
Charles Darwin

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La teoria dels gens de Mendel ja havia desmuntat en època de Charles Darwin (encara que ell no els va fer mai cas) les "teories evolutives dins d'una mateixa espècie" defensades per la Zoonomia del seu l'avi Erasmus Darwin que proposava l'herència dels trets adquirits i la Pangènesi, teoria ja defensada per Anaxàgores, Demòcrit i els tractats hipocràtics segons la qual cada òrgan i estructura del cos produïa petits sediments anomenat gèmmules, que per via sanguínia arribaven als gàmetes. L'individu es formaria gràcies a la fusió de les gèmmules de les cèl·lules, un concepte del clàssics desmuntat pels gens de Mendel

Amb només 16 anys Darwin va entrar a la Universitat d'Edimburg a fer estudis medicina, que va deixar paulatinament de costat per dedicar-se a la investigació dels invertebrats marins. Durant l'any i mig d'estudis de medicina, només va entrar 2 cops al quiròfan de l'hospital, ja que li causava una profunda impressió negativa. «Això era abans dels dies del cloroform», va escriure a la seva autobiografia. Després, va anar a la Universitat de Cambridge per esdevenir clèric però en lloc d'això va estudiar ciències naturals convertint-se en naturalista, fins el punt que als vint-i-dos anys, quan va ser assignat naturalista del Beagle, tot i que no era encara un "naturalista acabat", tenia un coneixement general sobre una àmplia varietat de camps científics, i per això s'el va escollir, no com ajuda psicològica al capità Robert FitzRoy. (el que s'havia suïcidat era el capità de la 1^a expedició)

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Mendel presentà els seus treballs a les reunions de la Societat d'Història Natural de Brno[4] el 8 de febrer i el 8 de març de 1865, i els publicà posteriorment amb el títol d'Experiments sobre la hibridació de les plantes el 1866 a les actes de la Societat. Els seus resultats foren ignorats completament, i passaren més de trenta anys perquè els reconeguessin i els entenguessin.[5] Curiosament, el propi Charles Darwin va desestimar el treball de Mendel, segons afirma Jacob Bronowski a la seva obra L'ascens de l'home.[6]

Segon viatge del Beagle

Robert FitzRoy va ser reassignat com a comandant del Beagle. El 27 de desembre de 1831 el Beagle va partir en una nova expedició que havia estat retardada en diverses ocasions. Hi viatjava Charles Darwin com a naturalista de l'expedició. El Beagle va retornar el 2 d'octubre del 1836.

QUESTIONS ABOUT DARWIN (si algú ho demana ho traduiré)

Who was Charles Darwin?
What did Darwin look like?
What were some of his other physical attributes?
What was Darwin like as a child?
How did his love of natural science develop?
What did Darwin accomplish while at medical school?
How was his thirst for science nurtured at Cambridge University?
What kind of music did Charles Darwin like?
What sorts of literature did Darwin like?
What was Darwin's family life like?
What were Darwin's views on politics?
What were Darwin's religious views?

Who was Charles Darwin?

Most people know that Charles Darwin was the father of evolutionary biology. However, what is not widely known is what sort of a person Charles Darwin was. In an attempt to remedy this situation, this section of AboutDarwin.com will allow the reader to get to know Darwin on a very personal level.

What did Darwin look like?

Charles Darwin stood about 5 feet, 11 1/2 inches tall and weighed, after his famous Beagle Voyage, 148 pounds (10.5 stone). Judging from older photographs, it is likely that he gained a bit of weight in his later years. He had dark brown hair, with a receding hairline on his forehead, and thick curly sideburns. His piercing blue-gray eyes were set off by large overhanging bushy eyebrows. In his elderly years his hairline receded a great deal, his face turned a healthy ruddy color (his complexion often gave people the mistaken impression that Darwin was in fine health!), and his forehead developed deep horizontal wrinkles. In January 1866 he grew a large flowing unkempt gray-white beard, perhaps to hide the ravages of health problems, or to prevent people from recognizing him. His plan worked, for while attending a meeting of the Royal Society on 27 April hardly anyone recognized him, even his closest friend, Joseph Hooker!

What were some of his other physical attributes?

Most of Darwin's physical characteristics are known from his later years, as described by his children. Charles Darwin had no natural grace of movement, and was awkward with his hands. He walked with a swinging action, striking his cane loudly on the ground as he went. Indoors his step was slow and labored. He became excited when engaged in conversation and was very animated and bright eyed, even when he was in ill health. He often used hand gestures when talking, perhaps as an aid to himself, rather than to the listener. In old age Darwin stooped a great deal. He had a hearty laugh, often raising his hands or bringing them down with a slap on his thighs. It is known that Darwin sometimes spoke with a stutter. Apparently, when puzzled during a conversation he pronounced the first word of a sentence with a slight stammer, mainly words starting with the letter "W". Another interesting attribute is that unless a topic of conversation was related to his current research, Darwin was very slow at forming the wording of an argument. The flow of his conversation with others must have been difficult to follow, for he would often go off on a tangent this way, then another tangent that way, in whatever topic he was discussing.

What was Darwin like as a child? (up to about age 9)

In his Autobiography, Darwin (called Charley and Bobby during this time) describes himself as being a rather "naughty" child. This is borne out in his stories of stealing fruit from the orchard trees on the side of his parents' house, making up wild stories, and striving to be the center of attention in the family. His sister, Caroline, may have helped him become the center of attention by blaming him for everything that went wrong in the household, much to Darwin's dismay. He was also a very clumsy boy. Darwin recounts one story of his childhood in which he was strolling along a stone wall, apparently lost in thought, and walked right off the edge and fell about eight feet to the ground! Darwin had excellent athletic abilities, being a swift runner and an excellent rock thrower. There are some indications that he was a rather gullible child. On one occasion a childhood friend of Darwin's convinced him that if he went into any shop in Shrewsbury and wore a special hat which he moved in a certain way for the shopkeeper, he could take whatever he wanted for free. Well, Darwin tried the hat in a bakery shop, took some cakes, moved the hat for the shopkeeper, and headed out the door. Imagine the shock when the man made a rush for poor Darwin as he dropped the cakes ran for dear life!

Ironic as it may seem, Charles Darwin was a lazy young man, and a slow learner in school. He was at first educated by his sister, Caroline, before attending Revd. Case's grammar school in Shrewsbury. He was a rather shy student but he did take great pleasure in showing off his athletic skills to the other school boys. It is not known how well Darwin did at Revd. Case's school, but it is safe to say that he was likely an unremarkable student.

The first sparks of interest in natural history were developed very early in his childhood. Darwin relates how his mother, Susannah, taught him how to change the color of flowers by giving them water mixed with food coloring. He was also, at a very early age, interested in the variability of plants, and was perhaps influenced here by the gardens his father kept at the house. As a young boy he delighted in collecting minerals, insects, coins, stamps and other odd bits. Darwin did not, however, put much study into these objects, and seems to have collected them for the mere pleasure of it. Darwin also had an extreme fondness of dogs - easily winning their affection, and took great pleasure in fishing along the River Severn that flowed along the back of his parents' house.

How did his love of natural science develop?

When Darwin was nine years old his father sent him to Revd. Samuel Butler's school in Shrewsbury. It was a boy's boarding school, but for Darwin it had the great advantage of being just across the river from his father's house, so he was able to visit home many times a week. At this school Darwin learned the classics, ancient history, and Greek, all of which he found entirely boring. He had a particularly hard time learning Greek and struggled along by memorizing bits of phrases and stringing them together to form sentences (of course, he entirely forgot these memorized bits within a few days). It is safe to say that Darwin was a slow learner in his youth. He was not inspired much by his schooling, and found his only pleasures there in reading Shakespeare's historical plays, the poems of Byron, Scott, Thomson, and the Odes of Horace. His increased interest in natural science was spurred on by events outside his formal education. These events were: (1) the many hikes he went on in Northern Wales, (2) a book he read many times during this period, and (3) helping his brother, Erasmus, in his chemistry lab in the backyard.

(1) Hiking - In his youth Darwin was quite an active hiker, and spent much of his summer vacation time in Northern Wales with his family. Anyone who has been to this part of Britain is aware of the incredible natural beauty of the area. It was here that Darwin spent his warm summer days collecting sea shells, minerals, insects, geological specimens, and whatever else interested him. The primary influence of Northern Wales on Darwin was the exposure to the incredible beauty and variety of nature.

(2) Book Reading - One book that influenced Darwin a great deal in his youth was titled "Wonders of the World." It may have been this book that first put the idea into Darwin's head to explore exotic foreign lands.

(3) Chemistry - When Darwin was thirteen years old (in 1822) his brother, Erasmus, built a small chemistry

lab in the garden shed in back of the house. Darwin acted as assistant to his older brother, and they often worked into the late hours of the night experimenting with chemical reactions and producing various gases. It seems no one approved of Darwin's foray into chemistry. His classmates poked fun at his new hobby by calling him "Gas Darwin", the headmaster of the school scolded him for wasting his time with such non-sense, and his sisters feared his would blow-up the house! Darwin learned many things in his brother's lab, the most important of which were the proper methods of scientific experimentation - a set of skills that would greatly benefit him in his future career as a naturalist. When Darwin was sixteen years old (in 1825) his father, Robert, took him out of Revd. Butler's school due to him not paying attention to his studies, getting poor grades, and his excessive laziness. It is ironic to think that his father declared to him that he "cared for nothing but shooting, dogs, and rat-catching, and you will be a disgrace to yourself and all your family." Darwin left Butler's school as an entirely unremarkable student, and none of his instructors marked him out as possessing any noteworthy abilities.

What did Darwin accomplish while at medical school?

Poor young Darwin had no particular focus in his life at this time, so his father decided he would follow in the long line of doctors in the family and study medicine. Darwin was to be admitted into Edinburgh University, in Scotland - known as having one of Europe's most distinguished medical schools. During the summer Darwin acted as assistant in his father's medical practice, treating poor people, children and women. Much to his father's surprise, young Darwin seemed to enjoy medicine a great deal.

In October of 1825 Darwin started medical school at the University of Edinburgh. His brother joined him there to study for his exams, having completed most of his medical studies at Cambridge. They took lodgings together across the street from the university on Lothian Street. As it was at Revd. Butler's school, his studies at Edinburgh were for the most part a waste of time for Darwin. The only lectures that interested him were those of Professor Thomas Hope's chemistry class. He attended the geology lectures of Professor Jameson but, ironic as it may seem, the subject bored him, and he vowed never to read or study the subject again. It is common knowledge that Darwin loathed the sight of blood, and this is said to have prevented him from pursuing a medical career. While this is true to a certain extent, what mostly stopped him was that he found medical studies an extreme bore - he wondered what his father ever saw in him that led him to think he would make a good doctor.

Once again Darwin's increased interest in natural science was nurtured from outside his formal studies. This was accomplished in many ways: (1) Darwin learned how to stuff animals, (2) he read a very interesting book on natural history, (3) he spent much of his time at the natural history museum in Edinburgh, (4) he joined the Plinian Society, and (5) he became a good friend of Professor Robert Grant.

(1) Stuffing Animals - John Edmonstone, a freed black slave from Guyana, South America, had settled in Edinburgh and made his living teaching medical students the fine art of taxidermy. He lived just down the street from Darwin, and they soon became good friends. In February 1826 Darwin paid Mr. Edmonstone to teach him how to stuff animals, and as a bonus, Darwin had the opportunity of drilling him with questions about his homeland in South America. Over the next few months Darwin's head was filled with vivid pictures of the tropical rain forests of South America, and this sent his imagination spinning. His talks with John ignited the spark inside Darwin's mind to desire to travel to South America, a dream that was to be fulfilled a few years later, while the taxidermy skills Darwin learned were indispensable during the Beagle voyage.

(2) Natural History Book - During the summer, after his first year at medical school, Darwin spent much of his time hiking around northern Wales and reading Revd. Gilbert White's book: "The Natural History of Selborne" (published in 1789). This book taught Darwin to appreciate the richness and beauty of birds, insects, and other creatures, so much in fact, that he started his own field notebook on his observations of birds. Most important of all, this book helped young Darwin develop the habit of making very close observations in nature, a habit that would serve him well all his life.

(3) Natural History Museum - During his second year at Edinburgh, Darwin found himself alone - his

brother having moved to London to study anatomy. He spent much of his free time hanging around the Natural History Museum in Edinburgh. Mr. William Macgillivray, the curator of the museum, took the young Darwin under his wing and taught him volumes on botany, animal anatomy, and inspired Darwin to start taking notes on his observations in nature. His habit of taking notes on his observations was thus strengthened, and proved vitally important during his voyage around the world aboard the Beagle.

(4) Plinian Society - Early in his second year of medical studies, Darwin started attending the meetings of the Plinian Society - a science club that focused on the merits of studying the world from a natural point of view, rather than a supernatural one. On 27 March 1827 Darwin gave his first speech before the Society on the marine biology of the Firth of Forth, an estuary just north of Edinburgh. The debates at these meetings were perhaps Darwin's first exposure to a discussion of evolutionary theory. Apparently, however, at this time the importance of such ideas did not strike Darwin as being particularly meaningful.

(5) Robert Grant - During the winter and spring of his second year, Darwin developed a friendship with the Zoology Professor Robert Grant. They would often go out on long walks together at the Firth of Forth, discussing marine biology and collecting marine animals. Darwin started dissecting some of the specimens they collected, although rather poorly. Grant taught him how to make observations in nature and how to spot important specimens. During these walks Grant filled Darwin's head with evolutionary ideas, especially those of the French naturalist, Lamarck, whom Grant admired a great deal. Darwin was not exactly sure what to make of all this heretical evolutionary talk. Towards the end of his second year of medical school it became apparent that Darwin was (once again!) not taking his studies seriously. He father heard through the grapevine, perhaps from his daughters, that Darwin was not putting much into his studies at Edinburgh. In April of 1827 Darwin quit medical school for good, and returned home to Shrewsbury to a father who was very concern about what to do with his "lazy" son. Little did his father know that his son was being groomed by a long series of entirely unrelated events to become the most highly respected naturalist of the 19th century.

How was his thirst for science nurtured at Cambridge University?

Fearing that Darwin would end up living the life of an idle gentleman, his father decided his son should study for the clergy - a very respectable profession in the early 1800's. Darwin thought it was a most excellent plan, as members of the clergy were quite keen to engage in natural history studies. He fancied himself leading a small parish village church and spending his spare time studying the flora and fauna of the local countryside - Darwin's idea of heaven. In the mean time, Darwin's social life was looking up. He took an interest in his sister's close friend, Fanny Owen, and he often visited her at her father's house. In January Darwin started his first term at Cambridge University, at Christ's College.

As was previously the case, Darwin did not take his studies very seriously. He only attended a few of the compulsory lectures, and those did not excite him very much. A lot of his time was spent shooting birds in the countryside, playing cards with his friends, and going to dinner parties. He also enjoyed readings of Shakespeare in his rooms, and the engravings of Raffaello Morghen and Peter Muller at the Fitzwilliam Collection in Cambridge.

Four events during the three years Darwin spent at Cambridge were to have a profound impact on his life. These were: (1) Beetle collecting, (2) befriending Revd. John Stevens Henslow, (3) meeting Professor Adam Sedgwick, and (4) reading two books by Sir John Herschel and Alexander von Humboldt.

(1) Insect collecting - While at Cambridge Darwin took up a new hobby with a passion - beetle collecting. His cousin, William Fox, who was also attending Cambridge, introduced Darwin to entomology and taught him a great deal about insect classification, and how to work in the field. Quite a lot of Darwin's spare time was spent out in the countryside collecting beetles, and it is not too far of a stretch to say he was addicted to his new hobby. Fanny Owen often scolded him for wasting his time with his beetles. Eventually Darwin had to choose between his girlfriend and entomology. The choice

came during his second year at Cambridge. Instead of visiting his girlfriend at her father's house during winter break, he stayed in Cambridge so he could spend all his time chasing after beetles (rather than chasing his girlfriend). Two months later Fanny broke up with poor Charles because he showed more interest in bugs than in her! All humor aside, beetle collecting taught Darwin many vital scientific skills, which included: how to identify species, the proper manner of cataloguing specimens, methods of comparative anatomy, and how to work efficiently in the field.

(2) Prof. Revd. John Henslow - It would not be an understatement to say that Revd. John Henslow had the greatest influence upon Charles Darwin during his Cambridge days. Their relationship started when Darwin's cousin, William Fox, invited him to one of Henslow's Friday night dinner parties and introduced Darwin to Henslow. At these dinner parties Henslow gave informal lessons to the upper class students on all matters of science. Darwin soaked up every ounce of knowledge that Henslow dispensed, and in a short time he saw Henslow as one to emulate - a preeminent member of the clergy who was a naturalist beyond compare. Henslow was also impressed with Darwin, and invited him to attend his botany lectures. In Darwin's third year at Cambridge Henslow became his tutor in math and theology.

In time Henslow saw that Darwin was a young gentleman who had great potential as a naturalist. He spent much of his time nurturing his favorite student, and invited him on his scientific excursions into the surrounding countryside. Before long Henslow and Darwin could be seen taking walks around the streets of Cambridge, discussing all matters of scientific inquiry, and Darwin became known as "The man who walks with Henslow." Under Henslow, Darwin's storehouse of scientific knowledge was greatly expanded. He became familiar with such diverse topics as: geology, mathematics, entomology, mineralogy, chemistry, and botany. Perhaps the most profound influence Henslow had on Darwin was that he helped him develop confidence in his own abilities, and made him realize that he had the potential to become a top-notch naturalist. It was at this point that Darwin finally decided what to do with his life. He would become a naturalist and with a little luck, he thought to himself, he may even contribute a little something to humanity's vast store of scientific knowledge.

(3) Professor Adam Sedgwick - Sedgwick was the Woodwardian Professor of Geology at Cambridge University and was one of the most renowned geologists in all of England. Darwin was introduced to Sedgwick by Henslow during his third year at Cambridge after Darwin expressed an interest in exploring the Canary Islands. During spring term of 1831 Darwin attended many of Sedgwick's geology lectures and, as opposed to his experience in Edinburgh, he found them most enjoyable. Seeing that a knowledge of field geology would benefit Darwin on his Canary Island excursion, Sedgwick and Darwin went on a geological tour of North Wales during the summer of 1831. The knowledge Darwin gained from Sedgwick turned out to be of invaluable use during his voyage around the world on the Beagle.

(4) Two Great Books - During his last year at Cambridge University, after completing his final exam (he scored 10th place!) Darwin read Sir John Herschel's "Preliminary Discourse on the Study of Natural Philosophy." The primary influence of this book was that it convinced Darwin that there were no limits to the wonders that scientific investigation could uncover, and this instilled in Darwin a burning zeal for science. Another book he read (in the Spring 1831) was Alexander von Humboldt's 7-volume "Personal Narrative of the Travels to the Equinoctial Regions of America During the Years 1799-1804." It was this book that really got Darwin's imagination spinning, and he was now dreaming about exploring the glorious tropical rain forests of South America (he was unaware of the H.M.S. Beagle voyage at this time).

By the time Darwin was twenty-two years old he was by no means a "finished naturalist" but he did possess a general knowledge of a wide variety of scientific fields. Perhaps what was more important, however, is that Darwin had developed a burning passion for natural science and an unbounded enthusiasm for exploration. The foundation was now set for Darwin to become one of the greatest naturalists of the 19th century.

What kind of music did Charles Darwin like?

Nothing is known about Darwin's musical disposition as a child. There is no indication that he

ever played a musical instrument, nor had an appreciation of music in general. As a young man Darwin acquired a taste for classical music while studying at Cambridge University. He often visited King's College there, and would sit for hours listening to the church choir.

What is interesting about Darwin's fondness for music is that he was tone deaf, and had a very difficult time recalling a tune he just heard the day before. Darwin was also unable to hum a tune properly, or keep time to music as he was listening to it. As far as specific composers go, he loved the symphonies and overtures of Mozart, Handel and Beethoven. In the evenings his wife, Emma, who was quite an accomplished pianist (she was trained by Frederic Chopin), would play for him on her piano forte as he reclined on a nearby sofa.

What sorts of literature did Darwin like?

In his childhood Darwin was an avid reader, and this continued throughout his entire life. From an early age he was quite keen on the historical plays of Shakespeare. While in grade school at Shrewsbury he admired the "Odes of Horace" a great deal.

Although Darwin seemed to be born with an innate interest in the natural world, it was not until the Summer of 1826 that the books he read started to spark his serious interest in studying nature. During this time he read Revd. Gilbert White's: "The Natural History of Selborne" and he came away from this book with a much greater appreciation for wildlife.

While attending Cambridge University, Darwin was further inspired by literature in such works as: William Paley's: "Natural Theology," Sir John Herschel's book: "Preliminary Discourse on the Study of Natural Philosophy" and Alexander von Humboldt's 7-vol. "Personal Narrative" of his South America travels.

During the Beagle voyage he always read Milton's "Paradise Lost" when he had a spare moment. While living in London after the voyage, Darwin read some metaphysical books, but found that he was not well suited to them. It was during this same time in his life that he became fond of the poetry of William Wordsworth, and Samuel Coleridge.

In his later years Darwin was very fond of novels by Jane Austen, and Elizabeth Gaskell, the poems of Lord Byron, and the historical novels of Sir Walter Scott. Darwin was always quick to point out that he did not enjoy novels with a depressing ending. His wife, Emma, would read novels to him twice a day while he reclined on a sofa, and he took great pleasure in this daily routine. He also enjoyed books of narrated travels.

Darwin also read a huge volume of scientific works, and his treatment of these was most interesting. It seems he treated them simply as a tool and took little care to keep such books in good condition. For example, he would cut books in half to make them easier to hold while reading, or just tear out smaller sections of books that related to his current research interests. Darwin also heavily marked books, and added plenty of personal remarks in the margins. His method of reading was very methodical - he used to take notes on the scientific books he read, and then made abstracts from his notes.

In late years his taste for literature and the arts diminished greatly, so much so that even listening to music caused him much stress. Darwin also lost his appreciation for poetry and paintings, a fact that saddened him a great deal.

What was Darwin's family life like?

The home life Charles Darwin was unlike that of most Victorian country gentleman. The most striking difference was seen in how he interacted with his children. The well to do in Victorian England would

hire a governess to assist the wife in bringing up the children and seeing to their education. The father was more of a remote figure who engaged himself in politics, business or other gentlemanly pursuits. He typically had a detachment from bringing up the children. While it is true that there was a governess in Down House who assisted Emma in bringing up the children, Charles always took a keen interest in whatever they were doing.

I'll let his daughter illustrate how Darwin related to his children. She writes:

"To all of us he was the most delightful play-fellow, and the most perfect sympathizer. Indeed, it is impossible adequately to describe how delightful a relation his was to his family, whether as children or in their later life."

"It is a proof of the terms on which we were, and also of how much he was valued as a play-fellow, that one of his sons, when about four years old tried to bribe him with sixpence to come and play in working hours."

"He must have been the most patient and delightful of nurses. I remember the haven of peace and comfort it seemed to me when I was unwell, to be tucked up on the study sofa, idly considering the old geological map hung on the wall. This must have been in his working hours, for I always picture him sitting in the horse hair arm chair by the corner of the fire."

"Life seems to me, as I look back upon it, to have been very regular in those early days, and except for relations (and a few intimate friends), I do not think any one came to the house. After lessons we were always free to go where we would, and that was chiefly in the drawing-room and about the garden, so that we were very much with both my father and mother. We used to think it most delightful when he told us any stories about the Beagle, or about early Shrewsbury days - little bits about school life and his boyish tastes."

"He cared for all our pursuits and interests, and lived our lives with us in a way that very few fathers do. But I am certain that none of us felt that this intimacy interfered the least with our respect and obedience. Whatever he said was absolute truth and law to us. He always put his whole mind into answering any of our questions."

"Another characteristic of his treatment of his children was his respect for their liberty, and for their personality. Even as quite a little girl, I remember rejoicing in this sense of freedom. Our father and mother would not even wish to know what we were doing or thinking unless we wished to tell. He always made us feel that we were each of us creatures whose opinions and thoughts were valuable to him, so that whatever there was best in us came out in the sunshine of his presence." *Autobiography of Charles Darwin and Selected Letters*. Darwin, Francis (Editor). New York: Dover Publications, 1992. Pages 90-92.

Darwin's relation to his wife, Emma, was a very special one, for it was with her that Darwin found his happiness. In a life filled with almost continued illness, the presence of Emma transformed Darwin's life into one of "quiet and content gladness". His son, Francis Darwin, writes:

"No one indeed, except my mother, knows the full amount of suffering he endured, or the full amount of his wonderful patience. For all the latter years of his life she never left him for a night; and her days were so planned that all his resting hours might be shared with her. She shielded him from every avoidable annoyance, and omitted nothing that might save him trouble, or prevent him becoming overtired, or that might alleviate the many discomforts of his ill-health." Page 109

Their day to day lives were entwined in a manner that was rare for an upper class Victorian family. Every day Emma would read to him from one of the popular novels of the day, especially those by Austen, Dickens and Gaskell. She was very fond of music, and played the piano forte (she was taught by Frederic Chopin) in the drawing room every day as Darwin relaxed on the sofa. In the afternoons they would stroll together in the garden as the children played around them.

Francis Darwin writes:

"My father much enjoyed wandering idly in the garden with my mother or some of his children, or

making one of a party, sitting out on a bench on the lawn; he generally sat, however, on the grass, and I remember him often lying under one of the big lime-trees, with his head on the green mound at its foot. In dry summer weather, when we often sat out, the fly-wheel of the well was commonly heard spinning round, and so the sound became associated with those pleasant days. He used to like to watch us playing at lawn-tennis, and often knocked up a stray ball for us with the curved handle of his stick." page 76

In the evenings Emma and Charles played two games of backgammon in the drawing room, and this routine continued for nearly forty years. Apparently Emma was the better player, as Darwin kept a tally of who won every night. He would often explode in mock anger and lamented his bad luck while Emma smiled at her good fortune.

The manner in which Darwin related to his family was truly special. In fact, based on conversations I have had with other Darwin enthusiasts and with some of his descendants, it is safe to say that for Darwin his family life was far more important to him than his research into the natural sciences.

What were Darwin's views on politics?

There is only a scant bit of information known about specific political views of Charles Darwin. His political leaning was on the Whig side of things (i.e. - Liberal), as was everyone in his family, including the Wedgwoods, and most of his friends. It is known that he much enjoyed reading up on the political doings up in London, but he seems to have done so out of a sense of pure entertainment. Although Darwin was a "Country Gentleman" he never became actively involved in politics, except for being the Justice of the Peace for the village of Downe.

It is known that Darwin, as well as his friends and family, were very much in favor of the Great Reform Act of 1832, which extended voting rights to millions of formally disenfranchised citizens. He was also a staunch supporter of the abolishment of slavery. Here are a few excerpts from letters Darwin wrote home while on the Beagle Voyage:

"The Captain does every thing in his power to assist me, & we get on very well - but I thank my better fortune he has not made me a renegade to Whig principles: I would not be a Tory, if it was merely on account of their cold hearts about that scandal to Christian Nations, Slavery."
-- To Revd. John Henslow 18 May 1832 from Rio de Janeiro.

"What a proud thing for England, if she is the first European nation which utterly abolishes it. I was told before leaving England, that after in Slave countries: all my opinions would be altered; the only alteration I am aware of is forming a much higher estimate of the Negro character."
-- To his sister, Catherine, on 22 May 1833 from Maldonado, Rio Plata.

"It does one's heart good to hear how things are going on in England. Hurrah for the honest Whigs. I trust they will soon attack that monstrous stain on our boasted liberty, Colonial Slavery. I have seen enough of Slavery & the disposition of the negros, to be thoroughly disgusted with the lies & nonsense one hears on the subject in England."
-- To John Herbert on 2 June, 1833 from Maldonado, Rio Plata.

England passed a law that emancipated all slaves in the British colonies in August of 1833.

What were Darwin's religious views?

Charles Darwin was baptized on November 17, 1809 at St. Chad's church in Shrewsbury, and his mother, Suzsanna, took him to services at the Unitarian church in High Street. She died when Darwin was just eight years old, but he continued to attend church on a regular basis with his sisters. There is very little known about Darwin's religious beliefs during his childhood. He was sent to Rev. Case's day school at St. Chad's for one year, and afterwards was sent to Dr. Butler's Shrewsbury School where

he studied until age sixteen. It is, therefore, safe to assume that Darwin received a proper religious schooling during his childhood.

When Darwin was a young man he found it very difficult to let go of his religious beliefs. Indeed, during the Beagle Voyage he was very orthodox, and would often quote passages out of the bible to the ill-mannered sailors on board. By the time he returned to England in 1836 he had come to view the events depicted in the Old Testament as allegory in nature. What events during the Beagle Voyage caused Darwin to become less religious? During the Voyage he had ample opportunity to see the cruelties of slavery and wondered how god could allow such inhumanity to exist. He also could not accept that a kind god would allow humans to live in such a wretched state as the natives of Tierra del Fuego. Why would god allow such suffering in the world was an internal conflict Darwin could not resolve.

During the next twenty years of his life, Darwin was engaged in research on the origin of species. He came to see that species were not fixed over time, but rather they adapted to their changing environment from one generation to the next. This flied in the face of the Church which held fast to the notion that all species were created by god as perfectly suited for the environment he placed them in. There was no need for change in the perfect world that god created. Over these twenty years Darwin became less and less religious as he slowly uncovered the laws of natural selection.

Back in his Cambridge days he believed in William Paley's "Argument from Design" as evidence for god's place in nature. By the time Darwin wrote "Origin of Species" he held the view that: "The old argument of design in nature, as given by Paley, which formerly seemed to me as conclusive, fails, now that the law of natural selection has been discovered. We can no longer argue that, for instance, the beautiful hinge of a bivalve shell must have been made by an intelligent being, like the hinge of a door by man. There seems to be no more design in the variability of organic beings and in the action of natural selection, than in the course which the wind blows. Everything in nature is the result of fixed laws" (Barlow, Page - 87)

Now, there appears to be a common misconception regarding the religious views of Charles Darwin. First of all, Darwin was never an atheist. While it is true that in his later years he was not religious to any extent, he never entirely discounted the existence of god. In his Autobiography, Darwin says he was a theist by the time he wrote "Origin of Species" and that he believed in an intelligent first cause. However, it was his view that the nature of this "first cause" was something beyond man's vision. The death of his daughter, Annie, on 23 April 1851 was a crushing blow to his religious beliefs, and from this time forward he stopped attending church with his family. It was only after a very long and slow process spanning his entire life that Darwin came to be an agnostic.

How did Charles Darwin resolve the supposed conflict between science and religion? Well, for Darwin there never was much of a conflict. He saw religion as a strictly personal matter and regarded science as completely separate from religion. In general, he thought that the question of god's existence was outside the scope of scientific inquiry. However, and this may seem contradictory, he did think that his theory of evolution was compatible with a belief in god, but did not think that the natural laws of evolution imply a purposeful god created them.

Regarding the many reasons for man's belief in god, Darwin wrote during the end of his life: "I cannot pretend to throw the least light on such abstruse problems. The mystery of the beginning of all things is insoluble to us; and I for one must be content to remain an agnostic." (Barlow, Page - 94)