

ALEXANDER AND EVOLUTION

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Evolution was a major topic of debate in 19th century England. As a man of his time and mixing in educated middle-class circles in London, Alexander might well have felt an obligation to place his *Technique* in what he saw as an evolutionary context. He was not to know it was the end of an era and that the evolutionary ideas he adopted were well on the way to being superseded, if not completely discredited.

This paper looks briefly at the development of 19th century evolutionary thinking and how the ideas of Charles Darwin superseded those of his predecessor Jean Baptiste Lamarck, just as they did those of his contemporary Herbert Spencer. Both of these writers influenced Alexander in the development of his own rather odd views of evolution and led him into some highly offensive racial remarks, which can get in the way of the basic and highly original message contained in his books.

The 19th century evolution debate

Evolution in the plant and animal kingdoms, as presently understood, is firmly rooted in Charles Darwin's book *On the origin of species by means of natural selection*. First published on 24th November 1859, it was an immediate success and sold out the same day. Six further editions were published over the following dozen years, the final one appearing in 1872. The book was subject to much attack from religious sources – and indeed still is by fundamentalist religious groups in the US – but it was quickly and almost universally accepted by scientists. It continues to occupy a position comparable in scientific importance with Newton's great work *Principia Mathematica* published in 1665.

Darwin's close friend, the geologist, Charles Lyell paved the way for *The Origin of species* with his *Principles of Geology* first published in 1830. This introduced scientists and the public alike to the previously inconceivable dimensions of geological time; Lyell was one of the first to believe the earth was more than 300 million years old. Up to then most educated Western people, including scientists, accepted the chronology established by Bishop Ussher of Armagh in which, using the Bible as his principal authority, he had declared the date of the creation of the earth to be the year 4004 BC. Though present-day science would put the age of the earth at more than ten times older than Lyell, his recognition of the previously unimaginable depths of geological time crucially provided a temporal framework within which the slow processes of Darwinian natural selection could take place.

At the time, the processes of inheritance by which the characteristics of parents were transmitted to their offspring were not properly understood. The laws of genetic inheritance were written down by Gregor Mendel in 1865-66 but remained unpublished and virtually unknown until 1900. Darwin had to rely on his own observations and the practices of plant-cultivators and animal-breeders to establish the ways in which the various characteristics of plants and animals were modulated and transmitted between generations. He himself carried out many years of breeding experiments with pigeons. Given the limitations within which he worked, his findings and the conclusions he based on them have stood the test of time extraordinarily well.

Darwin noticed, as many others must have done, that though reproduction was broadly predictable, with offspring inheriting a combination of their parents' characteristics, there were apparently random variations. Among the young in vertebrate litters and the clutches of young emerging from the nests of birds, there were always differences. He reasoned that because life is lived in competition for resources, those individuals whose differences gave them a competitive advantage over their peers tended to survive and reproduce in

greater numbers. Over tens and hundreds of millions of years the numbers of individuals with such competitive advantages continued to increase, perhaps undergoing further advantageous changes along the way. In some cases, over the great stretches of geological time, and the working of natural selection, the accumulated differences between branches of the same species in different areas become so great that they were no longer able to breed together, giving rise to separate species.

Evolution, as Darwin saw it, has no direction. It is a random process driven by chance mutations rather than an ever-upward drive. Not all mutations necessarily increase the complexity and range of attributes of a species; some bring a simplification and loss of capabilities, with the emergence of bizarre variations such as the blind moles or blind cave-dwelling mammals noted by Darwin¹. In other cases, where changing conditions rendered certain characteristics redundant, so that they no longer helped in the battle for survival, provided they did not put the creatures possessing them at a disadvantage, the characteristics tended to endure. This accounts for flightless birds, such as ostriches and penguins; their wings did not provide a decisive advantage in the battle for survival in the areas in which they lived but neither did they put those with them at a significant disadvantage. Sometimes changing circumstances enabled these redundant characteristics to be co-opted to new uses such as the way penguins use their wings as flippers. But whatever happened, it was the result of a blind, chance-driven process of natural selection.

The impact of Darwin's work was rapid but it is important to note that his ideas on evolution did not suddenly emerge from nowhere. He had been working on his book for twenty years, carrying out a widespread and leisurely correspondence with numerous scientific friends and acquaintances around the world. He was moved to rush into publication when he became aware that a young biologist, Alfred Russell Wallace (1823-1913), who had been working completely independently, was on the verge of publishing his own version of a very similar theory to Darwin's. Friends of both men organised a joint presentation of the two theories to the Linnean Society in London in 1858. Priority was accorded to Darwin and the two men remained friends, with the well-off Darwin doing much to support the poorer Wallace in the following years.

The question of evolution had, in fact, been bubbling up over the previous decades. The French biologist, Jean-Baptiste Lamarck (1744-1829), published his *Theory of Inheritance of Acquired Characteristics* in 1801. In Lamarck's day, the universal opinion in Christian societies was that the various plant and animal species had been individually created by the Almighty in their present-day forms on the appropriate day of Creation. Lamarck dared to question this, postulating that changes could and did take place in species without the direct intervention of the Creator.

According to Lamarck, if an organism changes during its life to meet a want or need, these changes are passed on to its offspring. One of his often-quoted examples was that of giraffes living in the savannah and feeding on the leaves of the native acacia trees. The efforts of the giraffes to reach ever higher in the trees to obtain their fodder led to small increases in their necks which were passed on to their offspring. This is not evolution in the Darwinian sense in which randomly occurring longer-necked giraffes have a competitive advantage which enables them to survive in greater numbers when food becomes scarce; this is the direct transmission of characteristics acquired during the lifetime of particular giraffes to their own offspring.

Darwin was, of course, aware of Lamarck's theories though he did not agree with them. He nonetheless referred to Lamarck as "a justly-celebrated naturalist" commenting that:

¹ Darwin(1859)p412

He first did the eminent service of arousing attention to the probability that all change in the organic, as well as in the inorganic world, being the result of law, and not of miraculous interposition....With respect to the means of modification, he attributed something to the direct action of the physical conditions of life, something to the crossing of already existing form, and much to use and disuse, that is to the effects of habit. To this latter agency he seemed to attribute all the beautiful adaptations in nature; - such as the long neck of the giraffe for browsing on the leaves of trees.²

Erasmus Darwin (1731-1802), grandfather of Charles, in his book *Zoönomia* published in 1794, had anticipated some of Lamarck's ideas. In a footnote in *On the Origin of Species*, Charles remarks:

It is curious how largely my grandfather, Dr Erasmus Darwin, anticipated the views and erroneous grounds of opinion of Lamarck.³

Lamarckism provided no mechanism for the transmission of acquired characteristics and as the 19th century proceeded, the idea fell out of favour and was superseded by Darwin's theory of natural selection.

Herbert Spencer

There is no indication that Alexander studied *The Origin of Species* or was influenced to any significant extent by Darwin. In the context of Alexander's views on evolution, the main writer of interest is Herbert Spencer (1820-1903). Alexander used extracts from Spencer's works as headings for three of the chapters in *Man's supreme inheritance*⁴ and included several references to Spencer and in-text quotations from him in the book. It is clear from Alexander's remarks on evolution in *Man's supreme inheritance* and his other works that he saw it in a Spencerian rather than a Darwinian light.

Spencer was probably the most famous public intellectual in the second half of 19th century Britain. He was a prolific writer and made his mark on philosophy, anthropology, economics, biology, sociology and psychology. He came from a family of religious Dissenters – members of non-established religions; his father's beliefs varied between Methodism and Quakerism but were firmly anti-authoritarian. Herbert was a delicate child, the only survivor of nine children. He was educated mainly by his father and a clergyman uncle, leaving school at sixteen to become a railway engineer, a job he continued in for the next seven years.

Despite his lack of formal advanced education Spencer was a precocious if narrowly centred intellectual. He had little use for Latin or Greek, regarding them as vestiges of failed and superseded societies. In his social views, following his father, he was a passionate libertarian and deeply distrusted the state and established institutions. During his railway engineering years he wrote widely for radical journals and newspapers and in 1857, a book of his essays was published. At a philosophical level, he became convinced that everything in the universe could be explained by a single fundamental law of universal application which he called the principle of evolution. In accordance with this, everything, the physical world, biological organisms, the human mind, human culture, and human societies were progressing from a lower to a higher and more complex state.

² Ibid.p430

³ Ibid.p430n

⁴ These are Part I VII (p67); Part III (p195); Part III Subsection III (p205). The page numbers are from the 1996 Mouritz edition.

He saw the workings of this principle in the condensation of the solar system from a primitive undifferentiated gas cloud into the sun and its surrounding planets. The emergence of the earth as a planet teeming life from its earlier state as a lifeless rocky ball was a continuation of the same process. Human society followed a similar upward evolutionary path, emerging from a primitive state of wandering groups of hunters that gradually coalesced into larger bands and tribes. Societies governed by authoritarian kings and rulers with their armies and military discipline came next, giving way to the division of labour and the growth of specialisation characteristic of 19th century industrial England which Spencer saw as the highest point of social evolution. His ideal society seemed to consist of small businesses distributed in broadly specialised agglomerations – potteries in Stoke on Trent, textiles in Lancashire and so forth – competing freely with each other.

The role of the state, in Spencer's view was simply to keep law and order and ensure that people honoured their contracts. His views are eloquently expounded in the six essays on "government, society and freedom" included in his 1884 book *The man versus the state*.⁵ He opposed the growing body of 19th century factory legislation that laid down minimum standards for working conditions, safety, employment of children and such matters. He was opposed to sanitary inspection by government officials and poor relief by the state which he felt encouraged fecklessness in the poor as well inflicting an additional burden on hard-working tax-paying people. He was against state-education and safety legislation for mines or indeed any intervention in what he saw as the natural process of social evolution. He did not deny that in the short term this refusal to interfere in social evolutionary processes could appear callous or indifferent to suffering but he saw the alternatives as worse. It was better in the longer term to allow things to work themselves out without bungling interventions by the state. In an essay entitled *Overlegislation* written in 1853 he remarks "*Who dreamed that Irish over-population would spontaneously cure itself, as it is now doing?*"

True to his principles of minimum intervention by the state, he was strongly opposed to imperial expansion and colonialism as well as military ventures such as the Crimean and Boer Wars on practical and moral grounds. He was also adamantly opposed to the slave trade. His view of the British Empire was that it was a blatant attempt by the upper classes to create jobs as colonial administrators for their second and third sons. His views find many echoes in the libertarian right wing in present day American politics.

He welcomed Darwin's work, seeing it as a special case of his own more general universal evolution theory. It was he, rather than Darwin, who coined the phrase "*survival of the fittest*". With its implication that the fittest could be equated with the most meritorious, this was very welcome to *laissez faire* industrialists and capitalists who believed in unfettered commercial competition. This attitude, encompassing minimum interference in the play of commercial competition became known as Social Darwinism – even though it owed far more to Spencer's ideas than to Darwin.

Spencer, with Lamarck, believed in the transmissibility of modifications acquired during a creature's lifetime but how this worked remained a mystery. As Spencer remarked in his 1857 essay *Transcendental physiology*:

Here we are obliged to fall back upon the unexplained principle of hereditary transmission. The capacity possessed by an organised germ of unfolding into a complex adult which repeats ancestral traits in minute

⁵ Spencer (1982).

*details...is a capacity impossible for us to understand...is a mystery passing comprehension..*⁶

Spencer wrote well and his books and essays were popular; his mockery of parliamentarians, lawyers and the judiciary, the higher reaches of the clergy, the civil service and other targets reads almost as well today as it must have done a century and a half ago. His fame and intellectual influence were at their peak in the latter half of the 19th century when he provided comfort to those who most keenly supported notions of the beneficial effects of leaving capitalists and industrialists to get on with their business with the minimum of interference.

Though he made a great deal of money from his writings and became a rich man, his later decades were marked by ill-health and hypochondria. He had a long relationship with the writer Marian Evans – better known as the novelist George Eliot – until her death in 1880 but he never married or owned a house. By the time of his death in 1903 he was embittered and lonely and had lived to see his reputation in a rapid decline from which it has never recovered.

Alexander's evolutionary views

It is difficult to know how seriously to take Alexander's views on evolution. Perhaps, as suggested earlier, it was no more than a desire to be part of what he sensed as a topical debate among his medical and scientific friends. At the same time, he seemed to feel a need to place his Technique in what he saw as the great unfolding scheme of human existence.

He begins *Man's supreme inheritance* with a dramatic declaration:

*The long process of evolution still moves quietly to its unknown accomplishment. Struggle and starvation, the hard fight for existence, working with fine impartiality, remorselessly eliminate the weak and defective. New variations are developed and old types no further adaptable become extinct and thus life fighting for life improves towards a sublimation we cannot foresee. But at some period of the world's history an offshoot of a dominant type began to develop new powers that were destined to change the face of the world.*⁷

To create a context for his discussion of how his Technique fitted into his broad scheme of evolution, he imagined how human creatures must have been when they were in a precivilised state. He goes back to the Miocene⁸ era and envisages Miocene man as ...*a creature of simple needs and of a vigorous bodily habit*⁹ who was able to meet his needs “*by the subconscious use of the mechanisms involved*”¹⁰. In taking this approach, Alexander is following Herbert Spencer and other writers from Thomas Hobbes¹¹ (1588-1679) onwards who imagined how human society emerged from its primitive beginnings in wandering bands of hunters.

As Alexander saw it, Miocene man did not reason out how to behave nor did he need to so. He depended on a sense of feeling or sensory appreciation that enabled him to deal with the challenges facing him. At this stage, humans were exactly like other members of the

⁶ Spencer (1890)p54

⁷ Alexander (1910)3

⁸ The Miocene era was between 23 and 5.3 million years ago and was named by Sir Charles Lyell.

⁹ Alexander (1910)p18

¹⁰ Ibid.p6

¹¹ Hobbes was one of the earliest writers on social philosophy and the emergence of civil society. He is best remembered for his description of life in what he called a “state of nature” as being “nasty, brutish and short.”

animal kingdom and existed in a “savage” state. But as time passed and evolution carried human society into the early stages of civilisation the slowness and limitations of man’s instinctive ways of meeting his needs became evident and it was then, Alexander hypothesises, that *the human creature must have reached a psychological moment to pass from the subconscious to the conscious plane of control*¹². He finishes the first chapter of *Man’s supreme inheritance* by declaring:

*For in the mind of man lies the secret of his ability to resist, to conquer and finally to govern the circumstances of his life, and only by discovery of that secret will he ever be able of realize completely the perfect condition of mens sana in corpore sano*¹³

Alexander’s view of evolution was distinctly his own but it owed much more to Spencer than to Darwin. For Darwin, evolution was the slow random working of natural selection but Alexander, like Spencer, saw it as a purposeful or teleological *tendency to advance*¹⁴. Evolution in Alexander’s view was an external force that acts upon society and shapes its development. Indeed, he goes further, and refers to it as “*a mighty force*” that enslaves man saying that *the power of the force we know as evolution still holds him in chains*¹⁵.

But not all early humans were able or willing to make the conscious decision to break the evolutionary grip and pass from subconscious to conscious control. Alexander says:

*It is obvious that a person who is satisfied with his present position on the evolutionary plane, with his present ideas, opinions, ways of life, etc will not have the desire or feel the need for changing conditions which consciously, or subconsciously, he deems to be satisfactory....Anyone who has established a desire to live on, influenced only by past psychophysical experiences, and who refuses to seek consciously for and to acquire new experiences, cannot expect any real advancement on the evolutionary plane.*¹⁶

Rather than being fully aware of themselves and what they are doing and how they are doing it, such people remain stranded at a lower level of evolution where their behavior is driven by subconscious rather than conscious guidance. Alexander saw this as applying particularly to those belonging to what he called the savage black races. He said:

*The controlling and guiding forces in savage four-footed animals and in the savage black races are practically the same, and this serves to show that from the evolutionary standpoint the mental progress of these races has not kept pace with their physical evolution from the plane of the savage animal to that of the savage human.*¹⁷

He goes on to say:

*The inadequate relative progress of the mental evolution of the black races as compared with their physical evolution, when considered in relation to their approximation to the savage animals cannot be considered other than a disappointing result.*¹⁸

¹² Alexander (1923) p7

¹³ Alexander (1910)p8

¹⁴ Ibid.p7

¹⁵ Ibid.p4

¹⁶ Alexander (1923) p12

¹⁷ Alexander (1910)45

¹⁸ Ibid.p45

Apart from being highly offensive in a modern context it is noticeable that Alexander seems not to distinguish between evolution and the individual acquisition of knowledge. This leads him into equating the process of learning how to deal with changing circumstances as a form of evolutionary progress. Describing the differences between people belonging to the primitive and the civilised nations, he says of those belonging to the primitive nations:

*The very essentials of life depended almost entirely on brute force. Daily experiences gave a keen edge to savage instincts and unbridled passions...Even the spheres of courage were limited, and when confronted with the unusual these people quaked like cowards, and fled, panic-stricken, from the unaccustomed.*¹⁹

Nowadays, it would tend to be assumed that they had not learned about the new phenomenon and were in need of some information rather than they had missed the evolutionary tide and were stuck on an animal plane of evolution. On a lighter note, many older people looking at young people wallowing in the mud at music festivals may not find much to disagree with in Alexander's remark that:

*The lower the stage of evolution, within certain limits, the greater the appeal of music and dancing.*²⁰

Apart from the sociological views he expresses, it is obvious that Alexander's views on the workings and time scales of evolution are seriously at odds with those of modern science and anthropology. This can be seen in the following quotation from *Constructive conscious control of the individual* where he describes how an awareness of a particular need can bring about evolutionary change. He says:

*In connection with the theory of conscious activity in the early stages of the creature's development, we should recall the time when a pair of eyes became a need. It is quite conceivable that after the consciousness of this need had arisen, the growth and development of the organs of sight may have occupied a thousand or more years. It is also conceivable that when the eyes had become developed, it may have needed a conscious effort, perhaps of years to open the eyelids and likewise to close them, and that the repetition of this conscious effort, week by week, month by month, and year by year, may have caused this function of the eyelids to become habitual and subconscious, and to develop to that wonderful standard of use now enjoyed by the creature.*²¹

Further examples of further oddities in Alexander's evolutionary views can easily be drawn from elsewhere in his works. Nor will most people, no matter how much they benefit from the Technique tend to share his grand vision of its role in the evolutionary future of humanity as he expressed it in *Man's supreme inheritance* where he asserts that by

...the adoption of conscious guidance and control (man's supreme inheritance)... the outcome will be a race of men and women who will outstrip their ancestors in every known sphere, and enter into new spheres as yet undreamt of by the great majority of the civilized people of

¹⁹ Ibid.p99

²⁰ Ibid.p101

²¹ Alexander (1923) p14

*our time. The world will then make in one century greater progress in evolution towards a real civilization than it had made in the past three.*²²

Alexander's belief that evolution is sweeping mankind to such a future also has implications for his views on habit and reflex actions. In the case of habit, Alexander seemed to regard it as belonging to a lower evolutionary plane of existence which would disappear with the dawning of an era of full conscious control. This ignores its positive, indeed indispensable, role in enabling the nervous system to avoid the time delays in conscious awareness, thus permitting the performance of otherwise impossible sporting, musical and other activities, as well as economising on brain-processing power.

Neither did he recognise the fundamental role of reflex activity in the efficient operation of the nervous system to which Sherrington devoted his 1906 book *The integrative action of the nervous system*, one of the key foundation texts of modern neuroscience. With such omissions, Alexander effectively cut the AT off from the work of the generation of neuroscientists emerging at the end of the 19th and early 20th centuries. The most notable of these from the AT perspective was Rudolph Magnus whom Alexander basically misunderstood in believing he had scientifically proven the existence of what Alexander called "the primary control".²³

Conclusion

Alexander's various evolutionary musings have dated rather poorly. Luckily they have virtually nothing to do with the validity of his discoveries and the development of his Technique, though at times they tend to obscure what he was trying to say in his books. More importantly, they can be a significant barrier to his work being taken seriously in a modern scientific context.

Looking about the contemporary world, and the incidence of blatant bodily misuse in ordinary life, it is obvious that the need for Alexander's insights into how we use and misuse ourselves is as great as it has ever been. The medical profession's refusal to look at the whole person when surgically addressing the ravages of sporting injuries or the wear and tear of daily use, the widespread belief that violently exercising malfunctioning bodies will magically restore them to proper working order are as prevalent as they were in Alexander's time. His methods of restoring the ravages of misuse have proved their effectiveness and relevance for well over a century. It would be regrettable if his ill-judged writings on evolution in any way reduced the credibility or potentially wider impact of his Technique.

A semi-serious rule of thumb for reading his books would be ignore every reference by Alexander to evolution as irrelevant to the understanding and application of his Technique.

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²² Alexander (1910)p159

²³ A more detailed discussion of Alexander's "Primary control" is available at <http://www.geraldfoley.co.uk/Primarycontrol.html>