Study of a Man, Adam Sedgwick, in 19th Century Britain
- People around Darwin -

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Keywords

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Introduction
We cannot talk about British geology, or even geology in general, without mentioning Adam Sedgwick. He, being one of the geological Great Masters in 19th century Britain, and a professor of Cambridge University, contributed tremendously to the development of modern geology, for instance by establishing stratigraphical definitions such as ‘Devonian’ and ‘Cambrian’, which are still being used in geological studies. To honour Sedgwick, the geological museum of Cambridge University was rightly named after him in 1904: Adam Sedgwick Geological Museum.

To a student of Darwin studies, however, Adam Sedgwick is regarded as one of Darwin’s mentors, who taught him the basics of geology by taking him on a geological field trip in North Wales, just before Darwin set off on the HMS Beagle’s world expedition in 1831. Also Sedgwick was the one who introduced Darwin to the Geological Society of London, by reading Darwin’s geological reports from South America at society meetings. Consequently, Darwin became a member after his return from the world expedition on the Beagle in 1836. Thus, thanks to Sedgwick’s backing, Darwin had an opportunity to be recognised as a man of science thereafter; indeed, Sedgwick was not only a teacher but a benefactor to Darwin.

But Sedgwick, as a clergyman, remained anti-evolutionary throughout his life. When Darwin published his The Origin of Species in 1859, Sedgwick reprimanded Darwin bitterly for holding such materialistic and atheistic evolutionary ideas, and
grieved over his former student’s derailment from God’s guidance. Before this, in 1844, when *Vestiges of the Natural History of Creation* was published by an anonymous author, later found to be Robert Chambers, Sedgwick after reading the bizarre book about transmutation gave it an extraordinarily scathing criticism imbued with ardent hatred (*Edinburgh Review*, 1845). Presumably, observing Sedgwick’s frenzy, Darwin could not publish his already maturing evolutionary ideas until 1859. In fact, Sedgwick and Darwin remained friends even after *the Origin*, but we may naturally derive a rather strong, negative impression of Sedgwick as being conservative and reactionary, at times temperamental, and a very strict creationist.

In contrast to this, it should be noted that politically Sedgwick was one of the University liberals, even rather radical, who tried to introduce reforms into the campus of Cambridge. In particular his ‘University Discourse’ greatly influenced and led the university to become a modern university, resulting in changing the undergraduate curriculum especially where educational philosophy and morals were concerned. Sedgwick’s lectures were very popular with the public, as well as with students, and quite uniquely, he invited women to his lectures. He professed to the audience his belief in the importance of open-mindedness, that they should be ready to accept new ideas and opinions without any prejudice....... although this is puzzling when we think of his paranoiac rigidity against the ideas of evolution or transmutation. His popular lectures continued till two years before he died at the age of 87 in 1873.

As seen above, Adam Sedgwick was a man of many facets: geologist, clergyman, university lecturer and reformist. It would be therefore of interest to study how this versatile man, Adam Sedgwick, had been formed by his personal history. Indeed, the beginning of 19th century, when Sedgwick started to be known to the world, was a tumultuous era in Britain, and society was rapidly changing physically and spiritually through the Napoleonic War, Industrial Revolution and reforms of the day. This period is also called ‘The Era of the Second Scientific Revolution’ diverting from direct biblical interpretations of nature. Therefore it is particularly interesting to study how Sedgwick advanced his way through this era, balancing himself between science and religion and helping social reforms. To summarise, this article tries to show what kind of person Sedgwick truly was as an overall individual, not separately as a prominent geologist, nor as a teacher of Charles Darwin, and in addition to show his significance in this particular historical period of Britain.

**Boyhood and University**
Adam Sedgwick was born in Dent, York, in 1785, into the family of a vicar, as the third
child of seven children. The family was of rather modest means, but his father (the vicar) was education-conscious, and seemingly desired to send Sedgwick to university, which was exceptional in those days and was one of the privileges almost exclusive to the upper-middle and the upper classes. His father, Richard, was a university graduate himself from St. Catherine’s Hall, Cambridge, and a man of church—not wealthy but with a respectable, supposedly a middle-class, occupation—so that accordingly he must have wanted at least one of his sons to be educated at university. He maybe wanted to send the other sons to university, too, but Adam was the only one who fulfilled his father’s expectations. We cannot get much information on the lives of the other brothers and sisters except for his close sister Isabella who died at the age of 38. Indeed, as a boy, the young Sedgwick was obviously bright, and was called ‘Adam o’ the Parsons’ among the locals and noted for his seriousness. Perhaps his father knew that only he was promising enough, when compared with the other siblings, to be trusted worthy of his high expectations. Thus, with the help of his father’s occasional assistance in studies at home, Adam Sedgwick managed to go to a prestigious grammar school, Sedburgh, and then enrol in Trinity College, Cambridge, in 1804, to read mathematics. Of course, Adam himself, eager to answer his father’s expectations, must have worked hard to enter university.¹ Also a mathematician-surgeon in Sedburgh, John Dawson, had influenced Sedgwick, given him a love of study, and encouraged him to go to university. Throughout Sedgwick’s life, Dawson was his inspiration and intellectual model.

At Trinity College, he worked hard as one of sizars, hardship students who were usually bright but poor and were financially assisted by the university, and he did all kinds of chores at the college while studying. He did rather well academically, and graduated from the course in 1808 with a distinction-5th Wrangler. In the same year, he tried to get a much needed Fellowship but failed, and then for another two years, he worked as a private tutor for some students, remaining on campus. Finally in 1810, after leading a frugal life, Sedgwick managed to get a Fellowship to become a teaching assistant. This life as a Fellow was to last until he got the chair of Woodwardian professor of Geology in 1818, (meanwhile he was ordained in 1817), and afterwards he remained as a renowned geology professor for the rest of his life at Cambridge.²

We wonder now what Sedgwick actually had in his mind for his future while working for ten years before becoming a professor. We can say he obviously wanted to be a mathematician, but why didn’t he go into industry straight away after graduation? During the Industrial Revolution, he would have been in high demand from many fields of industry as a man of science, for contributions to the further development of techniques. Or did he want to be a minister following his father’s track, as he was ordained.
in 1817? But according to the American Philosophical Society (2004), he was ordained mainly for financial reasons, rather than religious devotion. APS says that he was more or less forced to be ordained for fear that his fellowship would be taken away by the university if not. 3) It is rather intriguing that a man, who in later years strongly denounced *Vestiges and the Origin* for their materialism, actually had started off as a clergyman for worldly reasons, being pressed by his circumstances.

Perhaps, this very worldliness hidden in Sedgwick could be an answer to the above question of why he continued at the university: most likely, he secretly desired to obtain some sort of a university position as a ‘respectable’ job, as his father wished him to have one. Although he occasionally complained about the hardship of teaching uninterested students while he was a Fellow, his main objective was still to become a university man. That is why he endured the drudgery of teaching and loneliness. Finally, in 1818 the opportunity came and he jumped at the offer of the Woodwardian professorship which had become vacant after Rev. John Hailstone’s retirement. Perhaps, he could have thought of becoming a minister (as another respectable option) but considering the poverty of his father’s vicarage in the countryside and the prospect of returning there, he must have preferred a teaching position at the prestigious university, living in the old, historical world-famous town of Cambridge.

The Woodwardian professorship was in reality was not such a high-powered position, but rather an honorary one, and the demands on the professor were relatively small. He was only required to give four lectures a year, and to supervise the geological collections. The income of the professor, consequently, was almost as bad as an assistant tutor. Furthermore, the professor was not supposed to marry for some reason or other. And Sedgwick had to teach geology, instead of mathematics, an academic field in which he was a mere amateur, which meant he needed to study the subject from almost the very beginning. 4) Despite all these drawbacks, for Sedgwick this position was the very ‘respectable’ one indeed, especially for a person who did not come from a gentleman’s family, but from a rather modest vicar’s family. Sedgwick thought this position might work as a launching board into respectable society, and gain him authority at the university. We can say he had been waiting for this chance for ten long years under adverse circumstances, and he did not miss it when it came.

Incidentally, ‘respectability’ seems a key word for the fashionable people of the time. For example, Charles Darwin’s father reluctantly sent Darwin to Cambridge University in 1827 to study holy orders, after realising that his offspring was a failure in the medical school of Edinburgh University. Darwin’s father then wanted Darwin to be
no less than a ‘respectable’ man, say, a parson, if it were not possible for him to follow a ‘respectable’ medical career. 5)

As a Professor and Member of Societies
Nomination of Adam Sedgwick to the Woodwardian professorship of Geology in 1818 was rather unusual, at least from the present-day viewpoint, considering his then next-to-nothing geological knowledge. (Perhaps, in the 19th century, this kind of nomination was more common than today, because J.S. Henslow, his contemporary colleague and another mentor of Charles Darwin at Cambridge, was also not a botanist before becoming a botany professor; in fact, he had been a metallurgist.) 6) Still, it seemed truly a gigantic challenge for Sedgwick to take this geology position, not as a mathematician but as an amateur geologist, and moreover with a condition that he was required not to be married. However, Sedgwick dared to accept the position, even sacrificing the mathematical expertise he had accumulated. We must conclude, then, how eager Sedgwick was to obtain the professorship itself. Considering his ambition now, although his ordination in the previous year 1817 could be thought chiefly for securing his Fellowship, he might also have calculated the effect of it as working favourably for him in the future, such as in the case of his promotion. Cambridge University was an ecclesiastical institute for training ministers as well as academics, and indeed he was assessed for his assets as an ordained man besides his academic potential in geology, and thus he was elected as a said professor without much fuss.

This promotion must have made Sedgwick feel he was being reborn into the university, newly ordained, newly nominated as a professor and taking an utterly new field of geology which was a relatively new science itself. It was as though on a blank canvas, he started drawing the ambitious patterns of a ‘respectable’ university man, which, he hoped, might eventually lead him into an administrative situation and bring him the heroic glory of a working man of science. 7) Indeed, from the beginning, Sedgwick tried to be different from the previous Woodwardian professors, by strongly impressing himself as energetic and active as shown in his inauguration statement, ‘Hitherto I have never turned a stone; henceforth I will leave no stone unturned.’ He started the series of geological lectures in 1819 (lasting almost throughout his life), which were quite accessible and stimulating to the imagination, rather than burdening with trivial details. Also inviting women to his lectures with male townspeople was a most unusual thing at the time. Thus, being an active Woodwardian professor, in spite of occupying a rather insignificant position, Sedgwick at least managed to express his own opinions in many circumstances as a university staff member. Perhaps, the frustration pent up in him during the past 10 years of obscurity was a fuel, as it were, and it gushed out to propel
him forward in the fields of academic study and socio-politics at Cambridge.

Outside the campus, in 1818, soon after his inauguration, Sedgwick promptly approached the prestigious Geological Society of London first of all and became a member. This society had been set up by 13 founding members in 1807, and its atmosphere was like a gentlemen's club, exclusive to the well-bred in the metropolis. But Sedgwick did not restrain himself just because he was a country man and not from a genteel family. Rather, in the Society, he dauntlessly tried to impress his strong personality on others, demonstrating his substantial academic and social achievements. In addition, he himself founded the Cambridge Philosophical Society along with his colleague Henslow in 1819. And later Sedgwick served as president of both the Geological Society of London and the British Association for the Advancement of Science, during 1829-1831 and 1833 respectively. Indeed, in these societies, he worked hard academically and politically together with other geologists such as William Buckland of Oxford, and they greatly contributed to establish geology as a disciplined field of scientific study, which upgrew from being something of a hobby for people seeking the evidence of Noachian (Mosaic) Flood. Sedgwick, especially after the Devonian Controversy (1834-37), sought professionalism so as to establish a powerful group of professionals with standardised training and certification, as distinct from the lay public or amateurs. Besides being a member of the societies, he was also appointed as a canon of Norwich in 1834, and his powerful position and fame at Cambridge, led many Christians to accept the newly established geology.  

Also Sedgwick did not fail to read the contemporary tide of British society in the early 19th century, which was introducing social reforms (most likely out of fear of potential social chaos threatened by the French Revolution and the Industrial Revolution) and in line with this, introducing university reforms. And so without delay he joined the strong Cambridge Network, organised by a closely knit group of scholars, dons and church leaders in the 1810s. This network was a part of the Broad Church movement, influencing Cambridge reforms. By doing so, being in the centre of the movement to improve the university system, he might also have hoped that he could eventually elevate his Woodwardian professorship from a mere honorary position to a real authoritative one. As far as his involvement in the university reforms was concerned, he was quite liberal and even radical (as mentioned before to our bewilderment) and enthusiastically grappled with reforms. This attitude of his, calling for open-mindedness in the university, does not match at all his later days of rigid obstinacy against new evolutionary ideas. In any case, Sedgwick's involvement in reforms
included supporting the Reform Bill (passed in 1832), campaigning to abolish the Religious Test which was deliberately keeping out the Dissenters and the Catholics (1834), writing *The Discourse on the Studies of the University* (1832) along with many other reforms. In 1845, Sedgwick became the Vice-master of Trinity College, and he was chosen to be Prince Albert’s secretary when the prince took the office of Chancellor (1847). Sedgwick was eager and determined to democratise the university, in abolishing old systems of scholarships and fellowships, reforming examinations, and drafting the Royal Commissions Report to recommend many reforms on campus (1850). Thus, by the mid-19th century, Sedgwick was truly a working champion of science, faith and reforms, so he was not only a celebrity of Cambridge geology, but also of the university itself. Whether or not his achievements were attained out of his calculated ambition to become influential on campus, one thing is sure; he always put everything into what he was doing, sincerely concerned about the future of university, and won high credibility with people.

**As a geologist and his Catastrophism**

As a matter of course, his outstanding competence and expertise in geology predominantly kept him as an influential academic of Cambridge for more than a half century. If he had been merely a good lecturer, a reformist or an ambitious political manipulator, his name wouldn’t have remained till today. He was truly excellent in geology itself.

After Sedgwick was elected as the Woodwardian professor in 1818, without much knowledge of geology, he must have been desperate to be recognised in his new field in some way or other, for if not, he again might be thrown out into the cold from the chair of professor. But he managed it. He grasped the principles of stratigraphical geology and rock relationships in an amazingly short time, and he was ready to read a paper concerning the structures of Devonshire and Cornwall as early as 1820 to the Cambridge Philosophical Society. He indeed proved himself to be competent thereafter, with a large number of academically substantial presentations at various societies. In his research, Sedgwick always made close and careful observations on the geological strata of various parts of Britain, on his field trips to Yorkshire, the Lake District, the Isle of Wight, Scotland, North Wales and many other places, sometimes on his own or sometimes with his geologist friends such as Roderick Impey Murchison. His chief concern was the stratigraphy of Britain, and his discoveries were mainly the formation of geological columns in local districts.

In particular, collaboration with Murchison is noted for Sedgwick’s geological work. They started exploring together the geology of Scotland in 1827, and then in the early
1830s, they worked on the supposedly oldest fossil-bearing rocks in Wales, though separately in different regions; Sedgwick in the Central and Murchison in the Borderlands. Sedgwick eventually, while Murchison was identifying the old Silurian System, identified the even older and lower Cambrian System, and in 1835 they jointly presented a paper ‘On the Silurian and Cambrian Systems, exhibiting the order in which the older sedimentary strata succeed each other in England and Wales.’ Also in 1839, Sedgwick and Murchison brought about the identification of the Devonian System which lay above the Silurian System. They were really good working partners till then. However, the good friendship did not last when Murchison claimed that the upper part of the Cambrian System at first, then the whole system was in fact a part of the Silurian System. Dissent over this resulted in a terrible row between the two, and they were painfully estranged till their deaths, arguing over the true discoverer of the oldest stratum to contain fossils of living things, the trace of the initial life creation by God. 13)

Here arises a question from a religious point of view: did Sedgwick, as a clergy geologist, really believe in the verity of Genesis — that the age of Earth was only 6,000 years old (according to Bishop James Ussher of the 16th century, the Earth was created in 4004 BC), the six days of Creation of the world, and the Noachian Flood? Of course, with his religious upbringing and his vocation as an ordained Anglican clergy, he must have started his geological studies to provide support for the literal Genesis accounts on the origin of Earth. However, we should not forget that he had been trained as a mathematician as an undergraduate, and also that he was an allegedly keen anticipator of the social milieu of the early 19th century, the age of Industrial Revolution which emphasised the superiority of science. He was most likely realising that being too religious would not make him much different from the colourless Woodwardian professors before him, and still worse, it would put him out of the cutting edge of scientific arguments. Thus, while harmonising geology and Genesis, he separated the scientific part of the Earth study from the religious, not to mix them unwisely. For him, geology was a system of natural philosophy, a science of measuring the history of the Earth, and at the same time Sedgwick argued that the whole system of the Earth, in particular the initiation of living forms, was functioned by providential miracles and interventions. This was Sedgwick’s own way of keeping science and religion separate, but complimenting with each other. 14)

Specifically, Sedgwick followed Catastrophism put forward by Georges Cuvier, a French palaeontologist and anatomist, in the late 18th century. This concept proposed that many geological strata were laid down by God’s catastrophes (cataclysmic theory — theistic) one after another, but each stratum developed according to operating natural
laws over a long period of time and eventually providing the Earth with a tremendously old age (old Earth theory — scientific). New species were created by divine acts after each catastrophe (multiple special creations — theistic) with finally Man first appearing sometime between the last two catastrophes. The last catastrophe could be said to be the Noachian Flood, but for the Catastrohists like Sedgwick, this was not necessarily so, because Genesis was a symbol of Christian faith, and interpreting it as theological and moral teaching was more important than reading it word for word. 15) In fact, Sedgwick could not find any clear evidence for the Noachian Flood in the geological records, and later he was more inclined to the Ice Ages theory of Louis Agassiz for the formation of geological layers. In the presidential address to the Geological Society of London in 1831, Sedgwick recanted the straightforward reading of Genesis concerning the Biblical Flood and the six-day creation, as saying ‘Mosaic geologists committed the folly and sin of dogmatising on matters they had not personally examined.’

Sedgwick as a geologist conducted patient investigations to obtain geological evidence (fossil records and such), and while doing so, as an ecclesiastic he tried to see the mind of God with the conviction that Nature was governed by an intelligence in form of various designs and purposes, present in the world in mutual dependence. This idea of Intelligent Design was proposed in William Paley’s Natural Theology (1802), and Sedgwick highly praised it for its belief that the more closely one would observe nature, the closer one would get to the benevolent mind of God. 16) (On another occasion, however, Sedgwick was quite against Paley’s Utilitarianism as shown in ‘Principles & Moral & Political Philosophy’, denouncing it as prone to be misused by materialists and radicals). 17) In this way, although Sedgwick was denying the literal parts of Genesis, he believed that the aim of natural science such as geology was to decipher the mysterious creations of God, showing at least a parallel with the Bible. Naturally, Catastrohists as Natural Theologians in geology, reached a broad consensus on the points of ancientness of the Earth, cataclysmic changes by divine interventions, separate creations of lives, intelligent designs in the natural world, and most importantly, they emphasised the necessity of being empirical in finding the evidence of geology. The noted Catastrohists then were, besides Sedgwick, Buckland, Murchison and W.D.Conybeare, and they could be called the ‘Great Masters’ of modern British geology as described by the Geological Society of London in 1907. 18) As Conybeare was the one who initially taught Sedgwick the basics of geology at his early geologist’s stage, Sedgwick regarded Conybeare as his master for the rest of his life.

Even amongst the ‘Great Masters’, Sedgwick was again most highly profiled as a scholar in geology, and this was not only because of his outstanding geological achieve-
ments and his authority in the societies, but also because he was a Cambridge professor. His geological works had more chances to be recognised and appreciated at liberal Cambridge University with its Cambridge Network than those of Buckland at conservative Oxford University where the Oxford Movement had been going on from the early 1830s, although Buckland held a similar position as professor and clergymen. We accordingly tend to have an impression that Buckland was always one step behind Sedgwick despite his substantial geological achievements and contributions. Presumably, Buckland's difficulties at Oxford were not simply theological (being a Cambridge-inclined Natural Theologian), but also more scientific in that Oxford itself was not so open to the new scientific advances, instead keeping the traditions of classical learning. 19)

There was another geological ‘Great Master’, in fact, outside the circle of the Catastrophists; that was Charles Lyell, a lawyer-turned geologist and a former student of Buckland, who came slightly later than the other ‘Great Masters’ into the field but eventually came to be mentioned as literally the greatest geologist of the century. However, although he showed strong belief in the great age of the Earth, Lyell was clearly distancing himself from the Catastrophists since he did not approve of supernaturally induced catastrophes at all. 20) He instead was following the concept of Uniformitarianism held by a late 18th century Scottish enlightenment advocate, James Hutton, who regarded the floods or any forms of cataclysm as non-events, saying that forces that shaped the past are the ones at work now. Lyell published the famous ‘The Principles of Geology’ in 1830, and this book, denying God-orientated cataclysmic interventions, gave a hint of evolution to Charles Darwin in later years. Lyell also became a life-long mentor and friend of Darwin after he returned to England from his world expedition on the HMS Beagle in 1836.

Certainly, the period from the late 18th century to the early 19th century could be considered as a significant transitional stage in geology from Biblical to Catastrophic, and then to Uniformitarian. Here in this period, Catastrophic geology or Catastrophism (supported by Sedgwick and others) particularly played an important role in introducing the ‘old’ Earth concept, which could be rather revolutionary diverting itself from the Biblical understanding of 6,000 years ‘young’ Earth. By doing so, Catastrophism was channelled to more deistic Uniformitarianism in common that they both would accept the ‘old’ Earth, although they were seemingly quite different concepts to each other. And Uniformitarianism in turn, requiring an even longer time for the Earth formation, was eventually to give ground for the idea of evolution. Now it is intriguing to see that a Catastrophist Sedgwick, never approving transmutation of the life, was inadvertently
and indirectly providing the first step for evolution by advocating the 'old' Earth. Without a long span of Earth age, evolution was not conceivable at all to start with.

Discussion
So far we have studied a man, Adam Sedgwick, from his childhood to his fame and power at Cambridge and in various professional societies. His contributions as a geologist were quite remarkable, such as establishing geology as science, effectively introducing the systematic stratigraphy of correlating geological formations of the regions, and building up a geological collection including fossils from various strata. As an ecclesiastic, he played an important role of harmonising geology and Genesis in the name of Catastrophism, while allowing the Earth to have a vast age of history. And as a university man, he was truly the leading figure of university reforms at Cambridge, changing it into a modern institution of education. He was most energetic and successful in different fields, and he received several awards for his contributions. Also for some people, Sedgwick was known for being warm-hearted and caring, as in the instance of helping young Darwin to take a place among the leading scientific men. 21)

Certainly he had rather strong characteristics, such as shrewd tide-reading, keen consciousness for authority and heroism, so that these must have distanced some people away who associated with him. He was also notorious for his display of fiery temper, the least attractive feature of all, as seen in the conflict with Murchison and in the criticism against Chambers. 22) As for his heroism, we could suspect that Sedgwick deliberately invited women to his geological lectures wishing to show off his manly scientific intelligence as a hero in front of the 'weak sex'. He would say women were admirable in qualities such as love and trusting faith, but they were not in the least able to participate in the making of science. If they dared, things might be a disaster because actual scientific discoveries involved an enormous and continued labour for which women were not suited; women should be in the right place where they were welcome. Sedgwick thus encouraged 'scientifically unfit' women to attend his lectures 'in the right place' for listening to his reviews, and he even enjoyed mixed conversations with them at dinner and tea parties, or often in his rooms at Trinity. Sedgwick surely held chauvinistic distinction about women that they could not completely go over the boundary into real scientific sphere. In his private letter to Lyell, he also condemned the unknown author of Vestiges as a woman for writing such an unscientific book 'very shallow' and 'leaping to a conclusion'. 23)

Even so, history has been rather too unkind to Sedgwick, and quite often depicted him as nothing but an obstinate creationist, hardhead, superannuated university don
who was attacking evolution without any scientific observations. This negative assessment of Sedgwick is not really well-founded, but may be attributed to his rigid attitude of adhering to his Catastrophism even in the evolution-prone atmosphere in the mid 19th century, especially after the publication of *the Origin* in 1859. Sedgwick never approved transmutation or evolution throughout his life, and above all, his attack on Chambers’ *Vestiges* published earlier in 1844 was truly blistering.

We then question why Sedgwick, though he was speaking for open-mindedness, flatly rejected evolution, especially that of *the Origin* conscientiously put forward as a scientific work by Charles Darwin. And also we question why he, despite being apparently a good tide-reader, could not acclimatise himself to the social tide when evolution was in the air. Only if he had shown any compromise or understanding to evolution, he would not have been so badly put down as mentioned above. Indeed, from a religious point of view, all he had to do was to be slightly more flexible, modifying his conceived ideas and beliefs (as he had previously moved himself from literal Biblical to Catastrophic understanding); he could perhaps relate God to evolution by saying that even evolution was a part of God’s plan and purpose, and that since human spiritual bits, such as faith, morality and responsibility had been specially bestowed by God, they should be treated separately from natural-law evolution. But in fact he refused to budge an inch towards evolution as seen in the letters to Darwin, where he even criticised his former student for utterly abandoning the inductive methods that science should be founded upon. 24)

Now, perhaps, by analysing his situation more closely, we may find reasonable explanations for his intransigence. The facts are that he and his Catastrophism had gone through the ordeals of confronting two formidable enemies with utterly different concepts, but attacking together simultaneously. One was the assailment on modern geology at the 1844 meeting of the British Association for the Advancement of Science by Rev. William Cockburn, Dean of York, with his super Biblical literalism, which represented the anachronistic anti-geology movements in 1825-50 (maybe as a sign of repercussion to the prevailing liberal social reforms). 25) The other was impact of Chambers’ *Vestiges* (1844), amateurish, materialistic, amoral and faulty views suggesting evolution of the universe (for Sedgwick it was nothing but a blasphemous speculation). Thus he was obviously forced to be rigid and consistent with his Catastrophism, to defend his citadel and fight back against the two foes from both sides. Ever since, accordingly, his attitude was taken to be reactionary and dogmatic, especially to latter-day scientists.

Considering these circumstances around Sedgwick who was facing up to the anti-
geology movement, *Vestiges and then the Origin* one after another, we can now understand his inflexibility in his Catastrophist position. Besides, since he had already attained his respectable status both at Cambridge and in the societies, plus his aging, he did not bother anymore to cater to the new social and scientific tendencies of evolution. Instead he must have preferred to remain as the immovable authority of Catastrophic geology, being identified as anti-materialist, and anti-evolutionist.

In any case, in the field of geology, Sedgwick was no doubt taking quite an important role of a ‘bridge’ person connecting the gaps of the Scripture, Catastrophism towards evolution by advocating the ‘old’ earth theory (unintentionally, though). And we should not miss the point that on climbing the social ladder at an early stage, Sedgwick was always clever in reading the circumstances around him, with wide perspective, and then would tackle matters energetically with all his force. He was thus by no means just a simplistically obstinate and dogmatic man who was obsessed by his faith. His foresight, judgement and enthusiasm had led him to be one of the most prominent Cambridge men despite his coming from a rather modest family back-ground. We also should not forget that there were always people supporting him, attracted to his person, not only to his cleverness or power. Indeed, Adam Sedgwick was in a sense a good example of a success story in the Victorian era, a complex individual with attractive characters who enterprisingly tried to chop his way through 19th century Britain.

**Notes**

   Sedgwick’s boyhood and his admiration of academic ability of his father, Richard, who taught Adam while attending Sedburgh

   Background note of Adam Sedgwick - John Dawson’s influence and Sedgwick’s poor and ambitious days at Cambridge

   Sedgwick’s pragmatic reasons to be ordained rather than theological ones

   Sedgwick’s obtaining Woodwardian professorship of geology, an utterly new subject

   ‘Respectable’ professions in 19th century Britain

   Professors at Cambridge — Sedgwick and Henslow

   The birth of the scientific hero
   Huxley choosing Sedgwick to exemplify the heroic character of the working man of science
   Sedgwick’s and Buckland’s influence within the mainstream Christianity

   The Broad Church movement and Cambridge Network, with liberal ideas contributing to university reforms and the development of science

   Sedgwick as a forceful proponent of political reforms and his Broad Church radicalism
   Sedgwick, most radical in university reforms

   Sedgwick being involved in various university reforms at Cambridge

   Sedgwick’s achievements in geology

   Sedgwick in the dispute with Murchison as to who to be the discoverer of the strata where the first fossils were to be found
   Secord, J.A. (2000): pp243-244
   Sedgwick in the controversy with Murchison

   Harmonising Genesis with geology — the majority of educated Christians eventually accepted geology by the 1850s diverting from Biblical literalism

   Cuvier and his Catastrophist colleagues supporting ‘old’ earth theory

   Sedgwick’s natural philosophy about God’s ultimate truths
   Olson, R.G. (2004): pp190-191
   Natural Theology, to find scientific supports for proving existence of God

   Sedgwick’s opposition to William Paley’s Utilitarian principles

   Five Great Masters contributing to British geology as described by The History of the Geological Society of London (1907)

   Buckland’s difficulties at Oxford

   New generation of geologists
   Lyell and his Uniformitarianism taking over the geological column and the time scale from the Christian Catastrophists

   Sedgwick reading Darwin’s letters on South American geology to the Geological Society
   Sedgwick showing his favours to Darwin
    Scathing reviews of Sedgwick on Vestiges in Edinburgh Review 1845
    Sedgwick's idea on women as not suited for science, considering the author of Vestiges as a woman
    Sedgwick's letter to Darwin, 1859
    *Objection to Mr Darwin's Theory of the Origin of Species* (The Spectator, 1860)
    The opposition to geology by the anti-geologists (1825-50)
    Sedgwick viewed as a superannuated figure in his long life

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