THE ALEXANDER TECHNIQUE AND ASSOCIATIONIST LEARNING THEORY

A HISTORICAL PERSPECTIVE

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Abstract

When, in 1894, F. Matthias Alexander set out as a 'natural elocutionist' (Alexander, 1995, p. 3), little could he have guessed what lay ahead—that in his search for a sore throat cure he had hit upon a new and thoroughly practical understanding of how the human being functions as an integrated whole and to a technique for 'The development of the control of human reaction' (Alexander, 2000, p. 88). Central to the way the Alexander Technique is framed is the concept of habits of thought or action as some kind of chain reaction of associated events—one giving rise to the next, and so on. It is well-documented that around 1900 Alexander became acquainted with William James' book, *Principles of Psychology*. James' theory of habit provided a sound theoretical basis for Alexander's empirical discoveries.[1] As with any new theory, James built on the ideas of others. This article traces ideas from the eighteenth-century English physician David Hartley—the acknowledged founder of associationism—through to Alexander and the present day. There is also obvious relevance to nineteenth-century ideo-motor theory, but this is not included as it has been discussed elsewhere (Ballard, 2015, p. 49-71; Williamson, 2017, p. 18-28).

When, in 1894, F. Matthias Alexander set out as a 'natural elocutionist' (Alexander, 1995, p. 3), little could he have guessed what lay ahead—that in his search for a sore throat cure he had hit upon a new and thoroughly practical understanding of how the human being functions as an integrated whole and to a technique for 'The development of the control of human reaction' (Alexander, 2000, p. 88). Central to the way the Alexander Technique is framed is the concept of habits of thought or action as some kind of chain reaction of associated events—one giving rise to the next, and so on. It is well-documented that around 1900 Alexander became acquainted with William James' book, *Principles of Psychology*. James' theory of habit provided a sound theoretical basis for Alexander's empirical discoveries.[1] As with any new theory, James built on the ideas of others. This article traces ideas from the eighteenth-century English physician David Hartley—the acknowledged founder of associationism—through to Alexander and the present day. There is also obvious relevance to nineteenth-century ideo-motor theory, but this is not included as it has been discussed elsewhere (Ballard, 2015, p. 49-71; Williamson, 2017, p. 18-28).

Associationist learning theory can be traced back in philosophical thought to Plato and Aristotle. The concept is summed up in the question posed by Hartley: Why is it that, after thinking of A, we think of B the next moment? Or how do we come to think A and B always together (James 1, p. 553)? In his book *An Essay Concerning Human Understanding*, Hartley's predecessor, the great philosopher John Locke (1632-1704), proposed that habits of thinking and 'motions in the body' are formed through 'custom'—i.e. repeated practice and familiarization. Once started, it is in the nature of habit to proceed automatically without further thought. Difficulties can arise though when it is desirable to change a habit. It is here where the Alexander Technique—a mechanism for change—becomes useful (Jones, 1998, p. 65-80).

By inhibiting the first link in the chain, the cue that triggers what follows—and, hence, each subsequent event in the chain—is prevented from occurring. Stopping provides an opportunity to restore integrated functioning through Alexander's *means whereby* and improved conditions for our manner of use.

The preeminent American philosopher John Dewey began his lessons with Alexander sometime around March 1917.[2] A comparison of the first and second editions of *Man's Supreme Inheritance* (1910/1918) shows evidence of their long evening discussions.[3] Alexander related how Dewey had read the manuscript of *MSI* remarking, 'Alexander, I am delighted that you hit upon the wonderful principle of non-doing in your technique' (Alexander, 1995, p. 147). Dewey was a colleague of William James. In his 1922 book Human Nature and Conduct Dewey clearly formed a synthesis of James' theory of habit with Alexander's technique (McCormack, 2014; Williamson, 2017, p. 29-44). In an oft-quoted passage, Dewey wrote:

> As soon as we have projected [an end] we must begin to work backward in thought. We must change what is to be done into a how, the means whereby. The end thus appears as a series of "what nexts," and the what next of chief importance is the one nearest the present state of the one acting. Only as the end is converted into means is it definitely conceived, or intellectually defined, to say nothing of being executable. . . . We do not know what we are really after until a course of action is mentally worked out. Aladdin with his lamp could dispense with translating ends into means, but no one else can do so. (Dewey, 1957, p. 36 quoted in McCormack, p. 91)

The correlation between Jamesian theory and Alexander Technique practice must have been what Dewey was referring to when he wrote of his lessons, 'I found the things which I had 'known'—in the sense of theoretical belief—in philosophy and psychology, changed into vital experiences which gave a new meaning to knowledge of them' (Alexander, 1985, p. 11). Eric McCormack wrote that Dewey developed a doctrine of 'a "temporal continuum of activities in

which each successive stage is equally end and means" [that] could be shown to be infused with Alexander's "means whereby" versus "end-gaining" principle' (McCormack, p. 137).

David Hartley (1705-1757)

Writing in 1774, Joseph Priestley, the Unitarian minister and polymath—discoverer of oxygen and carbonated water (fizzy drinks) among other things—considered David Hartley's book, written in 1749 and entitled *Observations on Man: His Frame, His Duty, His Expectations in Two Parts*, to be the single most important book for him next to the scriptures.[4] Hartley expanded on Locke's notion in his *Essay Concerning Human Understanding* ('Of the Association of Ideas') that,

> custom settles habits of thinking . . . and of motions in the body; all which seem to be but trains of motion in the animal spirits which, once set agoing, continue in the same steps they have been used to, which by often treading are worn into a smooth path, and the motion in it becomes easy and, as it were, natural. (quoted in James 1, p. 563-4; Hartley, p. 67)

William James explained that by 'animal spirits,' Locke meant what we understand as *neural processes* and thought science had not yet succeeded in improving on this concept of habits: chained sequences of mental associations formed through 'custom' or routine.[5]

Hartley put his mind to the question of how mental connections are formed: Why is it that, after thinking of A, we think of B the next moment? He suggested that ideas are connected or become associated through 'vibrations' in the nerves. By proposing that physical processes may underlie thoughts, Hartley challenged the orthodoxy of Cartesian dualism thus giving birth to the very modern concept of 'psychophysical'—ideas (feelings, sense impressions) produced by 'vibrations in the nerves' or what we now know as nerve impulses.

Erasmus Darwin (1731-1802)

It would to be another fifty years before Hartley's theory made its full impact (Rockey, p. 153). Erasmus Darwin (grandfather of Charles), wondered what set the organs of speech in motion, and why movements sometimes went awry. He had a personal interest in what made him and other people stutter. In the second volume of his two-volume medical textbook *Zoonomia* (1794, 1796), Darwin suggested that stuttering happens when the mind is distracted or overwhelmed by strong emotions such as 'awe, bashfulness, ambition of shining, or fear of not succeeding':

> Impediment of speech is owing to the associations of the motions of the organs of speech being interrupted or dissevered by ill-employed sensation or sensitive motions, as by awe, bashfulness, ambition of shining, or fear of not succeeding, and the person uses voluntary efforts in vain to regain the broken associations. . . . Thus in the common impediment of speech, when the association of the motions of the muscles of enunciation with the idea of the word to be spoken is dissevered, the great voluntary efforts, which distort the countenance, prevent the rejoining of the broken associations. (Darwin, 1796, p. 505)[6]

Stutter (or stammer) is an interruption of the normally smooth sequencing or 'catenation of motions' of the organs of speech formed 'by long habit.' According to Darwin's (1794) analysis:

> [T]he first syllable of a word is causable by volition, but the remainder of it is in common conversation introduced by its associations with this first syllable acquired by long habit. Hence when the mind of the stammerer is vehemently employed on some idea of ambition of shining, or of not succeeding, the associations of the motions of the muscles of articulation with each other become dissevered by this greater exertion, and he endeavours in vain by voluntary efforts to rejoin the broken association. For this purpose he continues to repeat the first syllable, which is causable by volition, and strives in vain, by various distortions of countenance, to produce the next links, which are subject to association. (Vol. 1, p. 193)

Darwin compared this 'broken association' with our struggle to remember someone's name. The feelings associated with mental effort tend to cloud our ability to think clearly. When we stop trying, then we are more likely to remember.

Compare Darwin's account of speaking the syllables of a word (or words of a sentence) by association with the following from William James, writing around a hundred years later:

> The object of our will is seldom a single muscular contraction; it is almost always an orderly sequence of contractions, ending with a sensation which tells us that the goal is reached. But the several contractions of the sequence are not each distinctly willed; each earlier one seems rather, by the sensation it produces, to call its follower up, . . . habitual concatenated movements being due to a series of secondarily organized reflex arcs. *The first contraction is the one distinctly willed, and after willing it we let the rest of the chain rattle off of its own accord* [italics added for emphasis]. (Vol. 2, p. 586-7)

The implication from reading these passages by Darwin and James is that once a habit is set in motion we have little or no control over its subsequent unfolding. We can trace a direct line from Darwin's theory of Catenation of Motions through to William James, John Dewey, and Alexander (Williamson 2017, p. 29-44). It is most unlikely that Alexander thought about associationist theory and its origins when he was developing his technique. Yet, remarkably, he developed a practical self-help method for dealing with unwanted habits in accord with this principle.

William James (1842-1910) to the present

James' theory of habit provided Alexander with a rationale that he might have used to defend himself against accusations of being an uneducated 'empiricist.'[8] It was common practice for the medical profession to so-accuse elocutionists, whom they characterised (often unfairly) as dangerous quacks lacking the necessary education and knowledge of anatomy and physiology. Being denounced as an empiric harked back to antiquity. It referred to a sect of physicians who were guided by experience and were opposed to the rationalists' view that illness must only be treated by those who understood its origins and theory. Gradually, the best of both systems has merged somewhat. In the nineteenth century, though, the term was used as a pejorative for practitioners who were thought unable to profit by their own means and who falsely lived off the experience of others.[9]

Expanding on Hartley's concept, James wrote:

> The laws of motor habit in the lower centres of the nervous system are disputed by no one. A series of movements repeated in a certain order tend to unroll themselves with peculiar ease in that order for ever afterward. Number one awakens number two, and that awakens number three, and so on, till the last is produced. A habit of this kind once become inveterate may go on automatically. And so it is with the objects with which our thinking is concerned. With some persons each note of a melody, heard but once, will accurately revive in its proper sequence. (James 1, p. 554)

For James, it is external objects that stimulate our thoughts[10] and 'guiding sensations' that necessarily organize and guide our complex movements:

> All these cases, whether spontaneous or experimental, show the absolute need of guiding sensations of some kind for the successful carrying out of a concatenated series of movements. It is, in fact, easy to see that, just as where the chain of movements is automatic each later movement of the chain has to be discharged by the impression which the next earlier one makes in being executed, so also, where the chain is voluntary, we need to know at each movement just where we are in it, if we are to will intelligently what the next link shall be. (James 2, p. 490-1)

Compare Alexander's use of the term 'guiding sensations' in *Man's Supreme Inheritance*:

> When this has been done he must proceed to inhibit the guiding sensations which cause him to use the mechanism imperfectly, apprehend the position of mechanical advantage, and then by using the new, correct guiding sensations or orders, he will be able to bring about the proper use of his muscular mechanism with perfect ease. (1910, p. 80; 1918 (1996), p. 58)

In the second edition of *MSI*, Alexander (1918) writes:

> It is essential, in the necessary re-education of the subject through conscious guidance and control, that in every case the "means whereby" rather than the "end" should be held in mind. *As long as the "end" is held in mind instead of the "means," the muscular act, or series of acts, will always be performed in accordance with the mode established by old habits*. When each stage of the series essential to the "means whereby" is correctly apprehended by the conscious mind of the subject, the old habits can be broken up, and every muscular action can be consciously directed until the new and correct guiding sensations have established the new proper habits, which in their turn become subconscious, but on a more highly evolved plane (italics added for emphasis). (Alexander 1996, p. 117-118)

In his account of the 'evolution' of the technique, Alexander (1932/1985) describes how he found that he must inhibit his usual reaction to wanting to speak 'at the start' and continue to do so until he was fully confident that he could maintain the new, consciously directed means for a co-ordinated manner of use:

> For by actually deciding, in the majority of cases, to maintain my new conditions of use . . . [and] to refuse to [speak the sentence], . . . my instinctive response to [wanting to speak] was not only inhibited at the start, *but remained inhibited right through, whilst my directions for the new use were being projected*. And the experience I

> gained in maintaining the new manner of use while going on to gain some other end or refusing to [speak], helped me to maintain the new use on those occasions when I decided at the critical moment to go on after all . . . and speak the sentence.[11] (p. 47)

It is beyond the scope of this article to discuss current theories. Today, the subject of behavioural integration is studied not only by philosophers and psychologists but also by researchers into cognitive neuroscience, artificial intelligence (AI), and robotics. The only ultimate law of association seems that of neural habit. In an attempt to explain associative or Hebbian learning, in his book *The Organization of Behavior*, Donald Hebb (1949) introduced the concept of synaptic efficiency and neural networking through (what John Locke called) 'custom.'[12]

In *The Power of Habit*, Charles Duhigg (2013, p. 17) reported on studies at the Massachusetts Institute of Technology. The brain uses a process known as 'chunking' to convert a sequence of actions into an automatic routine.

It is at the root of the way habits form. Once the cue sets off its associated routine, the whole sequence plays out automatically. As yet, there is very little Alexander Technique-specific research, but a recent study by Ian Loram (2017, p. 367) and colleagues found that 'proactive selective inhibition' of neck muscle tension affects whole-body movements co-ordinated along a 'proprioceptive-kinematic chain.' Science no longer talks of 'animal spirits' or 'vibrations in the nerves,' but the idea of a sequence of associated events set in motion by a single thought has persisted through history and provides some explanation for why and how the Alexander Technique may work.

Abbreviations for books by F. Matthias Alexander:
MSI (1910): *Man's Supreme Inheritance*. London: Methuen & Co. Ltd.
MSI (1918): *Man's Supreme Inheritance*. London: Mouritz 1996.
CCCI (1923): *Constructive Conscious Control of the Individual*. London: Mouritz 2004.
UOS (1932): *The Use of the Self*. London: Gollancz 1985.
UCL (1942): *The Universal Constant in Living*. London: Mouritz 2000.
A&L (1925) *Articles and Lectures*. London: Mouritz 1995

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Endnotes

1 "He (Alexander) read James's great work [*Principles*] and was struck by what James had to say about the 'ideo-motor function' . . ." in a letter from Horace Kallen to Eric McCormack dated February 20, 1958 as quoted in McCormack, p. 29, fn. 65). Also see Alexander, 1946, p. 201; Edward Maisel, 1974, p. 45; Walter Carrington and Seán Carey, 1992, p. 154; Alexander, 1995, p. 292, n. 94; Alexander D. Murray, 2015, p. 37); Kathleen Ballard, 2015, p. 60).

2 'Mrs J. Dewey began Friday [2 March] and that is a splendid thing in so many ways. It is a big connecting link all round.' Letter, Alexander to wife Edith, Thursday [8 March 1917]. Author's private collection.

3 'I had gone on with Professor Dewey, and we had spent night after night discussing these matters.' (A&L, 'An Unrecognized Principle' (1925), p. 158. M. Williamson. 'Dewey's Influence on Alexander'. *Alexander Journal*, no. 26, Spring 2017, p. 29-44.

4 *Stanford Encyclopaedia of Philosophy* (online).
5 For instance, '. . . brain-centres for the various feelings and movements and tracts for associating these together' (James 1, p. 40).
6 Cf. Vol. 1 (1794) 'Thus in the common impediment of speech, when the association of the motions of the muscles of enunciation with the idea of the word to be spoken is dissevered, the great voluntary efforts, which distort the countenance, prevent the rejoining of the broken associations' (p. 189).
7 See Alexander, *MSI* (1910), p. 60-63; (1918/1996), p. 33-35; or, for a detailed exposition on Stutter, see Alexander *UOS* (1932/1985), Chapter VI, p. 70-85.
8 'A Protest against certain Assumptions contained in a Lecture delivered by Dr R. H. Scanes Spicer . . .' in A&L, p. 107-118. '. . . that he should make slighting references to "empirical methods" and teachers without a medical degree' (p. 107 also p. 115). 'Dr. Jokl had chosen to ignore Mr. Alexander's protestations that he was no curer, and chose to brand him "as a quack, a charlatan, as a man who is preying on the upper classes of society."' Rand Daily Mail, February 17, 1948. 'They [The defence] submitted that the evidence showed that Mr. Alexander was an ignorant layman that in anatomy and physiology he knew very little, yet claimed that healing or therapeutics were "his own province."' *The Cape Argus*, March 1, 1948.
9 Rockey, *Speech Disorder*, pp. 68, 140, 174, 215, 255. *The Lancet* 1846, May 16, Vol. 47, Issue 1185, p. 557-8; June 13, Vol 47, Issue 1189, p. 663-4.
10 'All ideas being in the last resort reminiscences, the question to answer is: *How can processes become organized in the hemispheres which correspond to reminiscences in the mind?* Nothing is easier than to conceive a possible way in which this might be done . . . the same cerebral process which, when aroused from without by a sense-organ, gives the perception of an object, will give an idea of the same object when aroused by other cerebral processes from within.' (James 1, p. 24)
11 Adapted for clarity, with original italics. 'Some other end' could be anything in general such are reaching to pick up a cup or something AT-specific like a whispered 'ah'.
12 Psychologist, D. A. Allport proposed ideas that included inhibitory processes regarding cell assembly theory and its role in forming neural networks or engrams: If the inputs to a system cause the same pattern of activity to occur repeatedly, the set of active elements constituting that pattern will become increasingly strongly interassociated. That is, each element will tend to turn on every other element and (with negative weights) to turn off the elements that do not form part of the pattern. To put it another way, the pattern as a whole will become '*auto-associated*' . . . We may call a learned (auto-associated) pattern an 'engram' (1985, 44). Allport, D.A. 1985. "Distributed memory, modular systems and dysphasia." In *Current Perspectives in Dysphasia*, edited by S.K. Newman and R. Epstein, 32–60. Edinburgh: Churchill Livingstone.