious group and mainly praised Galton for his 'sincerity, ingenuity and intelligence'. However, these reviews also criticised aspects of Galton's methods and conclusions. The main criticism was that Galton did away with educational and social factors and only saw heredity as the factor that formed men.[200]

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[196]Frances Power Cobbe, 'Hereditary Piety', *Theological Review, 7* (1870), 211-234, from: Gökyigit 'Reception', 226-228.
[197] Pearson, *Life,* II, 160.
[198] Ibidem.
[199] Author unknown, *King James Bible,* http://www.biblegateway.com/passage/?search=Genesis+1%3A27&version=KJV, consulted on 4 July (2013), Genesis 1:27.
[200] Gökyigit, 'Reception', 229.

Gillham agrees with Gökyigit when saying that most reviewers felt that Galton had paid too much attention to the importance of heredity and underemphasized the role of nurture.[201]

F.W. Farrar, master of Harrow School and an acquaintance of Galton, was one of the reviewers who shared this criticism. According to Bulmer, Farrar accepted the importance of heredity in the determination of ability, but he did not agree with Galton's argument that it was solely responsible. Farrar stated that the label of 'eminent' was also put on too many men.[202] Bulmer also discusses the review of Herman Merivale, a liberal political economist and professor at Oxford University. Merivale shared the opinion that Galton put too much weight on heredity and ignored social and educational factors. Merivale argued that Galton's extreme focus on heredity was probably caused by his idea that he needed to overcome the misconception against inheritance of ability.[203]

Reviewers from *Athenaeum, Chambers's Journal of Popular Literature* and the *Examiner and London Review* shared Farrar's and Merivale's view that Galton saw heredity as the only factor that influenced man.[204] Galton's ideas about marriage were not seen as a practical way to improve the human race and these ideas were often made fun of in the neutral press. Farrar, for instance, wrote: 'Will our young Fellows and First Class men be wise if they follow Mr. Galton's directions, and marry and multiply as fast as they can, on the calculation that their possibly clever descendants will in three centuries be fifteen times more numerous than they would have been had their marriages been deferred?'[205]

Brookes states that *Hereditary Genius* 'succeeded in creating quite a stir'.[206] Many articles appeared around Christmas 1869, and according to Brookes the review from the conservative magazine *The Spectator* set the tone.[207] It reads: 'His book is a very clever one, though it belongs somehow, with its shrewdness and crotchetiness and acute sense and absurd nonsense, to another age rather than this.'[208]

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[201] Gillham, *Life,* 171.
[202] F.W. Farrar, 'Review of *Hereditary Genius', Fraser's Magazine,* 2 (1870), 251-265, from: Bulmer, *Francis Galton,* 58-59.
[203] H. Merivale, 'Galton on Hereditary Genius', *Edinburgh Review,* 132, 100-125 (1870), from: Bulmer, *Francis Galton,* 57-58.
[204] Author unknown, 'Review of *hereditary genius', Athenaeum, 43:1* (January-June 1870), 85-87. Author unknown, *'Hereditary genius', Examiner London Rev.,* no. 3236 (5February, 1870), 84-85. Author unknown, 'Hereditary talent', *Chambers's Journal of Popular. Literature.,* 4th ser., 7 (1870), 118-122, from: Gökyigit, 'Reception', 232.
[205] Gökyigit, 'Reception', 234-235.
[206] Brookes, *Extreme measures,* 167.
[207] Ibidem.
[208] Author unknown, 'Review of *hereditary genius*', *The Spectator,* 27 November (1869).

The reviews of *Hereditary Genius* in the neutral press all shared one important criticism, namely that Galton paid far too much attention to the factor of heredity, and that he ignored many other possible factors such as education and social conditions. This opinion was shared within the religious group by the reviewer from *The British Quarterly Review*, and would continue to be an important criticism against Galton's ideas for the remainder of his life.

Where the religious press had stated its concern about breeding of humans, be it from the religious convictions, the neutral group did not at all see Galton's ideas on eugenic marriages as practical and mainly made fun of these ideas. The scientific group might not have been concerned about Galton's eugenic ideas because they were mainly concerned with his scientific ideas. Criticism of the moral implication of the eugenic theory would seem an understandable element of the reviews from the neutral group. The reason for this lack of moral criticism is probably because they did not think that Galton's ideas were in any case applicable in society and thought that environmental improvement could help society in a better way than eugenic changes.

2.3 *Inquiries into Human Faculty* (1883)

2.3.1 Galton's ideas about eugenics in *Inquiries into Human Faculty*

During the 1870's eugenics was still Galton's primary focus, however there was now a shift in the emphasis of his research', says Brookes.[209] He explains how Galton was first collecting data of the nation's eugenic assets before his eugenic strategy could be practiced. In 1874 Galton asked schools for data such as age, weight and height of their boys, but his request was mostly greeted with indifference.[210] Galton then switched to analysing the facial features of criminals to see if there were features that showed their criminal mentality. However, such features were not recognizable in the human face.[211] He then switched to studying his own psychology, including pretending to be a spy to experience being insane. By 1879 he then continued to study the mind of others with the questionnaire *Questions on the Faculty of Visualising*, where participants were asked to visualize images of, for instance, a breakfast table.[212] Galton's research of the previous years was compiled in 1883 with his latest book *Inquiries into Human Faculty*.

[209] Brookes, *Extreme measures*, 208.
[210] Ibidem, 208-209.
[211] Ibidem. 210-211.
[212] Ibidem, 211-215.

Galton's book *Inquiries into Human Faculty* consisted mainly of the reprint of papers on his previous psychological work.[213] He started this work with stating his goal: 'My general object has been to take note of the varied hereditary faculties of different men, and of the great differences in different families and races, to learn how far history may have shown the practicability of supplanting inefficient human stock by better strains, and to consider whether it might not be our duty to do so 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.'[214]

Galton then discussed the physical characteristics of man and shows that with composite portraiture typical features of a group or race could be obtained. He did not deny the importance of nurture when it comes to physical build, but he warned that looking at contemporaries would not give a clear picture of progress of the race, as the worst examples of weak individuals are hidden in hospitals and asylums.[215]

This was followed by what is probably the most important term that Galton uses in this work, for it is the first time than he mentioned 'eugenics': 'Its intention is to touch on various topics more or less connected with that of the cultivation of race, or, as we might call it, with "eugenic" questions, and to present the results of several of my own separate investigations.'[216] In the footnote he then explained this term: 'That is, with questions bearing on what is termed in Greek, *eugenes* namely, good in stock, hereditarily endowed with noble qualities. This, and the allied words, *eugeneia,* etc., are equally applicable to men, brutes, and plants.'[217]

Galton continues with a discussion of 'nature and nurture'[218], a subject very important to him. According to Galton, these two aspects of man are often difficult to distinguish: 'Man is so educable an animal that it is difficult to distinguish between that part of his character which has been acquired through education and circumstance, and that which was in the original grain of his constitution.'[219] To gain more insight into the influence of nurture and

[213] Forrest, *Francis Galton,* 161.
[214] Galton, *Inquiries,*1.
[215] Forrest, *Francis Galton,* 161.
[216] Galton, *Inquiries* 17.
[217] Ibidem.
[218] Galton uses these terms in *Inquiries into Human Faculty and its Development* and he first introduced them in his book *English Men of Science: Their Nature and Nurture* from 1874 to make the distinction between what a person is born with, and what influences from outside affect him after his birth. Galton might have taken this term from Shakespeare's *The Tempest.* Bulmer, *Francis Galton,* 61.
[219] Galton, *Inquiries,* 128.

nature Galton had examined twins.[220] He explained that the twins he examined often shared characteristics: 'Among my thirty-five detailed cases of close similarity, there are no less than seven in which both twins suffered from some special ailment or had some exceptional peculiarity.'[221]

Two chapters about religion had been published in Galton's first edition of *Inquiries into Human Faculty,* but were removed in the 1901 edition, amongst them Galton's controversial essay on the efficiency of prayer.[222] The last chapters were devoted to Galton's eugenic ideas. He again argued that early marriage, which generally leads to more offspring, should be encouraged for those who possess favourable hereditary qualities. With a system of marks family merit should be devised so that ancestral and personal qualities could be taken into account. To stimulate those who score high marks in this system to marry young and to marry those best suitable for them, endowments should be provided.[223] These endowments would only be for those with the very best genes: 'The stream of charity is not unlimited, and it is requisite for the speedier evolution of a more perfect humanity that it should be so distributed as to favour the best-adapted races.'[224] For those with insufficient genes, he proposes to practice celibacy: 'I have not spoken of the repression of the rest, believing that it would ensue indirectly as a matter of course; but I may add that few would deserve better of their country than those who determine to live celibate lives.'[225]

In *Inquiries into Human Faculty,* Galton's ideas on eugenics remained the same, but the application of these ideas seemed to become more of a possible reality than the purely utopian fantasies he had shared before. Galton now also thought couples should receive an endowment as a reward for marrying young if they were eugenically fit. He suggested that the unfit should practice celibacy and should be rewarded for doing so. Galton provides scientific evidence that he had collected in previous years to support his theory on heredity and eugenics. However, the most important addition that is provided in *Inquiries into Human Faculty* is the coining of the term 'eugenics'.

[220] Galton, *Inquiries,* 155-173.
[221] Ibidem, 161.
[222] Forrest, *Francis Galton*, 171.
[223] Bulmer, *Francis Galton,* 82.
[224] Galton, *Inquiries,* 219.
[225] Ibidem.

2.3.2 The reception of *Inquiries into Human Faculty*

Inquiries into Human Faculty included similar ideas on eugenics to Galton's previous work. A new aspect was however Galton's questioning of the efficiency of prayer. The book was reprinted twice, one complete reprint in 1892, and a reprint in 1901 that omitted the entire religious section. In the preface of this last edition Galton claimed he dropped this section as the balance of the book would be improved by doing so, and that he did not recant his views on the issue: 'the omission of these two chapters, in which I find nothing to recant, improves, as I am told, the general balance of the book.'[226] Forrest however notes that these were the chapters that received the most criticism after the first publication.[227] The criticism came from Galton's reviewers, but also from his own relatives, who even wished he would remove also the chapter on prayer from a later edition. His sister Emma wrote to Galton on May 2nd 1883 that she enjoyed the parts about twins and the domestication of animals, but was critical on his writings about prayer: 'I cannot help greatly deploring what you have said on Prayer. Whatever may be your ideas, I cannot see any reason for publishing the fact to the world. (…) I do hope in some of the later editions many of your friends will persuade you to abstract that part of your volume.'[228] Galton's cousin Millicent Lethbridge also criticised Galton's chapter on prayer.[229] Even though these reviews by Galton's close family cannot be used as a representation of the common view in society, it is likely that this criticism from his own family, the press and the scientific world, and possibly on the request of his publisher, caused him to drop the chapters on religion in the 1901 edition of the book.

Similar to the religious reviews about *Hereditary Genius*, there was criticism of Galton's plan to breed humans. This time, however, the criticism did not only have a religious foundation but was based on the question if it was ethically right for man to decide about his fellow humans who is worthy to procreate and who is not. This response was found in 'neutral', 'religious' and 'scientific' group that were discussed above. Galton's critique on religion was both criticised and praised by the reviewers.

The reviewer for *Saturday Review* found Galton's work 'very interesting reading', but was sceptical about his eugenics plans for selective breeding: 'we expect little from our short-sighted race.'[230] The review in *The Spectator* was more understanding of Galton's ideas, says Forrest, but it criticised Galton's demonstration that praying was inefficient, stating that

[226] Galton, *Inquiries*, viii.
[227] Forrest, *Francis Galton*, 171.
[228] Ibidem, 172.
[229] Ibidem, 173.
[230] Gillham, *Life*, 207.

people prayed for many different things and that this could not be investigated with statistics.[231]

The Scotsman notes that Galton's latest book, like his other works, had a lot of data, and as many conclusions drawn from this data: 'Every one acquainted with Mr Galton's writings, especially his *Hereditary Genius*, will know what to expect in any book from him – laborious accumulation and sifting of facts, and acute speculation based upon them. Without being a master in science, he is one of its most useful and valuable servants. And (…) he supplies much material for larger and brilliant minds to work upon.' Brookes says that for the general reader *Inquiries into Human Faculty* was mainly a confusing collection of loose facts missing a general theme. For Galton the theme, however, was clear: as before, his goal was the improvement of the human race.[232]

A critical reviewer for the church newspaper *The Guardian* did not agree with Galton on his ideas about heredity and evolution. The reviewer wrote: '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 who come after us.'[233] Gillham adds that this reviewer also questioned who would be justified to decide who is worthy: '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?'[234]

Brookes says that the critics 'most agreed that the biggest barrier standing in the way of eugenics was human nature itself.' He quotes the reviewer form *The Guardian* to illustrate this point: 'The many philosophical suggestions made for improving the human race have, as even Mr Galton must admit, proved futile, because they have left out of the account the most important factor of all, the influence of human will, of taste, of passion, of prejudice, of caprice.'[235]

Galton's acquaintance George Romanes, a psychologist and Darwinian, wrote the most favourable review in the scientific magazine *Nature.* He agreed on Galton's religious ideas, says Forrest, because they were based on 'honesty and common sense'. He was

[231] Forrest, *Francis Galton,* 172.
[232] Brookes, *Extreme measures,* 220.
[233] Forrest, *Francis Galton,* 171.
[234] Gillham, *Life,* 208.
[235] Brookes, *Extreme measures,* 221.

however, like the reviewer from *The Spectator*, critical of Galton's investigation into prayer, saying that not all clergy prayed for a long life, and as clergy lived on average two years longer than others the ones who did pray for a long life might have lived longer due to their prayers.[236]

When searching for reviews from publications such as *Catholic World, The British Quarterly Review* and *The Journal of Psychological Medicine*, all of which published reviews on *Hereditary Genius,* no reviews were found. If they indeed did not publish a review, the question arises why they did not. The two religious publications had been negative about *Hereditary Genius* so a negative review of *Inquiries into Human Faculty* could also have been expected. It is possible that the two religious magazines had lost interest in Galton's work or felt that they had made their point in their review of Galton's previous work and did not feel the need to give another review.

From this varied array of reviews a general picture can be formed. Galton's book was found interesting by his reviewers, but his large amount of data was often found confusing. Galton was mainly criticised on his chapters on religion and on the impracticality and even unethicality of his eugenic plans for humanity. Galton might have taken note of the critical reviews of his chapters on religion as he later removed these. Galton did, however, not alter his ideas about eugenics even though there was criticism on the morality of his plans.

2.3.3 Galton's eugenic research after the publication of *Inquiries into Human Faculty*

Galton's interest in eugenics and heredity did not fade and after the publication of *Inquiries into Human Faculty* he continued collecting data. He expanded his interest from individuals to whole families to see how they aged and how certain hereditary characteristics would show in old age. His goal was that families would keep hereditary records within their own families. Brookes states that like with the earlier schoolboys questionnaire, there was little interest from the public in Galton's plans.[237] This lack of interest disappointed Galton. He thought it was unfair that parents did not cooperate in registering the family's hereditary facts, because they would deprive their children of important knowledge.[238] He had been researching heredity for twenty years and even though there was interest in his writing, the public was not willing to participate in his research and did not see the value in heredity research which he saw.

[236] Forrest, *Francis Galton,* 172.
[237] Brookes, *Extreme measures,* 224-225.
[238] Francis Galton, 'Medical family registers', *Fortnightly review* 33 (1883), 246.

As this method of collecting hereditary information proved to be ineffective, Galton chose a new method. At the International Health Exhibition in South Kensington in 1884 he set up a laboratory where the public could be tested for a three pence fee. Characteristics such as height, weight, hearing and eyesight were tested. The participants were given a card with their results, while Galton kept the duplicate of this card. Galton's anthropometric laboratory was a great success with almost 10.000 people measured when the exhibition closed in 1885. Galton thus had a great amount of data to analyse.[239] He continued his experiment, relocating his laboratory to the Science Galleries of the South Kensington Museum, where thousands more were tested.[240] Galton had found a way to obtain data from the public by presenting them with statistics on their own physique, rather than participating in the research to help Galton obtain his data, which shows that there was still very little appreciation for the value of studying national heredity.

2.4 *Natural Inheritance* (1889)

2.4.1 Galton's ideas about eugenics in *Natural Inheritance*

In his next book, *Natural Inheritance*[241], Galton was able to use the data he had acquired in his laboratory.[242] This book dealt with three questions: 'How do the characteristics of parents relate to those same characteristics in the offspring, what is the relative contribution of each ancestor to the nature of the offspring, and how is it possible to measure the nearness of kinship.'[243] The second and third chapter of *Natural Inheritance* dealt with the first of these two questions. Galton explained how an individual inherits traits from his ancestors, but in some cases certain elements appeared which none of the parents possessed. In these cases the element was called 'latent'. Galton did not know about dominance yet and thus had a different idea about genes that skipped a generation than we now believe.[244]

This section of the book is followed by Galton's explanation of 'sports', the phenomenon that offspring differed greatly from their parents and society as a whole. Galton had been a believer in Darwin's theory of natural selection, however his faith in this theory was challenged when he had discovered 'regression' in his scientific research. Regression meant that human features were pulled towards an average, making changes in the race more

[239] Brookes, *Extreme measures,* 225-228.
[240] Ibidem, 238.
[241] Galton, Francis, *Natural inheritance* (London 1889).
[242] Forrest, *Francis Galton*, 180.
[243] Ibidem, 200.
[244] Ibidem.

difficult. The only way for these to appear, Galton thought, was through mutations that appeared every now and again. People with such mutations were known as 'sports'. In Galton's mind only these sports, who were a rare commodity, could cause changes in the human race.[245]

The rest of the book consisted mainly of Galton's theory on regression and the data that he provided to support his theory.[246] He discussed stature, eye colour, artistic ability and disease to show how these are related from parents to children.[247] Galton's answer to his third question, the possibility of measuring kinship, consisted of a mathematical calculation to define this kinship.[248]

In *Natural Inheritance* Galton's eugenic ideas that had featured prominently in his previously works were not addressed. Galton stated that sports should be preserved but did not explain how this should be done and remained rather vague about this subject. Brookes suspected that Galton avoided this issue because these sports would have to become the 'super-studs of a new breed'. This would potentially cause a conflict with his earlier ideas about marriage, in which monogamy was a key element.[249] It is indeed possible that Galton was vague about the issue of how the race could be improved with sports because he was not sure how this could fit into his eugenic scheme. It was Pearson who would later discover that regression was more complex than Galton's had assumed. Pearson said that Galton was on the right track concerning regression, but he did not understand the concept fully and 'knowledge of multiple regression' was essential.[250] Galton had misinterpreted regression at first and if applied correctly regression would fit into the theory of eugenics.[251]

Natural Inheritance dealt mostly with the science of heredity and Galton said little about eugenics in this book. The biggest change that occurred in this book was the addition of 'sports' and 'regression' by Galton, which complicated his ideas about eugenics, and could be the reason he did not give an explanation of how these sports could improve the race.

[245] Brookes, *Extreme measures*, 233-234.
[246] Forrest, *Francis Galton*, 201-206.
[247] Gillham, *Life*, 263-266.
[248] Bulmer, *Francis Galton*, 232.
[249] Brookes, *Extreme measures*, 235-236.
[250] Pearson, *Life*, IIIa, 78.
[251] Ibidem, 80.

2.4.2 The reception of *Natural Inheritance*

Louisa Galton noted in her diary that *Natural Inheritance* had attracted 'but small notice, it is beyond the range of most minds.' Gillham contradicts this idea and argues that the book was actually largely reviewed.[252] Patrick Geddes from the *Scottish Leader* remarked that Galton 'had the subject of heredity to himself.' He continued that eminent biologists such as Huxley largely stuck to pre-Darwinian problems while Galton was dealing with post-Darwinian issues.[253] Geddes and the critic from *The Spectator* shared the opinion that Galton's book was a large and complicated work, but that it was worth the read.

A reviewer from Nature also commented on the immensity of Galton's work. He compared Galton's work to a tree that is so high that one man looks as far as he can, and the next man starts where the first man finished, 'A similar division of labour would be required in order to survey adequately the imposing scientific edifice which Mr. Galton has constructed; based as it is on a foundation of geometrical reasoning, and culminating in the clouds of biological hypothesis.'[254] A critic from *The Spectator* saw the book as an inspiration for other scientists: 'It lays the foundations of what one day will be a great science, one that will not merely satisfy scientific curiosity, but will be eminently useful to society.'[255]

According to Gillham, this reviewer was right, and he states that both biometrics and social statistics were born from Galton book.[256] With his book Galton gained three disciples: his biographer and mathematician Karl Pearson, zoologist Raphael Weldon and biologist William Bateson. Pearson and Weldon would launch biometrics as a science. Bateson's interest was in discontinuous variation.[257] According to Bulmer Pearson's first reaction to *Natural Inheritance* was 'lukewarm' but Weldon and Francis Edgeworth soon convinced him of the potential of Galton's methods.[258] Pearson later said of Galton's book : '*Natural Inheritance* may be antiquated now, but in the history of science it will be ever memorable as marking a new epoch, and planting the seed from which sprang a new calculus, (…), and valuable in just as many fields of scientific research.'[259] Forrest says that *Natural Inheritance* helped to create two rival schools of heredity, the Biometric School who, like Galton, applied

[252] Gillham, *Life*, 267.
[253] Ibidem.
[254] Author unknown, 'Natural Inheritance', *Nature 39*, 25 April (1889), (http://www.nature.com/nature/journal/v39/n1017/abs/039603a0.html), consulted on 4 July (2013), 603.
[255] Author unknown, *The Spectator*, 2 July (1889), from: Gillham, *Life*, 267.
[256] Gillham, *Life*, 267.
[257] Ibidem, 9.
[258] Bulmer, *Francis Galton*, 202.
[259] Pearson, *Life*, IIIa, 58.

statistical methods to heredity, and the neo-Mendelians who stressed the mutational mechanisms of evolutionary change, were also inspired by Galton's book.[260]

As *Natural Inheritance* does not discuss eugenics at large the concept is not discussed in the responses. The book, however, did inspire people such as Pearson who as scientists would later contribute to Galton's eugenic cause and his research of heredity.

In the years after the publication of *Natural Inheritance* Galton continued his research on fingerprints, heredity and eugenics. Although he wrote about heredity and eugenics, no major works like his earlier books appeared in the period from 1889 until 1901.[261] In his 1894 paper *Discontinuity in Evolution*[262] Galton stressed his idea that evolution proceeds through 'sports', stable mutations that make changes in a race possible because regression does not take place.[263] Another paper from 1894, *The Part of Religion in Human Evolution*, dealt with Galton's idea that his eugenic programme should be 'invested with all the emotional impetus of a religious faith', as Forrest puts it.[264] Galton's eugenic programme still did not recieve the attention he sought. Forrest says: 'Another ten years were to pass before Galton's eugenic proposals were to attract attention; in 1894 they were completely ignored.'[265]

2.5 Sub-conclusion

In *Hereditary Talent and Character, Hereditary Genius* and *Inquiries into Human Faculty* Galton talked extensively about his eugenic ideas. Even though these three works covered a period of almost twenty years, Galton's ideas on eugenics changed little and were mainly extended. Only in *Natural Inheritance* would Galton greatly adapt his ideas about heredity.

In *Hereditary Talent and Character* Galton especially focused on the concept of eminent people having many children and those with bad genes having few children. Intelligent people could achieve this goal by marrying within their group and starting a family at an early age. Galton initially did not mention how the people with insufficient genes should limit the amount of children they have. Galton also described his eugenic dream of how talented young men and women should take tests to prove their eminence and early marriages within this group should be rewarded.

[260] Forrest, *Francis Galton,* 206.
[261] Ibidem, 224-244.
[262] Francis Galton, 'Discontinuity in evolution', *Mind* 3 (1894), 362-372.
[263] Forrest, *Francis Galton,* 232.
[264] Ibidem, 232-233.
[265] Ibidem, 235.

In *Hereditary Genius* Galton added the idea that those with inadequate genes should practice celibacy and should be taken care of in places such as monasteries. Galton's division of 'caste A' and 'caste B' was further expanded into seven intelligence groups above average and seven intelligence groups below average.

In his third work, *Inquiries into Human Faculty,* Galton started to see his eugenic Utopian dream that he had shared in his first two works, as a possible reality. He again suggested that those with good genes should be tested for eminence but added that they should be rewarded for marrying at an early age.

Galton's eugenic ideas were based on the fact that talent is inheritable, and without proof of this heredity his eugenic ideas are worth nothing. Therefore, in all four of Galton's works heredity played a major role. In his first two works Galton's tried to prove the heredity of genius by giving long lists of eminent men. In his third work he added data from, for instance, his twins studies.

In Galton's fourth work, *Natural Inheritance*, Galton showed that his hereditary ideas had changed. He had 'discovered' the concepts of 'regression' and 'sports' and *Natural Inheritance* dealt mainly with these two subjects. It is surprising that Galton's eugenic ideas that were so prominent in his earlier works are nowhere to be found in this last book. As Brookes suggested, perhaps Galton was not sure how he could fit his eugenic ideas into his new hereditary concepts of regression and sports.

Although *Hereditary Talent and Character* formed the basis for *Hereditary Genius* and most of the subjects overlapped, *Hereditary Genius* was much more widely reviewed than *Hereditary Talent and Character.* Brookes suggests that this might have been caused by the fanatical tone of the first work. Because of this reviews might not have seen the article as worthy to review. Another reason why *Hereditary Genius* gained more publicity than *Hereditary Talent and Character* might be that: a) it was a book instead of an article, b) Galton's ideas on eugenics had become more well known in the four years between the two publications as *Hereditary Talent and Character* continued to be read, and c) Darwin had mentioned *Hereditary Talent and Character* in *Variation of Plants and Animals under Domestication* that had appeared in 1868. As Waller suggests the lack for response from Darwin could have caused Galton's mental breakdown, and his reference to the article a few years later could have cured Galton of his illness.

The opinions on *Hereditary Genius* differed greatly. Louisa Galton and Forrest thought that the scientific world received the book well, while others were more negative. According to Pearson the reviews were often negative. Gökyigit, Bulmer, Gillham and

Brookes all agree that the reviews varied greatly. Gökyigit distinguishes three types of reviews: scientific, religious and neutral (void of scientific and religious sentiments). The scientific group mostly praised Galton for his scientific theories and showed no moral objection to his eugenic ideas. The religious group especially attacked Galton for what he wrote on theological subjects. They particularly criticised his thesis that humans can be bred in the same way as animals. One of the religious reviews also questioned the morality of Galton's eugenic ideas. The neutral group praised Galton for his ingenuity, but did not agree with Galton that heredity was the only factor that influenced man. In their opinion social and educational influence also played a significant role. It is surprising, given the later consequences of eugenic thought in the 20th century, that none of the reviewers questioned the possible dangers of eugenics if it would be taken too far. The scientists might not have looked at this issue as they solely focused on the scientific aspects of works that they reviewed.

The religious group was against Galton's eugenic ideas, as they did not fit into Christian theology, and one reviewer questioned the morality of eugenics. Within the neutral group, Galton's ideas on eugenics were not taken seriously as they did not see them as practical and thought nature did not have such a profound influence on humanity that the issue was worthy to address. Even though the 'neutral' group criticised Galton for not acknowledging the influence of nurture on humanity, Galton did not take this criticism into account, as he would not change his stance on this issue for the remainder of his life.

Inquiries into Human Faculty received criticism mainly because of the chapters on religion. Reviewers questioned Galton's research on prayer, and also his family was not impressed by these ideas. On this issue Galton might have listened to the criticism from his family, the reviewers, and possibly a plea from his publisher as he removed the chapters about religion in a later edition of the book. One reviewer questioned whether society would ever practice Galton's eugenic ideas, and another reviewer doubted if these ideas were morally right. On this issue Galton would not take note of criticism as he did not alter his ideas on eugenics and did not show eugenics was morally unacceptable. The form of the book was also judged. Some admired Galton for providing the scientific world with valuable data. However, for most readers this vast amount of loose facts was found confusing.

As *Natural Inheritance* was mostly a scientific book and Galton made no mention of his eugenic ideas there are no critical reviews that address this issue. The book was praised by reviewers for being a possible inspiration for other scientists and for touching on post-Darwinian subjects, such as heredity, that other scientists had paid little attention to. *Natural Inheritance* was Galton's most scientific work and did indeed inspire scientists in the field of

biometrics and social statistics. Karl Pearson, Raphael Weldon and William Bateson became Galton's new disciples.

Chapter 3 Galton and the eugenics movement

As has been shown in the first two chapters of the thesis, Galton's works in heredity and eugenics received little attention, and his eugenic ideas were mostly seen as impractical. Around the turn of the century, when Galton was already in his seventies, his eugenic ideas finally caught on in Great Britain, as well as in other countries such as the United States and Germany.

According to Gillham there were two causes why his ideas suddenly became more popular in Britain. The first was an overriding concern about a possible biological degeneration: statistical data showed that there was a more rapid decline in birth rate in the upper and middle class than in the lower class. The second cause was the fact that the war between the Darwinians and the Church of England was over and evolution by natural selection had achieved widespread acceptance. Galton's ideas now sounded logical and promoters of eugenics such as Galton and Pearson, who could popularise eugenics and justify it with solid scientific arguments, made this change in society possible.[266]

In this final decade of his life more and more people started to support eugenics and it increasingly became a public cause. Galton's shared his ideas in speeches, which were debated by their audiences. Not only were his ideas discussed more often, they were taken far more seriously by his peers. Also, institutions such as the Eugenics Record Office/Eugenics Laboratory and the Eugenics Education Society were initiated. This increased interest in eugenics, along with the new institutions, also had a downside. Galton was no longer in control of his original eugenic ideas, as others were giving their own spin to them. For example, the Eugenics Laboratory and the Eugenics Education Society did not get along with each other and Galton was put into a difficult position, as he was involved in both organisations.

This chapter focuses on the developments of the eugenics movement in Great Britain at the beginning of the 20th century and the second part of the thesis question: 'how did Galton's contemporaries in British society respond to his ideas?', will be answered. In the previous chapter Galton's books and the reviews of these books from the press and his peers were discussed. In the final decade of his life Galton was less active as a scientist and only

[266] Gillham, *Life*, 324.

one book on eugenics appeared, *Noteworthy Families.* Galton did, however, give a number of speeches on eugenics and the responses to three of these speeches are recorded. In this chapter several of Galton's speeches will be analysed.

In 1901 Galton gave an important speech, known as the Huxley lecture. This lecture forms the start of this chapter. In 1904, he gave another speech, now for the *Sociological Society*, called *Eugenics: Its Definition, scope and aims.* And in 1905 he gave two more speeches: *Restrictions in Marriage* and *Studies in National Eugenics*. These speeches and the responses to them will be analysed. Galton was also involved with the more practical side of eugenics and his involvement with the Eugenics Laboratory and the Eugenics Education Society will also be discussed. The last section of this chapter deals with Galton's final work on eugenics, the utopian novel *Kantsaywhere*.

3.1 Galton's speech on *Eugenics, its Definition, Scope and Aims*

In 1900 a new century had begun, and, as Gillham states, British society was becoming more perceptible to eugenic ideas. In October 1901 Galton had the opportunity to profess his eugenic vision at the Royal Anthropological Institute where he gave the second Huxley Lecture and was presented with the Huxley Medal, a medal given to a scientist who is distinguished in the field of anthropological research.[267] According to Gillham the timing was right as social researcher Charles Booth has recently studied the welfare of working men in London and part of his great work, *Life and Labour of the People of London,* was in print.[268] Galton was able to use Booth's successful and large study to promote his eugenics. Booth divided up the population of working men into groups from 'A', the lowest class consisting of semi-criminals, loafers and occasional labourers, up to class 'H' for the wealthy upper-middle class.[269] This division was similar to Galton's division of classes of intelligence in *Hereditary Genius* and he used Booth's data extensively in his lecture.[270] In his lecture he stated that it was most important to focus on the highest classes of intelligence, as reproducing them would improve the race the fastest.[271] An abstract of Galton's lecture was published in the magazine of The Anthropological Institute, and *Nature* published the full article. The lecture however got little response from anthropologists and the general public in Great Britain.[272] But

[267] Forrest, *Francis Galton,* 250.
[268] Gillham, *Life,* 324-325.
[269] Ibidem, 324-325.
[270] Ibidem, 250.
[271] Francis Galton, *Essays in Eugenics,* (London 1909), 1-34.
[272] Forrest, *Francis Galton,* 251.

according to Pearson, 'it attracted more attention and bore ampler fruit in America than in this country.'[273] Even though Booth's research had given Galton a good opportunity to support his eugenic ideas with statistical data, his speech did not receive a large response in Great Britain. That there was attention in America shows that the speech was not completely ignored. Why there were so few comments on Galton's speech could be because the lecture was not read by a large audience or that this audience did not feel the need to commentate. As the responses from the audience of the lecture have not been recorded it is also not known what they thought of Galton's lecture.

Although Galton's Huxley Lecture, that he had given upon winning the Huxley medal, received little response, he was again rewarded a prize for his work as a scientist in the following year: in 1902 he received the Darwin Medal from the Royal Society for his previous works on heredity in and was also appointed as honorary fellow at Trinity College Cambridge.[274] Galton had himself been a member of the Royal Society, an important scientific organisation, since 1860. [275] In announcing the Darwin Medal to Galton, Williams Huggins said it was conferred: 'for his numerous contributions to the exact study of heredity and variation contained in Hereditary Genius, Natural Inheritance and other writings. The work of Mr Galton has long occupied a unique position in evolutionary studies. (…) It may safely be declared that no one living had contributed more definitely to the progress of evolutionary study, whether by actual discovery or by the fruitful direction of thought, than Mr Galton.'[276] Galton had received awards in the past, but the Darwin medal was the first medal he received for his work in heredity, and he was the first to receive a Darwin Medal based on work on heredity.

In 1910 Galton received another award for his work on heredity: it was the most important award that the Royal Society issued, the Copley Medal.[277] Galton had studied heredity for almost forty years before he received his first medal for his research on this subject. This is an indication that by 1902 heredity was finally seen as a serious subject of study among fellow scientists.

As will be shown in the following section, not all who heard Galton's ideas on eugenics in 1904 were however truly convinced. On May 16th 1904 Galton was given another good opportunity to promote his eugenic ideas for a large audience, when he was asked to

[273] Pearson, *Life*, IIIa, 235.
[274] Gillham, *Life*,327-328.
[275] Bulmer, *Francis Galton*, xiv.
[276] Pearson, *Life*, IIIa, 236.
[277] Bulmer, *Francis Galton*, xiv.

give a speech at the meeting of the newly found Sociological Society at the School of Economics and Political Science of London University. He named his speech *Eugenics, its Definition, Scope and Aims.*[278] The speech was attended by an audience who commented on it afterwards. Apart from the audience who heard the speech 'live', it was also read by other scholars who replied to Galton's speech in writing. Galton himself gave a reply to the comments from both these groups. The responses, along with Galton's reply were then published by the Sociological Society in the *Sociological Papers.* A search of newspaper reports about Galton's speech shows that all important comments that were made after the speech were published in the *Sociological Papers* and that none of the more negative comments were altered or removed.[279]

Below, the key arguments from Galton's speech will be discussed, followed by an overview of the responses of fellow scholars. Galton started his speech with the definition of eugenics: 'Eugenics is the science which deals with all influences that improve the inborn qualities of a race; also with those that develop them to the utmost advantage.'[280] According to Galton there was not one single form of 'good', as this varied with the purpose of each person, and also with each animal. His aim was to select the best specimen from each class or race. Galton however stressed that he did not intend that *every* man should be like 'Marcus Aurelius or Adam Bede', as this would make society very dull.[281]

He listed five important qualities on which the selection of that best specimen from each class should be based: 'health, energy, ability, manliness, and courteous disposition.' Next to these five major qualities, he described several other qualities such as the artistic faculties of artists. He then repeated his argument that undesirables, such as criminals, had to be refused the right to reproduce.[282]

Galton again argued that the practice of eugenics would improve the quality of the British nation and that there would be more people of exceptional quality. New, however, was a five-step plan to promote eugenics in society.[283] The first would be spreading knowledge of the laws of heredity and encouraging scholars to do research in this field.[284]

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[278] Galton, 'Eugenics', 45.
[279] Author unknown, 'The science of eugenics. Dr Galton's theory', *Weekly Irish Times*, 28 May 28 (1904), 9, and Author unknown, 'Our London correspondence', *The Manchester Guardian*,17 May (1904), 6.
[280] Galton, 'Eugenics', 45.
[281] Ibidem, 45-46.
[282] Ibidem, 46-47.
[283] Ibidem, 47.
[284] Ibidem.

The second way was enquiring into the rates in which various classes in society have contributed to the population, in modern society and in ancient times. Galton argued that the rise and decline of nations is connected to this influence, and that it was common practice in several high civilizations to 'check fertility in the upper classes.'[285]

The third way was the systematic collection of facts that would show how large, thriving and intelligent families originated. The information that members of these families should provide had to be easily obtainable, for example information about the circumstances of the parent's marriage. This information could then be used to determine if the eugenic character of the marriage could be predicted. By the collection of these facts the public would familiarize itself with eugenics and acknowledge it as a serious scientific study.[286]

His fourth point that was that he envisioned that social circumstances, and not love, should be dominant in defining which people married whom in society. He hoped that non-eugenic marriages would be banned and disfavoured in the same way as cousin-marriages.[287]

Galton's fifth and final point was that persistence would be of vital importance in promoting eugenics. Three stages should be passed through. First, eugenics should be a familiar academic question to be understood and accepted as a fact. Second, it should be accepted as a practical development that deserves serious consideration, and third, eugenics should be introduced to national conscience, 'like a new religion'. At that time eugenics was mainly still an academic question and not ready to be put into practice, Galton said.[288]

Eighteen people responded to Galton's speech and their comments were published together with the speech in the *Sociological Papers.* The group mainly consisted of scientists, doctors and writers. Among these scholars were also the female philosopher of language Lady Victoria Welby and doctor Alice Drysden Vickery.[289]

The commentators generally believed that not enough was known about heredity to put Galton's eugenic ideas into practice and that more research was needed before eugenics could become part of society.[290] Some of the reviewers however argued that inheritance was too random to be relied on. Dr Maudsley, for instance, gave the example of William Shakespeare who was the only distinguished person in his family.[291] These reviewers did not

[285] Galton, 'Eugenics'47-48.
[286] Ibidem, 48-49.
[287] Ibidem, 49-50.
[288] Ibidem, 50.
[289] Ibidem, 52-78.
[290] Ibidem, 52-78.
[291] Ibidem, 53-54.

address the morality of Galton's eugenic ideas, but rather already questioned the previous step involved in the process of eugenics: the reliability of heredity that was needed to practice eugenics. Bateson and Weldon agreed that more research was needed but differed in their opinion of how this research should be conducted. Bateson thought more breeding experiments should be done in laboratories, while Weldon valued quantitative research as this enabled generalizations about larger groups.[292] Other reviewers suggested collecting information on diseases from life-insurance companies and data on hygiene and the anthropometry of school children.[293] The commentators that did see the point of research on heredity, but differed in their opinion on how this should be done.

The commentators also varied in their opinions on which role the environment could and should play in improving the race. Their comments resemble those on *Hereditary Genius* that said that Galton did not pay enough attention to nurture. Galton had not modified his thought on the influence of nurture on the race, and therefore it is not surprising that the comments on this issue were similar those that were made almost forty years earlier. As there was still little known on heredity, several scholars suggested that improving the race should be done by improving people's living conditions. Dr. Robert Hutchinson, for example, argued that better food would greatly improve the population.[294] Mr Elderton, an actuary, did not agree with Hutchinson on the value of environment and stated that 'environment operates merely as a modifying factor after heredity has done its work.'[295]

Although there was a common agreement among the commentators that not enough was known about heredity to actively promote eugenics into society, several scholars gave suggestions of how heredity and eugenics could be accepted in science and society. Sociologist Benjamin Kidd believed that a science of society needed to exist before a science of eugenics could be introduced.[296] Archibald Reid thought scientists of biology and medicine should work together closely so that they could exchange valuable information. If heredity could become part of the medical training, physicians could preach eugenics to their patients.[297] Galton's ideas on eugenics thus were taken seriously by some of his peers and they even thought of ways to use them in practice.

[292] Galton, 'Eugenics', 56-58, 64-65.
[293] Ibidem, 62, 67.
[294] Ibidem, 58.
[295] Ibidem, 62.
[296] Ibidem, 61.
[297] Ibidem, 68,72.

H.G. Wells and John Robertson both suggested that 'failures' should not breed. They had however different opinions of who these failures were. Both saw the mentally insane as failures, but where Galton argued that criminals should not reproduce, H.G. Wells thought that they still possessed good qualities and they should be able to breed.[298] Robertson made a further distinction among handicapped people. There had to be a difference between the mentally unsound and the physically frail or physically handicapped, who could still be very intelligent.[299]

The two women who responded to Galton's article argued that more attention should be paid to the woman's role in eugenics and the characteristics of women in general. It was only these two women, and none of the men, who specifically focused on the role of women in eugenics. Alice Drysdale Vickery stated that women should be treated better if we wish to produce a well-developed race.[300] Lady Welby was mostly concerned with teaching girls and women the value of mothering a good race.[301]

The last subject commentators replied to was the issue of love. Robertson thought it was not possible to ignore this factor in the choice of marriage partners.[302] George Bernard Shaw, however, argued that love was not an important factor and that people did not carefully choose their spouse. The most important issue was marrying inside caste. Shaw was very enthusiastic about Galton's ideas for a eugenic religion and agreed that it was the only way to save the race. Shaw however had a far more radical idea of how reproduction should take place: he suggested that individuals should be able to have intercourse for the sole purpose of reproduction, without having a relationship with the other person.[303] For Galton's time this was a very radical idea as reproduction was still seen as something that only happened within the marriage. Apart from Shaw, there were however no other commentators who mentioned that not being married does not prevent people from having sex and having children.

In his reply Galton noted that much of what was said by his commentators was relevant forty years ago, but was now obsolete as there was now an accurate measurement of statistical effects.[304] He then commented on a few remarks made by those who discussed his speech. Wells argued that the American term 'stirpiculture', on which the term 'eugenics' was

[298] Galton, 'Eugenics', 59.
[299] Ibidem, 73.
[300] Ibidem, 60.
[301] Ibidem, 76-78.
[302] Ibidem, 73.
[303] Ibidem, 74-75.
[304] Ibidem, 78.

based, was a better word than 'eugenics'. Galton stated that he had come up with both terms and had deliberately changed stirpiculture for eugenics.[305,306] Furthermore, Galton denied Dr. Hutchinson's claim that the importance of environment was greater than that of stock, and said that breeding was most valuable in the multiplication of the best variants.[307] Galton valued Mr Elderton's suggestion of using data from insurance companies to gain information about disease and fertility. He did however note that data on that subject was already obtained twenty years ago for one of his investigations.[308] Galton lastly stated that he did not 'attach much importance to Mr Kidd's points.'[309]

Overall Galton did not seem impressed by the comments made on his speech. He thought they were out-dated and were only relevant many years ago. He selected minor details to comment on and, surprisingly, did not at all respond to the radical ideas suggested by Wells and Shaw. These radical ideas might have seemed too radical for Galton and he could have been offended by the suggestion, or not have taken the comments seriously and thus did not feel the need to comment on these ideas in his reply.

Concluding, Galton's ideas on nature and nurture had largely remained the same. It was therefore not surprising that Galton received the same comments as forty years earlier, namely that his ideas showed a lack of attention for nurture. Galton also disagreed with the claim that heredity was not predictable enough to rely on to improve the human race. He found this a 'dated' argument, because he had focused on eugenics for forty years and knew all there was to know about eugenics and heredity at that time. Galton was thus ahead of his contemporaries on these subjects. His audience lacked much knowledge, mostly because his research had largely remained a private investigation.

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[305] Galton, 'Eugenics', 78.
[306] Galton first used the word eugenics in 1883 in *Inquiries into Human Faculty* but he there says it was 'at least a neater word and a more generalised one than *viriculture* which I once ventured to use.' Galton, *Inquiries*, 17. Judging from this quote Galton based his new word on viriculture and not on stirpiculture. The Oxford English Dictionary defines stirpiculture as 'The production of pure races or stocks by careful breeding' and cites the American J. H. Noyes as the first one to use this term in 1870. Author unknown, 'Stirpiculture', *Oxford English Dictionary* (2013), http://www.oed.com.ezproxy.leidenuniv.nl:2048/view/Entry/190512?redirectedFrom=stirpiculture#eid, consulted on July 1st 2013. Judging from these sources it seems Noyes and not Galton invented the term stirpiculture.
[307] Galton, 'Eugenics', 78-79.
[308] Ibidem, 79.
[309] Ibidem.

3.2 Galton's speeches *Restrictions in Marriage* and *Studies in National Eugenics*

In 1905 Galton had another opportunity to speak before the Sociological Society. He gave two speeches, one on *Restrictions in Marriage* and one on *Studies in National Eugenics.*
In his speech on *Restrictions in Marriage* Galton argued that restriction in marriage is a common practice around the world due to legal, religious and social customs. Galton used this speech as a counterargument to those who claimed that eugenic marriage restrictions would not work as they interfered with the freedom of marriage.[310] He gave examples from marriages with a basis of monogamy, endogamy, exogamy, and a complex Australian tribe system of marriage.[311] Galton also discussed how incestuous marriages were prohibited and frowned upon in his own time, but were custom in ancient times. Galton hoped that in time, people would start to regard a non-eugenic marriage in the same way as the marriage between siblings.[312] Galton's last example was the interference of religion in preventing marriage in the form of celibacy.[313] Galton concluded that the subjects he discussed all featured restrictions in marriage due to legal, religion and social customs. Those people that live under the rules accept them without objection. Galton hoped to change Britain's religion and its marriage practices to fit into his eugenic scheme.[314]

In his second speech, *Studies in National Eugenics*, Galton listed seven subjects concerning eugenics that, he thought, needed investigating. The first subject was the 'average quality of the offspring of married couples from their personal and ancestral data.'[315] Secondly he thought further research was needed into the effects of state and public institutions on eugenics. Thirdly, he wished that his fellow scientists would investigate influences that encourage, or on the other hand restrain, certain classes to marry. The fourth subject that needed more research was heredity. Fifthly, he argued that the existing body of literature on eugenics should be 'hunted out and catalogued'. Sixth, he wished that students in eugenics could stimulate 'others to contribute to their inquiries'. Galton ended by stating that he hoped that in time, a certain organisation would provide certificates for those fit to marry and reproduce.[316]

[310] Galton, Francis, 'Restrictions in Marriage and Studies in National Eugenics', *Sociological Papers* 2 (1906), 3.
[311] Ibidem, 4-8.
[312] Ibidem, 8-11.
[313] Ibidem, 11-12.
[314] Ibidem, 12-13.
[315] Ibidem, 14-15.
[316] Ibidem, 14-17.

Both of Galton's speeches were followed by responses from his audience, next to a number of written comments on a written version of Galton's speech. Twenty-seven of these responses have been included in the publication of the *Sociological Papers,* along with Galton's reply to these comments. Judging from a newspaper search on the reports on this lecture it does not seem that important comments were removed from the publication.[317] In this section, the responses to Galton's speeches and Galton's comments to these responses will be discussed.

Galton's audience at his two speeches from 1905 differed from the audience that heard *Eugenics, its Definition, Scope and Aims* in 1904. The group of respondents was larger in 1905, and also contained foreign respondents. As this thesis focuses on the responses to Galton's work in Great Britain, these foreign responses are not discussed here. The group consisted mainly of scientists, such as sociologists, anthropologists and biologists, and also contained doctors. Some of the respondents were famous for their work as social reformers or feminists.

Galton's speeches were mostly received positively. The most positive response came from the philosopher and social critic Bertrand Russell, who said: ' I (…) agree entirely with the view that marriage customs might be modified in a eugenic direction.'[318] The evolutionary biologist Edward Poulton also agreed with Galton's ideas and stated that he admired Galton's papers on the subject.[319]

There was also some critique, especially on Galton's list of marriage types. Mr. Skrine[320] noted that Galton had not mentioned the concept of polyandry[321], which could be used as a device to lower the birth rate.[322] Chairman and sociologist Edvard Westermarck said Galton had forgotten to mention the African practice where men first had to prove themselves before they obtained the right to marry. Westermarck thought doctors should have a voice in who is allowed to marry, and that 'the unfit' should not marry at all.[323] Dr. Drysdale was however convinced that the unfit could marry, but the amount of children they have should be

[317] Author unknown, 'To improve the race. Interesting researches by the Francis Galton laboratory', *The Observer*, 7 April (1907), 3.
[318] Galton, 'Restrictions', 47.
[319] Ibidem.
[320] As Mr. Skrinke's first name is not given it is not clear who this man is.
[321] The concept of a woman having several husbands at the same time.
[322] Galton, 'Restrictions', 22-23.
[323] Ibidem, 23-24.

limited.[324] Dr. Frederick Mott argued that the unfit should be segregated from the fit, and this meant that unfit children should be taken away from their parents.[325]

Physician and social reformer Henry Havelock Ellis questioned what Galton meant by the term 'marriage'. In Galton's description this included reproduction, but in Havelock Ellis' opinion a marriage was a sexual union that could remain childless. He also questioned whether the marriage restrictions Galton had in mind would be voluntary or legal. Havelock Ellis also doubted whether humans are equipped to breed other humans; with the breeding of animals this is done by another, superior, being: the human. Breeding of man should therefore be done by a *superhuman*. In the case of breeding animals, sometimes when one trait is improved, the general condition decays, and Havelock Ellis therefore doubted whether general improvement of the human race was indeed possible.[326] Where Shaw has proposed that children could be born outside of a marriage, Havelock Ellis stated that having children was not the aim of every marriage. Galton never spoke about contraception in any of his writing, and, as Forrest notes, this could be because found the subject distasteful, or that he did not wish for eugenics to be associated with the birth control pioneers.[327] Writer Alfred Henry Huth thought that only those of sound mind would be able to commit to not having children. The unfit would not be able to voluntarily commit to this, even though they are the ones the rules would be aimed at.[328] Mr. Carrel was also concerned that the less-sufficient people would interbreed and deteriorate that part of the race as they were condemned to breed together.[329]

While some scholars argued that state interference in marriage was necessary to improve the human race, others thought that people could also become involved in this process by themselves. The scientist C.A. Witchell, for instance, thought love was the most important factor in marriage and could be used to the advantage of eugenics if further research would be done one why people fall in love.[330] Sir Richard Temple, a politician, argued that when people would see the benefit of a eugenic marriage, it would become part of their instinct in selecting a mate.[331] Suffragist and feminist Millicent Fawcett thought many social

[324] Galton, 'Restrictions', 25.
[325] Ibidem, 19.
[326] Ibidem, 27-28.
[327] Forrest, *Francis Galton*, 262.
[328] Galton, 'Restrictions', 28-30.
[329] Ibidem, 46.
[330] Ibidem, 47-48.
[331] Ibidem, 38-39.

problems would disappear if responsibility for the future generation would become part of the conscience of man.[332]

Victoria Welby, who had also been present at Galton's first speech for the Sociological Society, again spoke about the role of original racial motherhood, that she had mentioned the year before. She also noted that the breeding of the most fit is of importance, and that it was necessary to improve the living conditions of a race to meliorate it.[333] Dr. Alice Drysdale Vickery, who was also present at Galton's previous speech, again focused on the role of women in eugenics. Vickery argued that providing women with an income and anti-conception would make them more independent. This would make women able to choose their spouse by themselves.[334] Similar to Galton's speech from 1904, only women commented specifically on women's issues.

In his reply to the comments Galton stated that he was happy that no one opposed his claim that restrictions in marriage have been widely accepted. Although Galton thought it was too early to give certificates to those fit to marry and reproduce, he argued that the issue of reproduction of the unfit should be dealt with right away. Galton then commented on the concern that breeding for a certain trait would cause general decay in the person. He planned to breed for overall efficiency and not only for certain points: 'No question has been raised by me of breeding men like animals for particular points to the disregard of all-round efficiency in physical, intellectual (including moral) and hereditary qualifications.'[335] Galton also did away with the concern of interbreeding within the inferior group. 'Regression towards mediocrity' would insure that 'their offspring as a whole would be superior to themselves.'[336]

Galton also clarified his idea of love, as he had failed to make this clear in the speech itself. In his reply, he explained that there are two types of love: infatuation and being completely in love. He hoped he could prevent infatuation by making an uneugenic match taboo; those looking for a spouse would turn their thoughts elsewhere if the object of their affection was not a eugenically correct partner for them.[337]

Concluding, in the two speeches analysed in this section, Galton discussed restrictions in marriage and studies in national eugenics. These speeches were met mostly with positive responses. In Galton's speech in the previous year there was a lot of doubt whether eugenics

[332] Galton, 'Restrictions', 46-47.
[333] Ibidem, 43-45.
[334] Ibidem, 21-22.
[335] Ibidem, 50.
[336] Ibidem, 50.
[337] Ibidem, 49-51.

and heredity were reliable enough to build upon, which irritated Galton. This feeling of doubt is not prominent in the responses to Galton second and third speech, and Galton's reply to these two speeches is also more positive. Whereas he focused on small issues in the reply to his speech in 1904, he now looked at the bigger picture in 1905 and chose to clarify some of his respondent's concerns.

3.3 The Eugenics Record Office (1904) and the Eugenics Education Society (1907)

In 1904 Galton gave his speech *Eugenics: its definition, scope and aims* for the Sociological Society. In this speech he had argued that more research was needed into the subjects of heredity and eugenics. In the last decade of his life, he put this idea into practice by establishing two organisations, the Eugenics Record Office, which would later be called the Eugenics Laboratory, and the Eugenics Education Society. These two organisations took over Galton's research on and promotion of eugenics. In the next section, the work of these organisations will be discussed to show how Galton's contemporaries actively promoted and researched eugenics themselves, instead of only commenting on Galton's ideas. It will be shown that while the Eugenics Laboratory and the Eugenics Education Society were both initiated by Galton and did research on the exact same subject, they were involved in several conflicts with each other.

Around 1904, Galton still wanted to do research on eugenics, but because of his high age he was no longer capable of collecting and analysing all the data himself. In order to continue his research, he provided University College London with a five-hundred pound per year fund for a research fellowship. The research fellow that was chosen was Edgar Schuster, one of Weldon's best students in the field of biometrics at Oxford.[338] Miss Elderton was hired as an assistant to take on the administrative load at the Record Office, despite the fact that Galton felt uneasy about entrusting a woman with academic work.[339] Galton and the University's principle Arthur Rücker feared that Karl Pearson, who had established the Biometric Laboratory in 1903, would interfere with the research fellows' work. It was therefore decided that the Eugenics Record Office and Pearson's Biometric Laboratory should be kept strictly separate.[340]

[338] Gillham, *Life*, 330.
[339] Forrest, *Francis Galton*, 262 and Pearson, *Life*, IIIa, 278.
[340] Arthur Rücker to Francis Galton', *Galton Archives (1904*), from: Forrest, *Francis Galton*, 260.

Research fellow Schuster's first task was to sort through questionnaires and compile them into a biographical index of gifted families.[341] This index helped Galton significantly in writing his next book *Noteworthy Families*.[342] The book was however not a great success, with only eighty copies sold after three months.[343] Another task that Galton proposed was the collating of biographical information from families of below the average in health, intelligence and physique, including the families of criminals, to establish whether their breeding should be restricted.[344] Schuster also wrote two of his own papers during his time with the Eugenics Record Office. He did not, however, stay long, resigning in May of 1906 to return to Oxford.[345]

Galton then asked for Pearson's advice, who reluctantly proposed to direct the Eugenics Record Office; he was afraid that the new task would change his close friendship with Galton.[346] Surprisingly, considering his earlier objection to Pearson's involvement in the Eugenics Record Office, principal Rücker did object to against the plan. Galton changed his will to include that after his death he would provide thirty-thousand pounds for a professorship of eugenics. Karl Pearson would then become the first to have this professorship.[347] A new research fellow was appointed and the Eugenics Record Office was henceforth called the Francis Galton Laboratory for the Study of Natural Eugenics; the Eugenics Laboratory for short.[348] Galton's new laboratory would become a centre for the publication and dissemination of information about National Eugenics. Whereas Pearson was first kept from interfering with the Eugenics Record Office, he had now become the director of the new Eugenics Laboratory. Galton was slowly leaving more of his former responsibilities in Pearson's hands in order for him to eventually take over the task of researching eugenics. This transfer of responsibilities would be completed when Pearson become the first holder of the Galton Chair of Eugenics after Galton's death.

Within this new organisation of which Pearson was now in charge, there were also some personnel changes. Ethel Elderton was promoted from desk clerk to scholar. [349] Elderton, a fervent eugenicist, would remain with the Eugenics Laboratory until 1933. The

[341] Forrest, D. W., *Francis Galton. The life and work of a Victorian genius* (London1974), 262.
[342] Francis Galton and Edgar Schuster, *Noteworthy families* (London 1906), vii-viii.
[343] Murray, John to Francis Galton, 30 June (1906), Galton Archives, from: Forrest, *Francis Galton*, 269.
[344] Forrest, *Francis Galton*, 262.
[345] Ibidem, 269.
[346] Pearson, *Life*, IIIa, 299.
[347] Ibidem, 300.
[348] Forrest, *Francis Galton*, 270.
[349] Gillham, *Life*, 334.

mathematician David Heron became the new research fellow. His first investigation was into the fertility rates of different social groups in London. Heron found that the working class was making a disproportionate contribution to the population because they had relatively many children per household. These results backed Galton's claim that the lower classes had too many children, which caused the race to degenerate.[350] Schuster and Heron also researched several other subjects, all relating to eugenics. They wrote their own papers on these subjects and also provided Galton with data he could use in for instance *Noteworthy Families.*

Galton valued research on eugenics and heredity, but his aim was to practise his eugenics in British society. By December 1906 he thought the time was right to start an association of capable men who were interested in eugenics. He asked his friend and neighbour Montague Crackanthorpe for advice on the issue.[351] Crackanthorpe happened to know the social activist Sybil Gotto and introduced her to Galton.[352] Gotto shared Galton's idea to form a society to educate the public about eugenics. Galton was enthusiastic and the two spread this idea amongst their friends.

They drafted a proposal about a eugenics society at a meeting for the Committee of the Moral Education League. Gotto hoped this league would give her the backing of the medical establishment that would be necessary to make her new organisation successful. It was decided at the meeting that a new organisation, the Eugenics Education Society, should be formed. It would branch off from the Moral Education League as a separate entity.[353] The main task of this new organisation was to educate the public about eugenics and convince them of its importance. The main difference between the Eugenics Laboratory and the Eugenics Education Society was that the first was a scientific organisation researching heredity and eugenics to improve the knowledge on the subject so that eugenics could eventually be put into practice. The latter, on the other hand, researched eugenic subjects and published articles on these subjects, with the intention of promoting eugenics.

In the spring of 1908 Crackanthorpe asked Galton to become the honorary president of the Eugenics Education Society. [354] According to Bulmer, Galton accepted 'rather reluctantly';[355] since an honorary president was not actively involved in the work done by the society. Galton read a speech before the society and, according to Gillham, it 'was one of the

[350] Brookes, *Extreme measure,* 282.
[351] Pearson, *Life,* IIIa, 339.
[352] Gillham, *Life,* 335-336.
[353] Ibidem, 336.
[354] Ibidem, 336.
[355] Bulmer, *Francis Galton,* 84.

clearest expositions of eugenic philosophy' he had ever given.[356] In this speech Galton discussed how he was inspired by the Cambridge men to study eugenics in the first place. Galton then shared how his ideas developed and how he thought the race could be improved. He ended his speech with his wish that those who attended now were convinced that eugenics was not only a utopian idea, but was a 'living and growing science, with high and practical aims.'[357]

Even though he had been reluctant to accept the position of honorary president at first, several months later Galton was very enthusiastic about the Eugenics Education Society in a letter to Pearson on July 10th 1908: 'That Eugenics Education Society seems really promising (…) The prospectus has been re-worded and members are coming in. Mrs Gotto is marvellous in her energy.'[358] Galton once more addressed the Eugenics Education Society in a speech on October 14th 1908. The subject of this speech was the formation of local associations, aided by a central society, to promote eugenics. These associations would give lectures on eugenics. A recurring subject in Galton's speeches and books was the rewarding of young eugenically fit couples. In this speech he entrusted the local associations to provide these couples with a financial reward.[359] Galton said that although 'negative' eugenics (preventing the marriages and reproduction of the exceptionally unfit) was more pressing than positive eugenics, this issue would soon be attended by legislature, due to a recent report from the Royal Commission on the Feeble Minded. Galton expected that a discussion in society about the negative eugenics would start soon.[360]

In 1909 the Eugenics Education Society published its first issue of their magazine *Eugenics Review*. In the foreword to the first issue Galton wrote that the *Eugenics Review* was published to acquire new members for the Eugenics Education Society. Its goal was also to give expression to the Eugenic Movement and to spread the issues on a scientific basis. By publishing the journal, Galton hoped that a wider audience would be reached who could solve social problems with the help of eugenics.[361]

The publication of the *Eugenics Review* led to a series of disputes between members of the Eugenics Laboratory and the Eugenics Education Society. Both organisations did research on eugenic subjects and published about their findings. The difference between them was

[356] Gillham, *Life*, 336.
[357] Pearson, *Life*, IIIa, 348-349.
[358] Ibidem, 342.
[359] Galton, *Essays*, 100-109.
[360] Ibidem, 100.
[361] Galton, Francis, 'Foreword', *Eugenics Review* 1 (1909), 1.

however that the research of the Eugenics Laboratory had a more solid scientific foundation. Because of this, they did not want be associated with the Eugenics Education Society as they feared it would damage their reputation.[362] It is understandable that these two organisations did not get along as their work interfered each other and they did not always have the same ideas.

The first dispute between the two organisations was caused because Pearson, chairman of the Eugenics Laboratory, did not want to have work from his own organisation published in the *Eugenics Review*. Gotto was not happy with this news, says Gillham, and a fissure opened between the two organisations.[363] By April 1909 Pearson wrote to Galton about another dispute between him and Gotto. Gotto wanted to use forms to collect pedigree information and Pearson was only willing to do this on the condition that Gotto returned the used forms upon completion. Gotto however did not agree. In his return letter Galton suggested Pearson should correct Gotto if she overstepped her boundaries: 'You will, of course, gently snub Mrs. Gotto, if she goes too far in her zeal.'[364]

Pearson was not only in conflict with Mrs. Gotto. In 1909 one of the members of the Eugenics Education Society, Caleb Saleeby, had attacked the work of the Eugenics Laboratory and Pearson wrote to Galton that this had made him very upset.[365] Galton wrote back to Pearson that he could respond to Saleeby's allegations. It would however look bad that members of the two eugenics organisations had a dispute and this would give ill-wishers an opening to criticize the organisations.[366]

Meanwhile the Eugenics and Biometrics Laboratories were publishing a large number of memoirs with Galton's support. These memoirs that were written by the employees of the Laboratories were on subjects like alcoholism, insanity, tuberculosis and albinism.[367] A milestone for the Eugenics Education Society was the publication of *Parenthood and Race Culture* in 1909 by Caleb Saleeby, one of the members of the Eugenics Education Society. The book was dedicated to Galton, who gave a somewhat positive response to the book in his letter to Millicent Lethbridge: 'I read it in proof and, though there is much I would myself strike out, expect it will do good. He has eminently the art of popular writing with fluency.'[368]

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[362] Gillham, *Life*, 339.
[363] Ibidem.
[364] Pearson, *Life*, IIIa, 379.
[365] Forrest, *Francis Galton*, 282 and Pearson, *Life*, IIIa, 397.
[366] Pearson, *Life*, IIIa, 397.
[367] Gillham, *Life*, 340.
[368] Francis Galton to Millicent Lethbridge, 22 May (1909), Galton Archives, from: Forrest, *Francis Galton*, 282.

In his book, Saleeby stressed the deleterious effect of alcohol and said it was likely to produce feeble-mindedness in the offspring.[369]

Pearson and Elderton investigated the correlation between alcoholism and heredity and wrote in a summary in *The Times* that there was no obvious relation between alcoholism and how the offspring turned out. They did suspect that alcoholism itself had a hereditary basis.[370] The Eugenics Education Society was campaigning against alcoholism and this article in *The Times* did not go down well with Crackanthorpe. He wrote in *The Times* that the relationship between alcoholism and heredity was too complex an issue for biometry to deal with.[371] This remark was not well received by Pearson and Galton, who were firm believers in biometry. Galton responded with his own letter in *The Times* and disputed Crackanthorpe's claims on the value of biometry.[372] Although the Eugenics Laboratory and the Eugenics Education Society both researched eugenics they had conflicting interests on this subject. The former only wanted to improve the knowledge on eugenics and was not concerned with the fact that their finding that alcoholism did not influence one's offspring, was in conflict with the interests of the Eugenics Education Society, which actively campaigned against alcoholism.

The many disputes between the Eugenics Laboratory and the Eugenics Education Society put Galton into a difficult position, due to the fact that he was connected to both organisations.[373] The public had been confusing these two groups and Galton felt the need to clarify their role to the public in another letter to *The Times*. In this letter he wrote 'Permit me, as the founder of the one and the honorary president of the other, to say that there is no other connection between them. Their spheres of action are different, and ought to be mutually beneficial.' According to Galton, the goal of the Eugenics Laboratory was to permit highly trained experts to gather and analyse masses of data pertinent to eugenics, while the *raison d'être* of the Eugenics Education Society was 'to popularize results that have been laboriously reached elsewhere and to arouse the enthusiasm of the public.'[374]

For a long time Galton had been the 'isolated, outspoken voice' of eugenics, Brookes says, but 'now he could only watch as the popularity of his ideas overtook him.'[375] His contemporaries now not only commented on Galton's ideas, they did their own research, often

[369] Forrest, *Francis Galton,* 282.
[370] Gillham, *Life,* 341.
[371] Pearson, *Life,* IIIa, 405-406.
[372] Ibidem, 406-407.
[373] Gillham, *Life*, 341.
[374] Pearson, *Life,* IIIa, 408-409.
[375] Brookes, *Extreme measures,* 288.

without Galton's involvement. By the end of his life his work on eugenics had been taken over by others to continue after his death. The Eugenics Laboratory and the Eugenics Education Society both had different interests and when these interests interfered with one another the members of the two organisations clashed. According to Pearson and Forrest, Galton was troubled by the conflict between the Eugenics Laboratory and Eugenics Education Society, and he even thought about giving up his presidency of the Education Society.[376] Forrest suspects Galton did not resign because his resignation would destroy the Society and he believed the popularisers were as valuable to his eugenic cause as the researchers.[377]

3.4 *Kantsaywhere*: Galton's last work

In the final year of his life Galton fantasised about a eugenic utopia in his novel *Kantsaywhere.* According to Gillham, *Kantsaywhere* 'expressed more clearly than any dry scientific paper or popular article what (…) [Galton, L.M.] hoped eugenics would achieve.'[378] The main character in this story was I. Donaghue, a professor of vital statistics, who had visited the fictional colony Kantsaywhere. In Kantsaywhere the citizens were examined to determine which function they will have in life. The unfit were placed in labour colonies and were treated well if they did not reproduce, as the state saw procreation by the unfit as a crime. The 'middle class' received a second-class certificate and was allowed procreate, but with certain reservations. The 'first class' received a certificate and could choose a spouse and reproduce freely. During his visit to Kantsaywhere, Donaghue became infatuated with Miss Augusta Allfancy, who had received a first class certificate, and Donaghue hoped to do the same.[379] Donaghue also received a high score on the test and was able to accompany the Allfancy's to locations around the colony to which they were invited. Donaghue then continues to describe to colony itself. Only Pearson's copy of the novel survived, but without its ending, so this is not known.[380]

Galton's story in *Kantsaywhere* was similar to the fantasy that he had shared in *Hereditary Talent and Character* and *Hereditary Genius* about his ideal eugenic society. This again shows that Galton's ideas on eugenics had remained largely the same during the course of his life. In December 1910 Galton invited a publisher over to talk about his book.[381] When

[376] Forrest, *Francis Galton*, 284 and Pearson, *Life*, IIIa, 432.
[377] Forrest, *Francis Galton*, 284.
[378] Gillham, *Life*, 343.
[379] Ibidem, 342-343.
[380] Pearson, *Life*, IIIa, 422-424.
[381] Gillham, *Life*, 344.

the publisher rejected his work, Galton wrote to Millicent Lethbridge on December 28th that she had to destroy the book. Galton wrote: *'Kantsaywhere* must be smothered or be superseded. It has been an amusement niece has cleared my thoughts to write it. So now let it go to "Wont-say-where".'[382] Galton's cousin Eva Biggs also hoped that the book would not be published, as she objected to some of the love scenes. When Pearson visited Galton for the last time on December 29th Biggs urged Pearson that if Galton should mention the novel, he should convince him not to publish it.[383]

During their last conversation together Pearson and Galton spoke about the work of Eugenics Laboratory and the shortcomings of some of the members of the Eugenics Education Society. When Pearson bid Galton farewell he saw 'no greater cause for anxiety that at any period in the past five years' that he would lose Galton.[384] Pearson had 'no thought in his mind that (…) [he L.M] should not see him again, and that in another three weeks (…) [he L.M.] should be standing at his grave-side.'[385] On January 17th 1911 Galton passed away from an attack of bronchitis and heart failure.[386] Galton's last work on eugenics, *Kantsaywhere*, was supposed to be destroyed. One of Galton's nieces however had second thoughts and handed the rest of the book over to Pearson, who published parts of it in his biography.[387] Thus, after his death Galton's vision of a perfect eugenic world was preserved and his thought would live on in the novel.

3.5 Sub-conclusion

Galton had spent most of his life researching and writing about eugenics without gaining many supporters. In the last decade of his life British society became more receptive to his ideas for two potential reasons. The first was the possible biological degeneration of the British race, caused by a decline of the birth rate in the upper and middle class. The second cause was the fact that the war between the Church of England and the Darwinians was over and evolution by natural selection had achieved widespread acceptance.

In 1901 Galton spoke about eugenics at the second Huxley Lecture. His speech received little response. In 1904 hediscussed what research on eugenics was needed to eventually make it of society in his speech before the Sociological Society, *Eugenics, its*

[382] Pearson, Karl, *The life, letters and labours of Francis Galton. Volume 3b* (Cambridge 1930), 616.
[383] Pearson, *Life*, IIIa,, 411-412.
[384] Ibidem, 432-433.
[385] Ibidem, 432-433.
[386] Ibidem, 433.
[387] Ibidem, 411-412.

definition, scope and aims. This speech was met with more positive responses, but there was also a lot of doubt as to whether enough was known about heredity to rely on eugenics. Galton was unhappy with this critique, and stated that this was the same argument he had received forty years earlier. Eugenics had been a private investigation for most of his life, so nobody was as up to date about the research of heredity and eugenics as Galton was. The audience also thought that not enough attention was given to the role of nurture in the improvement of the human race. This argument had also been present in 1869 in response to *Hereditary Genius*. Galton had not changed his stance on the influence of nurture, and apparently his contemporaries shared their ideas with the audience for thirty-five years earlier.

Galton's second and third speech before the Sociological Society in 1905, on marriage and eugenics studies, were met with mostly positive responses. Galton's ideas about restrictions in marriage were largely accepted by the audience, much to Galton's delight. There were however still some doubts, concerning bree In 1901 Galton spoke about eugenics at the second Huxley Lecture. His speech received little response. ding for a trait, interbreeding of the inferior group and the importance of love in choosing a partner. Galton addressed these issues in his reply to take away the concerns of the redpondants. That the audience was more positive in these 1905 speeches than they had been in 1904 shines through in Galton's reply. Where he had been annoyed at the lack of knowledge of his contemporaries in 1904 and responded by focusing on minor details instead of the entire picture, in 1905 Galton responded to several doubts that his audience had and replied to their remarks in general, instead of focusing on minor details.

In the final decade of his life Galton was involved less in research himself, but he inspired others, such as Pearson and Gotto, to continue his work and spread his eugenic ideas. Even though Galton believed in the importance of both the Eugenics Laboratory and the Eugenics Education Society, the two groups did not get along and even argued in public. Galton was concerned about the reputation of the organisations. The arguments caused him much stress and he even thought about resigning from the Eugenics Education Society. It is not surprising that the two organisations were in conflict with each other, as they both had a different goal with their eugenic research. Where the Eugenics Laboratory was a scientific organisation that focused on the improvement of knowledge on eugenics and heredity, the Eugenics Education Society did research to promote eugenics and had their own agenda, such as the prevention of alcoholism. It is shown in this section that Galton was shedding his responsibilities on eugenics and passing these on to others as he was an old man and would soon not be around anymore to work on eugenics. This is mostly visible in his relationship

with Karl Pearson who took over Galton's eugenic research and would become the first professor of eugenics.

Conclusion

The research question of this thesis was: 'what formed Galton's ideas about eugenics and how did his contemporaries in British society respond to his ideas?'

It has been shown that Galton's eugenic ideas were mostly formed in the first forty years of his life, in the period until 1865. In his youth Galton was stimulated to excel and was given all the opportunities to do so by his parents. However, Galton was not able to excel because his own capacities limited him in achieving this. Fancher claims that Galton's own limitations and his frustration at not being the best inspired Galton to aim to improve the human race. This claim seems plausible, as the improvement of intelligence was one of the most important elements of Galton's eugenic ideas. Furthermore, Galton divided society up into different levels of intelligence and stated that all people have their own limitations when it comes to intelligence. Galton argued that people would be most happy if they worked within their own capacities. This reflected Galton's own experience, as he was unhappy when he had to achieve more than he was capable of.

Galton himself said that his eugenic ideas were also inspired by his experience at Cambridge, where he observed that Senior Classics often came from the same families. He also saw that family members such as brothers, fathers and sons, showed the most resemblance when it came to intelligence. This observation made him curious and Galton would spend much time on researching heredity. None of the biographers contradict that Galton was inspired at Cambridge and this experience seems to be an important basis for his eugenic ideas.

Brookes and Bulmer view Galton's ideas on eugenics as very scientific and argue that they lacked emotion. Brookes states that Galton's 'emotional detachment' was formed during his hospital work and thinks Galton developed it as a way to cope with the emotionally straining work. Bulmer agrees, but thinks this emotional detachment could also have been part of Galton's character. Judging from what Galton says, he developed this self-protection mechanism during his hospital work as he states that initially, he had much trouble with the work and was only later able to block this. It therefore seems like Bulmer's claim is incorrect, as Galton first did not show signs of this detachment and only developed it later on.

Galton's travels abroad are seen as a source of inspiration for his ideas on eugenics by Fancher. He supports this claim by showing the similarities between what Galton wrote about

Africans in his travel journals and his later works and eugenics. The resemblance is clearly visible, which makes Fancher's arguments plausible. In *Hereditary Genius* Galton himself also recalls that he had seen that the African peoples were less intelligent than Caucasians. The source of Galton's racism is however unclear. Before Galton began his travels, he never made any remarks on this subject. It is thus not clear whether his racism was caused or increased by his experiences in Africa. In any case, racist ideas were an important part of Galton's ideas and they were at least inspired by his travels.

According to Forrest, another possible influence on Galton's eugenic ideas were his mental issues. Although he does not elaborate on this point, it seems plausible that Galton's mental problems influenced him in the formation of his eugenic ideas. Not only had Galton been limited in reaching the top by his insufficient intelligence, his was also not able to pursue his studies as he had a mental breakdown due to stress. As intelligence and health are two important elements from Galton's eugenic ideal it is possible that his own experiences with limitations in these field inspired his ideas on eugenics.

Sandall argues that the fact that Galton had a handicapped sister also unconsciously influenced his eugenic ideas. Galton stressed the importance of good health and spoke about those who are 'crippled' and the 'suffers at home'. Sandall's argument is plausible, because Galton indeed specifically spoke about the crippled and those that suffer at home, as his sister Adèle had done.

Forrest, Kevles, Sandall and Gillham suspect that Galton's childless marriage was of influence on the formation of his eugenic ideas. Forrest observes that Galton's eugenic ideas were formed in the period that his marriage remained childless. As Galton indeed developed his eugenic ideas at a time when his marriage remained childless it is quite possible that Galton was thinking about his own marriage when he developed his ideas on eugenics. Kevles, Sandall and Gillham think Galton was frustrated because he and Louisa fit his profile of a good eugenic couple, but did not produce any children. Galton and Louisa fitted Galton's profile of a eugenic marriage, except for some health issues. Galton had chosen Louisa partly for her distinguished family and her high level of intelligence, hence it is indeed probable that Galton was frustrated and/or saddened by his own lack of offspring and that this made him believe that eugenically fit people should produce as many children as possible. Galton also thought that having children was the most important element of a marriage, and he saw a eugenic marriage as the best way to produce a better human race.

Galton himself stated that Darwin and his *On the Origin of Species* were the most important sources of inspiration for his eugenic ideas. Galton's biographers confirm this, but

two historians have their doubts. Schwarz Cowan claims that Galton was not enthusiastic about Darwin's book when he had first read it. She bases this on part of a letter from Galton to Darwin. However, on reading the *complete* letter it is clear that Galton was very enthusiastic about Darwin's book when it was first published. Schwartz Cowan's claim is thus incorrect. Waller suggests that Galton did not study eugenics because he was interested in the subject, but that he used the subject of heredity to join Darwin's inner circle and quickly gain acclaim as a scientist. Waller does not give evidence for this claim and it is therefore not very convincing. It is probable that Galton was indeed inspired by Darwin to take an interest in heredity and eugenics.

A final element that made Galton's ideas on eugenics possible is his break with Christianity. His ideas on eugenics were very much in conflict with Christian dogma and if Galton had been a devout Christian he could not have formed his eugenic ideas, because these could never be combined with Christian theology.

This thesis has also focused on the response from society to Galton's ideas, which came after his first publication in 1865, *Hereditary Talent and Character*. It is surprising that Galton's radical and controversial ideas triggered very little response. Brookes suspects that Galton's ideas were *too* radical and were not seen as worthy of a response. This does not, however, explain why Galton's second work *Hereditary Genius*, which contained much of the same arguments and had a similar tone, did trigger a large response. Another explanation is that Galton himself was not well known enough for a large audience to read his article. After Darwin mentioned Galton's article in 1868 more people became familiar with his ideas. Also, the fact that Galton published an article instead of a book limited his possible audience.

Galton second work, *Hereditary Genius,* did receive a large response. Gökyigit divides the response into three groups of reviewers. Within the scientific group there was mostly interest in Galton's scientific arguments and Galton's peers did not make any comments on the morality of his ideas. It is possible that these scientists did not see it as their task to discuss the morality of Galton's ideas. Within the religious group there was much objection to Galton's eugenic ideas, because they were heavily in conflict with Christian dogma. The third, neutral group criticised Galton for not acknowledging the influence of nurture on the improvement of the human race. It might be expected that this group would have the most moral objections to Galton's ideas, as they did not focus on the elements of science and religion, but they did not take Galton's ideas on eugenics seriously and even made fun of them.

For *Inquiries into Human Faculty* the criticism was largely directed at Galton's ideas on religion and whether his eugenic ideas were morally acceptable. Galton responded to the criticism on religion as he removed these chapters from a later edition of the book. It is noteworthy that this was the first time that Galton took criticism into account and altered the text of his work.

Natural Inheritance was different from Galton's previous works as it was mostly a scientific book and eugenics was not an important element in the book. The critics thus commented mostly on Galton's scientific work and saw the book as a possible inspiration for other scientists. The book would prove to be an inspiration for the three scientists Pearson, Weldon and Bateson.

Galton responded to criticism of his chapters on religion in *Inquiries into Human Faculty* by removing these sections. However, when it came to the subject of eugenics itself, Galton almost never responded to criticism and he hardly changed his eugenic ideas. This is shown by the fact that Galton received the same criticism in 1869 as in 1904, namely that he showed a lack of attention to the influence of nurture on the improvement of the race. This was indeed quite logical since Galton did not take the arguments of his critics into account and published the same ideas in 1904 as he did in 1869. A possible explanation for Galton's unwillingness to change his ideas is the fact that he mostly worked alone. He was never forced to change his eugenics ideas and was able to expand them without having to modify them. That Galton still believed in his original eugenics ideas can also be seen in the following quote from 1908: 'On re-reading these articles, I must say that, considering the novel conditions under which they were composed, and notwithstanding some crudeness here and there, I am surprised at their justness and comprehensiveness.'[388]

In the last decade of his life Galton unable to do much eugenic research himself, but he did give a number of speeches. The respondents to his speech *Eugenics, its Definition, Scope and Aims* from 1904, doubted whether there was enough knowledge on heredity to use it as a basis for the practice of eugenics. This argument annoyed Galton as he claimed that forty years ago his critics made the same comment, and he argued that much more was known about eugenics now. The second criticism was Galton's lack of attention for nurture.

A remarkable comment came from Bernard Shaw, who suggested that people could conceive children with other people who had the right genes, without having any further relationship with them and should not be judged for doing so. Galton did not respond to this

[388] Galton, *Memories*, 289.

comment as he might have found it too radical and it did not fit into his own vision of eugenics, in which children were born into eugenic marriages. Havelock Ellis commented on Galton's speeches from 1905 by saying that a marriage did not have to feature children. For Galton himself and the other commentators marriage and children were however intrinsically connected. They thought that by preventing marriage they could prevent people from having children, as they did not view conception as something that happened outside of the marriage.

The responses to Galton's speeches show that British society began to view eugenics more and more as a practical option, instead of a theoretical concept that they did not need to take seriously. This is also reflected by the fact that two organisations were founded: the first being the Eugenics Record Office, which was founded by Galton and would later be led by Pearson under the name Eugenics Laboratory, and the second being the Eugenics Education Society, to which Galton had no other connection than his formal title of honorary president. That these two organisations were able to function without Galton's interference shows that his ideas had been taken over by others. The most important person to continue Galton's ideas on eugenics was Karl Pearson, who continued the Eugenics Laboratory and would eventually be named the first professor of eugenics after Galton's death.

Shortly before his death Galton wrote his very last work on eugenics, the novel *Kantsaywhere*. In this book, Galton elaborated on the eugenic utopia, which he had first spoken about in 1865. The utopian society of the fictional colony *Kantsaywhere* was founded on a selection system of the best species to improve the human race. Although his eugenic utopia did not become a reality, Galton's eugenic ideas were passed on to his followers who continued his eugenic dream. They could however not predict that the concept of eugenics would have disastrous consequences such as the Mengele experiments and the philosophy of the Nazi party in Germany. With his concept of eugenics Galton had unknowingly opened Pandora's box.

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