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Making Connections

An introduction to the Alexander Technique for practitioners of performing arts medicine.

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> …the centre and backbone of my theory and practice, upon which I feel that I cannot insist too strongly, is that THE CONSCIOUS MIND MUST BE QUICKENED. Alexander, 1918: 33.

> The technique… has been developed throughout from the premise that, if something is wrong with us, it is because we have been guided by unreliable sensory appreciation, leading to incorrect sensory experiences and resulting in misdirected activities. Alexander, 1923: 95

This paper describes the Alexander Technique. It attempts to bridge a gap between how most Alexander teachers view the purpose of Alexander lessons, and how this is commonly viewed by health professionals. The Technique is often misrepresented as movement education, "posture training" (Wall 1999: 147, 175) or as a method for "total relaxation of the body" (Tubiana 2001: 178). However, movement and posture training are based on the inadequate premise that inappropriate habit patterns can be altered satisfactorily from the outside, by doing something different (Barlow, M: 266). A state of "total relaxation" is not desirable, even if it were possible. [1]

The Alexander Technique (AT) is a rational method for personal growth and development through the self-prevention of fixed habits that limit personal performance. By applying it in everyday activities "it teaches you how to bring more practical intelligence into whatever you are already doing." (Jones 1976: 2) The *Technique* refers to the technique for self-help that is taught in lessons and not, as is often assumed, to the instructional method(s) used to teach it (Carrington 1970). This important distinction is not always made clear and leads to confusion. Teaching the AT usually involves a "hands-on" component which most teachers consider is essential for conveying the implied "how to" of verbal instructions. This is partly analogous to a singing teacher placing his hands on a student to bring to realisation some unnecessary "holding on", or to demonstrate correct posture or rib movement.

The AT is not an alternative to medical treatment or physiotherapy, however it can add a new dimension to the rehabilitation of injured musicians (Batson 1997). [2] It has been described as a unique approach in the field of personal health education (Carrington 1989). However, its most important contribution lies in the exploration of the growth and development of human consciousness and, what Alexander called, "conscious control" (Carrington 1969). Any health

[1] Tubiana (2001) "Good posture is a state of active muscular equilibrium, not muscular relaxation…" (18)
[2] Glena Batson is a physical therapist and Alexander Teacher working with performing artists in the USA.

benefits associated with learning and applying the Technique occur *in the process* of re-education on a general basis as an indirect result of beneficial changes to the unsatisfactory conditions that created and sustain them. [3]

Conscious guidance and control is reached through refinement in a person's manner of use and general functioning. [4] Improvements in a pupil's manner of use and functioning are the main focus in Alexander lessons. Alexander's concept of a person's manner of use of himself or herself is not generally recognised and receives little attention. It provides a different way of looking at how we go about the act of living; one in which we see *ourselves* as the primary instrument through which we lead our lives. "Use" is fundamental - more fundamental than posture - and involves cognitive actions such as thinking and reasoning. [5]

The term "self" is preferred to "body-mind" to indicate the undivided, psychophysical nature of the individual. At the beginning of *The Use of the Self*, Alexander wrote:

> "… when I began my investigations, I, in common with most people, conceived of the "body" and "mind" as separate parts of the same organism… My practical experiences, however, led me to abandon this point of view, and readers of my books will be aware that the technique described in them is based on the opposite conception, namely, that it is impossible to separate "mental" and "physical" processes [6] in any form of human activity." (Alexander 1932: 22)

By and large, people do not give much thought to how they use themselves, but instead rely on instinct or habit. However, the manner in which we direct and control our psychophysical mechanisms (i.e. how we use ourselves) acts as a constant influence on our general functioning and ability to perform tasks with appropriate effort. "Good use" tends towards finer balance and integration, simplicity and an improved standard of functioning; "poor use" tends towards imbalance, fixed or held muscle tension (separation) and complexity, and has a lowering effect.

A use-related problem with breathing function, an arm or other part will often resolve, depending on its severity, as the standard of general functioning improves. It is usually not so much a matter of "What do I need to do?", but rather "What do I need to stop doing?" By applying the AT, unsatisfactory habits of mal co-ordination and effort become more obvious and amenable to "unlearning".

It has been suggested that Alexander's concept of use is prescient of what is currently known in neuroscience, a forward-thinking attempt to describe the complex interplay of neurological, bio-mechanical, psychological, environmental systems that determine behaviour (Batson 1996). Directly targeted treatment-based approaches often fail to address all of the predisposing factors and thus can only be regarded as partial solutions. Many conventional approaches attempt to bring about particular changes according to biomechanical or ergonomic principles but there is little dependable evidence of their effectiveness. Generic

[3] For a discussion of this in regard to respiration, see Alexander 1923: 138-143.
[4] "The concept of general functioning does not exist in medical science… The whole is more than the sum of the [proper functioning of the] parts because of the integrative action of the anti-gravity response." (Carrington 1999: pp. 132-3)
[5] "Whenever I use the phrase "use and functioning" in relation to the human organism, I do not indicate mechanical activity as such, but include in the phrase all manifestations of human activity involved in what we designate as concentration or understanding, withholding or giving consent, thinking, reasoning, directing, etc." Alexander 1932: p. 53 fn.
[6] Alexander uses the term "psycho-mechanical" (1923: 31) to indicate that activities are never purely physical or mental. Compare terms such as ideo-motor, psycho-motor. This paper follows Alexander's practice of putting "mental" and "physical" in inverted commas.

exercise programmes, not tailored specifically to each case, tend to perpetuate habitual compensatory muscle patterns (Dommerholt: 406). Simply following instructions for remedial exercises, or (for instance) to sit straight or to take deeper breaths cannot lead to reliable changes if a patient's own conceptions and guiding sensory feelings are distorted by long-standing habits of misuse. Likewise, educational programmes that do not fully involve the client have limited or short-term effect (Daltroy, *et al* 1997). [7] It is tempting to speculate whether instruction in "the use of the self" could enhance the effectiveness of specific interventions. [8]

Wide-ranging benefits can be gained from learning and successfully applying the AT in everyday activities. These include improvements in balance and control of voluntary movement (Stallibrass 2002) [9] and breathing function (Austin, Ausubel 1992). [10]

The AT has been taught as a foundation discipline at major music and drama conservatoires in the UK since the 1960s. [11] Singers report greater ease and vocal resonance, and better breath control (Barlow, W 1956, 1978: 98-9). Following improvements in awareness and control, music tutors find their students are more receptive to instruction and easier to teach (Barlow, W 1978: 190ff.). Some contemporary dance schools in North America include the AT in training to prevent injuries (Richmond 1994).

Austin and Ausubel (1992) note a "remarkable uniformity with which artist performers, including singers and wind instrumentalists, describe AT instruction as directly aiding their ability to perform." The value of the AT in instrumental and vocal pedagogy is widely recognised and documented in music journals (this aspect is outside the present remit) but it has not been validated in musicians' health problems. Valentine *et al* (1995) found that AT lessons had no effect on physiological outcome measures and suggests that more dramatic results for psychological measures such as anxiety and confidence in performing might be obtained with cognitive-behavioural methods. [12] The value of the AT for musicians, then, appears to be in providing a sound basis for learning, developing technical ability and artistic expressiveness, and in prevention. Evaluation of the AT's role in rehabilitation and re-training is overdue.

[7] A large-scale study of US postal workers found that a preventive programme, consisting mostly of talks on safe handling and lifting techniques, made no improvements to behaviour or absenteeism in the long term.

[8] Experience in some voice clinics has suggested this may be so. Dommerholt encourages performing arts clinicians "to evaluate and incorporate [the AT and other somatic approaches] into the overall treatment paradigm where appropriate."

[9] RCT with three groups (n=93): (1) AT, (2) massage, (3) no additional treatment to usual medication. Group 1 subjects each received 24 private Alexander lessons, two per week for 12 weeks. Improvements in group 1 (less tremor, improved posture, balance and coordination in walking, etc.) were maintained at 6 week follow-up. It concluded, "AT lessons are likely to lead to sustained benefit for people with Parkinson's Disease."

[10] Volunteers (n=19) in two groups: (1) experimental who each had 20 private lessons given at weekly intervals. These were matched by age, gender, height and weight with group 2 who had no instruction. Group 1 showed statistically significant increases in standard spirometric tests including maximum static mouth pressures which, it was suggested, were due to improved strength and endurance of anterior abdominal and paraspinous muscles.

[11] Central School of Speech and Drama mid-60s, Royal Academy of Dramatic Art 1968 and Guildhall School of Music and Drama, 1970. Today the Alexander Technique is taught in all major conservatoires in the UK and many other countries.

[12] Valentine et al suggest, "It is possible that 15 lessons were insufficient to develop a level of skill required to apply the technique in a state of high arousal." (The author is familiar with the practical problems of this trial. Some subjects did not aspire as performers; AT lessons were squeezed into students' already busy schedules; quality of audio-video recording was very poor.) "Altering habits of a lifetime is an enduring process which of necessity must extend beyond twenty lessons" (i.e. 40-100 lessons), according to Austin & Ausubel.

In recent years the Technique has gained wider recognition from the general public as a way of resolving functional disorders, such as non-specific low back pain. Initial results of small preliminary trials are suggestive [13] but, otherwise, evidence is entirely anecdotal. [14]

The basis of the Alexander Technique

> My technique is based on inhibition, the inhibition of undesirable, unwanted responses to stimuli, and hence it is primarily a technique for the development of the control of human reaction. Alexander, 1942: 88

The Alexander Technique has been described as "a technique for the… control of human reaction" (Alexander 1942: 88) and as "a method for changing stereotyped response patterns" (Jones 1965). Preventative health education is usually concerned with the avoidance of harmful overt activities such as smoking or dangerous working practices. Importantly, learning a technique for the prevention of harmful, misdirected habitual activity *within the self* is, as Alexander wrote, "a most valuable experience to be gained by those who wish to prevent themselves from harmful 'doing' in carrying out activities outside themselves" (Alexander 1942: 101).

The Alexander Technique is based on the discovery that self-awareness and thought leading to movement can be employed to prevent inappropriate habitual neuromuscular activity.[15] Rather than attempting to change physiologically unsound postures and motion patterns directly, the underlying mental habit - the "too quick and unthinking reaction" (Carrington, 1999: 59, quoting Alexander) has first to be prevented or "inhibited" voluntarily. The "mental" habit (planning and initiation) usually lies below the level of awareness but it may be brought to consciousness by introspection and self-analysis.

The AT is described as the grandfather of the "somatic" approaches (Hanna 1986). These are a wide spectrum of approaches ranging from AT (almost entirely educational) to body-oriented psychotherapy (almost entirely therapeutic) and include methods by Elsa Gindler, Moshe Feldenkrais and Thomas Hanna. They are not applied techniques (procedures) but are mostly ways of operating in life which focus on the personal inner experience of thoughts, feelings, sensations and intention, and which rely on an individual's quality of attention and ability to become self-determining.

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[13] For instance, Vickers et al (1999) n=91 in three groups: (1) AT lessons, (2) professionally lead self-help group, (3) no treatment. At post-test assessment the AT group had best statistically significant scores for every rating though at 6 months there was no significant difference among the groups. However, the AT group continued to show the lowest levels of disability at 3, 6 and 12 months and the conclusion was that "Some measure of pain relief, from moderate to considerable, is a likely bonus for a large proportion of clients who learn to use it [the Alexander Technique]." Some preliminary studies in multi-disciplinary pain management programmes which include AT are: Fisher, K (1988) *Holistic Medicine*, 3, 47-56; Maitland, S, et al (1996) *Br J Learning Disab.,* 24, 2: 70-76; Elkayam, O. et al (1996a) *Rheumatology Int*., **16**, 1: 19-21 and (1996b) *Clinical and Experimental Rheumatology* **14**, 3, 281-288; and report on the pain clinic at Kingston Hospital in *Here's Health*, May 1997: 38-40. A UK study (n=550) funded jointly by the Medical Research Council and NHS is currently under way (July 2003).

[14] For example, BackCare (*TalkBack*, Autumn 1999: 13) and the Consumers' Association *(Which?* December 2001: 35-37) self-completion questionnaire surveys of members' verdicts on complementary medicine, including AT.

[15] Benjamin Libet, cf. the unconscious pre-set action plan or "readiness potential". Brain representations, 'action plans', of movement patterns involving mental content were a major break from the classical Sherrington model of stimulus-response. They were first suggested in 1943 (Jeannerod: 4), too late to provide Alexander with a mechanism by which his technique might work. Skillful movement involves selection from the stock of available motor schema and the inhibition of non-desirable ones. (Jeannerod: 3-7, 127)

Validation for Alexander's methods may be found in the first-person perspective, based on common sense and practice, by anyone who is interested enough to try them. Over the years, the AT has attracted the attention of eminent scientific researchers who have attested to its sound scientific basis: Dewey (in Alexander, 1932), Sherrington 1946: 89, Coghill (in Alexander, 1942), Dart 1970, Tinbergen 1974 and 1976, Garlick 1990. However, there is little scientific evidence that directly supports Alexander's principles [16] and methods (Batson 1996). In the 1960s, Jones *et al* conducted a series of experimental studies using multi-image photography, electromyography, etc. to explain the physiological mechanism (Jones 1976: pp.106-151). A repeat of these experiments using modern equipment and methodology concluded that they still require further confirmation (Stevens 1995). Garlick, a researcher at the University of New South Wales, has speculated on the bio-medical science underpinning the Technique (Garlick 1990 and a series of essays throughout the 1980s and '90s in the journal, *Direction* [17]).

"Observation is the key to understanding" – Leonard Da Vinci

As an actor, Frederick Matthias Alexander (1869-1955) searched for a solution to recurring hoarseness during his theatrical performances in the 1890s. He deduced that it must be something he was doing wrong that was causing his voice to fail and he set about finding out what it might be. He observed that the efficiency of his vocal and breathing mechanisms were disturbed by an overall pattern of inappropriate muscular tension and effort. Essentially, Alexander found that he (and, subsequently, his pupils) was inclined habitually to stiffen the neck, to pull the head back at the atlanto-occipital joint and to shorten in stature, thus putting himself at a disadvantage when reciting. He found that the habits were present at other times, and that a technique for preventing these specific tendencies at the critical moment of carrying out his intention to speak (etc.) had an improving and integrating effect on his general functioning.

The Alexander Technique's role in education and training

> The technique of Mr. Alexander gives to the educator a standard of psycho-physical health… It supplies also the "means whereby" this standard may be progressively and endlessly achieved, becoming the conscious possession of the one educated. Professor John Dewey in Alexander 1932: xix.

Performing artists strive for reliable, seemingly effortless expression of their artistic ideals through the physical (muscular) mechanisms. This requires superbly integrated functioning of

[16] The Alexander Principles are variously described as: recognition of the force of habit; Unreliable Sensory Appreciation; Primary Control; voluntary inhibition of unwanted reaction and; "directing". Additionally, they include the principles of psychophysical unity; manner of use affects quality of functioning and; re-education on a general basis rather than specific "treatment". See draft IVa Competencies, June 2003 (STAT).

the entire self. Problems occur when natural balance and integrity are disturbed by poor use in general or, for instance, when adjusting to the requirements for holding a musical instrument. In the learning of any practical subject, performing arts included, progress is often obstructed by guesswork, extra bracing and effort ("trying too hard") or by an irrational fear of failure. These create a state of unduly raised physiological arousal in which "people are less able to process information intellectually, and have restricted access to their creativity, empathic and social abilities" (Allen 2003). In music education, some authors consider stage fright to be a taught phenomenon in that "the traditional teaching of music exposes neophyte musicians to some situations of public performance during which tension is very high and to which they are hardly prepared" (Arcier: 519). Alexander reasoned that an "end-gaining" approach of not allowing sufficient time and consideration for the employment of essential basic skills, and a satisfactory standard of use, was ultimately defeating. It is seen as one of the main reasons why compensatory patterns of inappropriate effort develop. Teachers need to be vigilant in avoiding an end-gaining approach and to discourage their students from adopting end-gaining strategies in order to achieve short-term success at the expense of longer-term improvement. Overlooking the need for sound basic skills and a satisfactory manner of use can have devastating consequences for health, confidence, success and happiness.

Practicalities: A technique for self-help

When considering his own manner of use, Alexander discovered some fundamental principles with regard to how the human being functions as a whole. In particular, he recognised the significance of head carriage for balance and smooth co-ordination.

Alexander found that the head-neck-back relationship acted as:

> ". . . a primary control of the use of the self, [18] which governs the mechanisms and so renders the control of the complex human organism comparatively simple." (Alexander 1932: 65)

Forward head posture

There is a correlation between what Alexander described as "pulling down in front" and what the medical world refers to as the "forward head posture". This is acknowledged to have devastating long-term consequences for body posture, limb position, occlusion (embouchure) and respiratory functioning (Dommerholt: 403-4). The characteristic forward head is recognised in Alexander work as part of a tendency to over-shorten anterior flexor muscles. More precisely, it can be described as a "forward *neck* posture"; for the neck is poked forward at an angle with a general shortening of the musculature in the front of the body. As a consequence, the head is tilted backwards at the atlanto-occipital joint so as to restore the

[17] *Direction* is available from PO Box 700, Highett, VIC 3190, Australia. Web: <www.directionjournal.com>

[18] Alexander F M, *Man's Supreme Inheritance*, 1910. Mouritz 1996: c.f. 'the *true primary movement* in each and every act', e.g. p. 200. Around 1925 Alexander began using the term 'primary control' after hearing about the work of Prof. Rudolf Magnus (c.f. *Zentralapparat*). See Alexander, 1932: p. 40 and *Articles and Lectures* by F M Alexander, ed. Fischer (Mouritz 1995), notes 135-7: pp. 305-6. Carrington (*The Art of Living*, pp. 67-69) cites this and later work by T D M Roberts (*Neurophysiology of Postural Mechanisms*, Butterworths, 1967) as supporting Alexander's earlier discovery of the significance of the head-neck-back relationship in the organisation of postural support and co-ordination.

eyes' gaze to the horizontal. This leads to an habitual over-shortening and tightening of the neck muscles, especially the posterior muscles of the neck, and the sterno-mastoid muscles.

The first stage of the Technique, then, is to prevent (inhibit voluntarily) the immediate, habitual reaction which typically involves undue interference with the relationship between the head, neck and back: the "primary control". The second stage involves the projection of mental preventive and directive "orders" necessary to re-establish and maintain the operation of the primary control and the conditions that promote optimal functioning. Alexander summarised the practical reality of this simply as "lengthening in stature" (Alexander 1932: 70).

Patrick Macdonald (1911-1992), one of the teachers trained by Alexander, wrote that the appropriate head-neck-back relationship "is something that happens naturally and of its own accord in those few lucky people who are naturally well co-ordinated. It is of the utmost importance that the pupil should not use ordinary muscular means [i.e. imposed effort] to try and bring this about" (Macdonald 1989: 47-8). Rather, a clear intention is "framed" as to what must be allowed to happen. Alexander describes the thinking as "the process involved in projecting messages from the brain to the mechanisms and in conducting the energy necessary to the use of these mechanisms" (Alexander 1932: 35 fn.). In other words, what is required is a true *wish* to release and to "go up"; to lengthen into activity (Carrington 1999: 77-80). The implications of this cannot be fully appreciated without a personal experience.

The practical importance of maintaining one's length in elite performance is well recognised. For instance, in an interview, the World Champion javelin thrower, Steve Backley, explained how he had beaten his own record by "remembering to think tall" as he threw. [19]

Together, this "thinking in activity"[20] (Alexander 1932: 42, 108), the preventive and the directive "orders", constitutes a reliable method for "constructive conscious guidance and control" of the self: The Alexander Technique. Once learned, it can be applied in any activity to secure optimal performance and to provide a means for continuing development.

In summary: The Alexander Technique is a way of working to improve one's own manner of use and performance in any activity. It is based on the discoveries that:

- the individual functions as a psycho-physical unity
- the individual's manner of use affects the quality of his or her general functioning
- feelings associated with an habitual poor manner of use are an unreliable guide to deciding how best to proceed against established habit
- the unreliability of sensory appreciation (feelings), and a wide range of health and performing problems related to poor use and misdirected effort will tend to resolve *in the process* of re-education on a general basis
- Self-prevention of inappropriate reactions, especially habitual interference with the dynamic head-neck-back relationship, the 'primary control', forms the basis of a technique for conscious guidance and control in the use of the self. Ideally, applied in education it can provide a sound basis for personal growth and development both in the learning of specific skills and for life in general.

[19] BBC Radio 4 interview.

Finding an Alexander teacher

When looking for an Alexander teacher, as with any other professional, the best way is probably through personal recommendation by someone you trust. Wilfred Barlow (1978) writes, "As with everything else, personal impressions are important, and a teacher who is right for one person may not be right for another. If a given teacher strikes you as odd after a few sessions, there is no reason to distrust your judgement…" Some teachers may prefer working with children, others may be more experienced working with musicians or actors, but most qualified teachers will give a sound basis of instruction. [21] The teaching of "inhibition" and "direction" is crucial and one might question the validity of lessons given in total silence, say, or when movement is over-emphasised to the exclusion of the "psycho" part of this psychophysical technique (Barlow 1978).

The Alexander lesson

While potential benefits for some individuals can be profoundly life-enhancing, the AT is a discipline that requires considerable self-motivation and commitment. It is an approach that by no means appeals to everyone. Some people prefer a method for empowerment that requires greater self-responsibility (AT) while others prefer to be treated. Applying the AT is an example of true life-long learning which some people may find daunting. However, many performers will already be engaged with their "inner process" as part of personal, artistic and professional development. They may well be attracted to what the AT can offer for this reason.

If pupils mention health concerns in a lesson, then they are advised to discuss these with their medical adviser. Medical diagnosis lies outside the remit of Alexander teachers. Teachers are experts in assessing a person's general manner of use and functioning. Various indications may be observed in this assessment, including attitude, quality of attention, ease of movement, balance, smoothness of co-ordination, vocal resonance, efficiency of breathing, etc. In particular, the teacher will observe whether or not the pupil is tending to release, lengthen and "go up" into activity (which includes thinking, etc.); or to tighten, shorten and "pull down". Self-prevention of inappropriate habitual reactions requires calm, quiet self-observation, avoiding "undue excitement of the fear reflexes" (Alexander 1923: 87). Pupils are taught how to "inhibit" their unsatisfactory habitual responses, particularly with regard to undue interference with the relationship between the head, neck and back, and to project "orders" consistent with an improved manner of use and functioning.

The number of lessons required depends on pupils' abilities to break long-standing habits and on certain natural aptitudes and qualities, especially the acuteness of their sense perceptions and the development of their ability to "inhibit" unwanted habitual responses (Alexander 1923: 113 fn.). Lessons are in the main both challenging and fun, the overall experience being one of optimism and increasing confidence. As ability increases, pupils are able to apply what

[20] Quoting Prof. John Dewey.
[21] STAT-approved training courses require three years, full-time study (1600 hours). Continuing learning and professional development are encouraged after qualifying.

they have learned in the activities of daily life and to become self-managing and autonomous of the teacher.

A foundation course of 30 lessons is recommended, but a few lessons can be helpful. For a list of qualified teachers who have all completed a full-time, three year approved training course and who are bound by a Professional Code of Conduct, contact: The Society of Teachers of the Alexander Technique, First floor, Linton House, 39-51 Highgate Road, London NW5 1RS. Telephone: 020 7284 3338; email <enquiries@stat.org.uk>; web site: <www.stat.org.uk>

Bibliography

(Page numbers in the text refer to modern editions of Alexander's books.)

ALEXANDER, F.M., (1918). Man's Supreme Inheritance. London: Mouritz (1996).

ALEXANDER, F.M., (1923). Constructive Conscious Control of the Individual. London: STAT Books (1997).

ALEXANDER, F.M., (1932). The Use of the Self. London: Victor Gollancz (1985).

ALEXANDER, F.M., (1942). The Universal Constant in Living. London: Mouritz (2000).

ALLEN, J. R., (2003). Concepts, Competencies and Interpretative Communities. *Transactional Analysis Journal*, in publication.

ARCIER, A.-F., (1995). "Stage Fright" in Tubiana & Amadio, (2000) *op. cit*.: 507-520

AUSTIN J. H. M., AUSUBEL, P., (1992). Enhanced Respiratory Muscle Function in Normal Adults after Lessons in Proprioceptive Musculoskeletal Education without Exercise. *Chest*, vol. 102, Aug. 1992: pp. 486-490.

BARLOW, M., (1965). The Teaching of F Matthias Alexander. F. M. Alexander Memorial Lecture, London: STAT. Also in Barlow W (1978) *op. cit*.: 15-28 and Barlow, M., An Examined Life, (2002). Berkeley, CA: Mornum Time Press: 264-282

BARLOW, W., (1956). Postural deformity. *Proceedings of the Royal Society of Medicine,* **49**: 670-674.

BARLOW, W., Ed. (1978). More Talk of Alexander, London: Victor Gollancz.

BATSON, G., (1996). Conscious Use of the Human Body in Movement: The Peripheral Neuroanatomic Basis of the Alexander Technique. *Medical Problems of Performing Artists*, March 1996: pp. 3-10.

BATSON, G., (1997). Traditional and nontraditional approaches to performing arts physical therapy. *Orthop Phys Ther Clin North Am* **6**: 207-230.

CARRINGTON, W., (1969). Man's Future as an Individual. Centenary F Matthias Alexander Memorial Lecture. London: Shieldrake Press.

CARRINGTON, W., (1970). Balance as a Function of Intelligence, *Systemics*, vol. 7, no. 4, March 1970. Reprinted London: Shieldrake Press 1970.

CARRINGTON, W., (1989). On Categorising the Alexander Technique, *The Alexander Journal*, no. 10 (December 1989).

CARRINGTON, W., (1999). The Act of Living. Berkeley CA: Time Mornum Press.

COGHILL, G. E., (1942). "Appreciation" in Alexander (1942), *op. cit*.: pp. xix-xxiv

DALTROY, H. L., *et al*, (1997). A Controlled Trial of an Educational Program to Prevent Low Back Injuries. *New England Journal of Medicine*, **337**; 5; July 1997: 322-328.

DART, R. A., (1970). An Anatomist's Tribute to F. Matthias Alexander. London: Shieldrake Press. Reprinted in Dart, R. A., (1996). Skill and Poise. London: Mouritz: pp17-56.

DOMMERHOLT, J., (2000). "Posture" in Tubiana & Amadio (2000) *op. cit*.: 399-419.

FISCHER, J. M. O., Ed. (1995). F.M. Alexander: Articles and Lectures. London: Mouritz.

GARLICK, D., (1990). The Lost Sixth Sense. University of New South Wales.

HANNA, T., (1986). What is somatics? *Somatics*, 1986, 5: 4-8.

JEANNEROD, M., (1997). *The Cognitive Neuroscience of Action*. Oxford: Blackwell.

JONES, F. P., (1965). A Method for Changing Stereotyped Response Patterns by the Inhibition of certain Postural Sets. *Psychology Review*, May 1965, vol. 72, no. 3.

JONES, F. P. (1976). Body Awareness in Action. New York: Schocken Books. Republished under title "Freedom to Change" London: Mouritz, 1997.

LIBET, B., (1989). Neural Destiny *The Sciences* (29) 2 March-April 1989.

MACDONALD, P., (1989). The Alexander Technique as I See It. Brighton: Rahula Books.

RICHMOND, P., (1994). The Alexander Technique and Dance Training. *Impulse*, **2**, no. 1 January: 24-38.

SHERRINGTON, C., (1946). The Endeavour of Jean Fernel. Cambridge University Press. Reprinted by Dawsons of Pall Mall (1974).

STALLIBRASS, C., SISSONS, P., CHALMERS, C., (2002). Randomized controlled trial of the Alexander Technique for idiopathic Parkinson's disease. *Clinical Rehabilitation* 2002; **16**: 695-708.

STEVENS, C., (1995). The development of the Alexander Technique and evidence of its effects. *British Journal of Therapy and Rehabilitation*, vol. 2, no. 11: pp. 621-626.

TINBERGEN, N., (1974). Ethnology and Stress Diseases. *Science*, 5 July 1974; vol. 185: 20-27. Also, in Barlow W (1978) *op. cit*.: 249-262.

TINBERGEN, N., (1976). Use and Misuse [In] Evolutionary Perspective. F. M. Alexander Memorial Lecture (STAT). In Barlow, W (1978), *op. cit*.:219-236

TUBIANA, R. & AMADIO, P.C., Eds. (2000). Medical Problems of the Instrumentalist Musician, Martin Dunitz.

TUBIANA, R., (2001). Functional Disorders in Musicians. Elsevier.

VALENTINE, E. R., *et al*, (1995). The Effect of Lessons in the Alexander Technique in High and Low Stress Situations. *Psychology of Music*, 1995, **23**: 129-141.

VICKERS, A. P., LEDWITH, L., GIBBENS, A. O., (1999). The impact of the Alexander Technique on chronic mechanical low back pain. Westmoreland General Hospital (unpublished).

WALL, P., (1999). *Pain: The science of suffering*. London: Phoenix.

Further reading

- *Performing Arts Medicine News*, Summer 1995, vol. 3, no. 2, British Association for Performing Arts Medicine contains eight papers presented at the 'Alexander Day' in London, March 1995.
- Ballard K, Colyer R, Williamson M, "Understanding and Preventing Misuse in Musical Performance by Employing the Alexander Technique", Health and the Musician, Proceedings of York International Conference, 1997.

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