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The Alexander Principle and its Importance to Music Education

R. Caroline Bosanquet

To Dr. Barlar,
With best wishes,
from Caroline

Bosange to

Although not developed specifically with musicians in mind, Alexander Technique has come to be associated with musical performers and with the problems of tension they may experience. In this article the author, a cellist and a cello teacher who has herself been helped by therapy based upon Alexander principles, acknowledges the special value that the technique has for musicians and demonstrates this by reference to the needs of string players. She goes on to show how other performers may benefit, and how F. M. Alexander's ideas can be particularly important for singers. She enlarges this view to take in a wider range of musical education and, arguing that singing has, of late, been sadly neglected in schools, illustrates the potential of the Alexander principles through a detailed account of how one child was helped to 'find her voice' and how, in succeeding, she was able to increase her confidence in many other areas besides music.

F. M. Alexander and His Ideas

In order to play a musical instrument to a high level, (i) the instrument must be in good order, (ii) the player's mind, emotions, and body must be harmoniously balanced, and (iii) s/he must have the necessary knowledge, motor skills, and specific techniques for playing that instrument. Only when all these factors and many others combine efficiently can artistic results occur. In the case of singing, the links are even more subtle, for the musician's body is the musical instrument.

In music education, the creation of a harmonious balance of the child's body is often ignored. Those teachers who do pay attention to it are often complimented on the 'natural' and accomplished way their pupils play. These players have, in Alexander terms, good 'use', i.e. 'are using themselves to the best mechanical advantage', and are therefore more confident and able to express their music.

Alexander did not evolve his ideas specifically with musicians in mind, but it is in activities where fine body-control is obviously essential that the value of his ideas is most enthusiastically recognised today. In a recent BBC T.V. film A Way of Being, a sculptor with back trouble, a handicapped child, and an overworked secretary, as well as musicians, were seen equally to benefit and improve in co-ordination, well-being and health through a course of Alexander lessons.

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In 1973, N. Tinbergen F.R.S., in his Nobel Prize oration, paid tribute to Alexander's innovations:

F. M. Alexander was born in 1869 in Australia and died in London in 1955. At a very early age he became a 'reciter of dramatic and humorous pieces'. Very soon, he developed serious vocal trouble and came near to losing his voice altogether. When no doctor could help him he took matters into his own hands. He began to observe himself in front of a mirror, and then he noticed that his voice was at its worst when he adopted the stances which made him feel appropriate and right for what he was reciting. Without any outside help he worked out, during a series of agonising years, how to improve what is now called 'use' of his body musculature in all its postures and movements. And the remarkable outcome was that he regained control of his voice.

Once Alexander had become aware of the misuse of his own body, he began to observe his fellow men, and found that, at least in modern Western society, the majority of people stand, sit, and move in an equally defective manner... Encouraged by a doctor in Sydney he now became a kind of missionary. He set out to teach – first actors and than a variety of people – how to restore the proper use of musculature. (Tinbergen, 1978.)

In 1899, Alexander became director of the Sydney Dramatic and Operatic Conservatorium for four years, and then moved to London where he spent most of the rest of his life. Among his early pupils were Bernard Shaw, Aldous Huxley, Henry Irving, Lily Langtry, John Dewey, Adrian Boult, Archbishop Temple, and Stafford Cripps. Alexander also trained teachers to carry out his work, one of them being Wilfred Barlow, author of *The Alexander Principle*, who worked with Alexander for thirty years. Barlow's book deals extensively with posture and explores its relationship to disease and mental health, among other topics.

It is the understanding of correct postural balance and that 'use affects functioning' that is of most crucial importance to music teachers. Whether a child is sitting in class, playing the violin or singing, the same basically wrong patterns tend to appear. Alexander considered that head balance was of primary importance:

I discovered that a certain use of the head in relation to the neck and the neck in relation to the torso...constituted a 'primary control' of the mechanisms as a whole.

One of the most common faults of head balance he termed 'head retraction', and this is illustrated in Fig. 1: (a) showing correct head balance and (b) showing retraction. 'If the head and neck are frequently allowed to collapse in this way, a hump will gradually develop'. In Wilfred Barlow's words:

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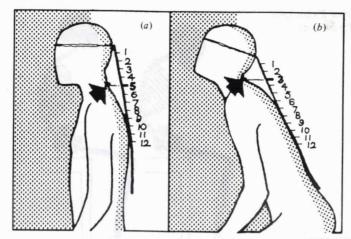


Fig. 1.

This whole region at the base of the neck, both back and front, is a veritable maelstrom of muscular co-ordination [see Fig. 2]. It is here that those most inadequate evolutionary adaptations - the shoulders and the upper arms will exert their distorting influence during the many activities in which we engage. It is here that the faulty patterns of breathing throw the muscles of the lower neck and upper ribs into excessive spasm; it is here that the mechanisms of speech and swallowing require a reasonably good vertebral posture if the oesophagus and the trachea and associated vocal structures are to function well. It is close to here that blood vessels and nerves of great importance and complexity will pass - blood vessels to the base of the brain, nerve ganglia which affect breathing and heart rate and blood pressure... It is from here that the head itself - the structure which carries man's most important sensory equipment of sight and hearing, taste and smell, and balance has to be co-ordinated at rest and in movement...What produces the hump? The short answer is excessive and wrongly distributed muscle tension. (Barlow, 1973.)

The phenomenon of head retraction which Alexander first noticed is a symptom of pre-existent muscle tension, not the cause of it. Alexander, with simple clarity, proposed that if only people could stop pulling their heads back, whenever they reacted, all would be well, and he concentrated his efforts on training both himself and his pupils to do just this. [ibid.]

The importance of these points in relation to head balance and breathing for wind-players and singers is obvious, and the freedom in the shoulders and therefore the arms is, of course, of prime importance for string players and pianists.

Now the upright balance of the body must be considered in Alexander's conception. Fig. 3a shows the earliest man-like creature of 2 million years ago, with a short neck and a well-



Fig. 2

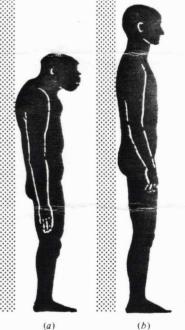


Fig. 3.

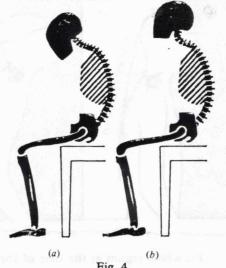


Fig. 5

developed 'hump'; Fig. 3b shows modern man in a favourable Alexander balanced posture.

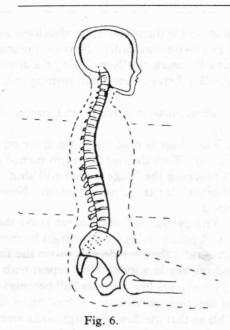
The centre of gravity has shifted backwards with evolution, and 'the point of skull balance (the occipital condyles) has come back, until the body's centre of gravity can now pass through this point'. Alexander directed his pupils to think 'lengthen' and 'widen' in relation to the body.

Balance in sitting is of crucial importance too, and often the most abused of postures. Such hoop-backs as Fig. 4a and b are all too common, and are unfortunately the peer-group fashion for many school children. After slumped sitting, the sort of standing in Fig. 5 results with 'the familiar picture of the arched-in lower back, which is so common in school children'. If retained this will create back disorders in later life.

Unfortunately electronic keyboards and computers, reinforce these sort of patterns, with the child leaning over the keyboard and retracting the head to look at the screen, as does the playing of classroom percussion instruments with children kneeling on the floor drooped over the instruments; and indeed simply sitting in class slouched over a desk.

Figure 6 shows a favourable sitting posture.

My own first experience of Alexander-derived principles was in 1970 when, in two lessons, I was rehabilitated from three months of back pain. This turned out to be a significant event in health terms; but it also opened the door to helping my own tension problems, particularly with the 'cello, that I had been aware of all my life. Most importantly of all, it started my rethink of 'cello playing and teaching. In the last five years, I have been fortunate enough to work in Cambridge with the Alexander teacher Jane Staggs, and we have evolved more ideas, sometimes working together with the same 'cello pupil.



Postural Balance and Movement in Relation to 'Cello Teaching

In 'cello playing poor movement is caused not only by poor postural balance and tension but also by misconceptions about how the body works. The following are some of the preliminaries that I find help 'cellists, and which are also sufficiently fundamental to be of use to other instrumentalists and singers.

One of the common reasons for ungainly movement, apart from muscular tension and ignorance of appropriate 'celloplaying movements, is a misconception about how joints work. How many inexpert cellists move the arm, including the shoulder, because they think that is where the arm starts? (It was Christopher Bunting, who, embarrassingly late in my development, first opened my eyes to the ball-and-socket joint.) I also used to think that my thumb started at the joint where the skin parts, and therefore used it stiffly until I discovered that it moved from the wrist. The following movements, with pictures to clarify them, are equally useful both for 'discovering' one's own joints and as freeing-up movements to be used in any context from a first lesson to behind stage before going onto a concert platform.

Each shoulder joint is a ball and socket (see Fig. 7):

- 1. Firstly, hunch the sholders and then 'let them go', allowing the arms to hang freely and loosely. Now you have a free joint, so you can experience the range of movement available to a ball and socket.
- 2. Swing the arms forward and back, like clock pendulums, and then from side to side.
 - 3. Swing the arms energetically forward and let the mo-



Fig. 7.

mentum circle them above the shoulders and round and round (like clockwise windmills). Now do the movements in reverse, starting by energetically swinging the arms back (anticlockwise windmills). Imagine each ball turning in its socket.

Each *elbow joint* is a hinge and partial ball and socket (see Fig. 7):

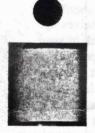
- 1. The hinge is made with the bone on the little finger side of the arm. With the right forearm turned palm up and the left hand touching the hinge, 'open and shut' the arm, feeling the 'well-oiled' hinge joint in action. Now repeat with arms reversed.
- 2. The partial ball and socket is on the thumb side of the elbow. Again, starting with the right forearm palm up, touch the elbow on the thumb side and rotate the forearm (like turning-round the key in a lock). Now repeat with the left arm.

The wrists are like complex ball bearings (see Fig. 7) and their main function, particularly in bowing, is to remain passive and flexible so that the flow of energy and movement can go through them. Shake the forearms with loose wrists as if shaking water off your hands, in different directions.

Thumb and fingers (see Fig. 7). The thumb is a ball and socket joint starting at the wrist, like a 'mini arm'. Resting the finger tips on a table top to take the arm weight, try circling and swinging the thumb in as many directions as possible from its root. The fingers are basically hinge-joints, but each is attached as a ball in a saucer-like socket. Try bending each finger from its base joint, with the hand palm-up and discover with the other hand that the origin of movement of the other side of each knuckle is the palm of the hand (not, as I used to think, where the skin divides). Now try making the small circles available to each finger, again discovering the movement in the palm with the other hand.

The legs and feet are similar in design to the arm and hands (the hip joint for example at the top of each leg being a ball and socket like the shoulder). Look at a picture of a skeleton and discover by experiment what ranges of movement are available in the legs and feet. This is important, for a 'cellist's legs can get stiff with so much sitting; also the feet and hands are sensorily connected and tension in one affects the other. Yehudi Menuhin believes that 'the violinist should be built up from the ground'. (Menuhin, 1986.) This is just as true of a 'cellist, even though we sit. He goes on: 'It is possible that you will confirm an observation that I have made. This is that a natural reaction occurs in the hand when one is exercising the foot. Even without intending to do so you may notice that the hand wants to do the same thing as the foot.'

An excellent exercise for stretching the toes, feet, ankles, legs, groin, sides, shoulders and neck is given by Menuhin: 'Sit (on the floor) with one leg tucked in as much as possible and stretch the other leg out along the floor, keeping it straight. Grasp the



big toe, turn your body sideways and try to look over the shoulder furthest from the outstretched leg.' This is just what 'cellists, who spend so much time with bent knees, need to stretch them out. Menuhin's reference to the well-known relaxing-the-neck exercise for violinists is also useful to all instrumentalists and singers: 'Let the neck relax and the head fall forward. The sensation should be of the head falling – you are not forcing the head but moving the body in such a way that the head cannot help moving if the neck is relaxed. Now bend to one side, then forwards, then to the other side and back, letting the head roll in a complete circle. Repeat in opposite direction.' (ibid.)

The most fundamental thing of all that a 'cellist must achieve, physically speaking, is to gain a sense of inner balance and harmony. If s/he has this, everything else can stem from it. The following sequence which Jane Staggs, the Alexander teacher, and I have evolved together, has proved useful both to me and to my pupils.

- 1. Stand upright, imagining an invisible line from the middle of the soles of the feet to the crown of the head. Take hold of a piece of hair on the crown of the head and gently pull it upwards. This helps one to feel the correct alignment.
- 2. Make sure that your arms are hanging loosely by your sides. Let your fingers stretch out long as if being pulled by gravity. Then, keeping the fingers elongated and arms still by your sides, turn the hands back so that they are almost parallel with the ground. Now, retaining the hands-back relationship, turn the arms palms-forward and then slowly stretch the arms out to the sides, as if the fingers were being pulled by invisible strings, and continue upwards as if to touch the sky. Then gently bring them down again. This will give an excellent feeling of equilibrium to the body and will undo a multitude of hidden tensions. You will be aware of freer breathing and possibly of a tingling in the palms of the hands as they have been opened out.
- 3. Now a sense of balanced sitting must be achieved. (see Figure 6). Sitting on a chair of suitable height where one's heels can easily reach the ground (but not with the legs unduly bent; which would mean that the chair was too low), think of an invisible line from the pelvic bones to the crown of the head, pulling the hair on the crown as before. Make sure the chair is really supporting you: do not sit too near the edge; though, of course, not right at the back either. Be aware that most of your weight is supported by the chair, though the floor takes some of the leg weight. Good alignment of the head, neck and spine is crucial to 'cello playing (and indeed to life in general). Apparently, there is twice as much gravitational force on the lower back when sitting than when standing, so it is most important to use it well, or back trouble, so common among 'cellists and bassoonists, will develop. So often people are told to sit with a 'straight back'. This is nonsense, as you can see from the picture

of the spine. What one wants is a balance between the different sections of the spine, and the sense of an invisible line of energy and balance from the pelvic bones to the crown of the head. Faults in balance of the spine are frequently the causes of poor tone and other problems on the 'cello. If the centre of the body is wrong, how can the fingertips expect to be right?

Two common faults in the posture of the back should be watched in oneself and in one's pupils: the slump in the upper back is the most common fault: if not corrected the shoulders cannot but be tense because they have to 'hold themselves up' instead of resting upon a stable back. If the lower back of your pupil is slumped, press your hand against the lowest part of the spine, encouraging it 'in and up'. Once s/he has felt this, the whole back may right itself as a result. However, if the person is also a round-shouldered type, the upper back may still be slumped: then press your hand against the chest and ask her/him to think 'up' and 'widen'. In the past, so many people were told to 'hold your shoulders back': this is not only wrong but harmful.

After focusing attention on different parts of the back it is important to rethink the invisible line from the pelvis to the crown of the head, to restore a sense of the whole. Another fault in the back, less easy to identify, can be too great an arching in the middle section. This usually goes with the weight being too far back, namely centred at the bottom of the spine, thus setting up tension which spreads up the whole back. Encourage the pupil to recentre weight on the pelvic bones by rocking slightly forwards and correcting the mid-back by suggesting a slight slump in that area. This is the way to deal with this type of problem. Always return to the alignment as a whole up to the crown of the head. Alexander teachers consider head balance to be the most crucial factor of body balance because the head is heavy and at the top. A helpful Alexander analogy is to think that the head is hanging from a puppet string in the sky with the rest of the body dangling from it.

If the posture is severely 'out', Alexander help is necessary. If lessons are not available, lie flat on the floor, in 'Alexander position', on the back, with bent knees pointing upwards, the feet flat on the floor, with the head on a comfortable height of books. This will be beneficial not only as a means of strengthening and aligning the back but also as a way of 'switching off' and relaxing. If, while lying in this way, you concentrate on releasing each part of the body in turn, starting from the feet and travelling mentally up the back and down the front (not forgetting a deviation down and up each arm) you will very likely be able to relax better. If after this there is a warm sensation at the bottom of the spine then you will have done it particularly well. This is a useful thing to do just before a concert as an alternative to, or as well as the arm swinging exercises. I will always remember an occasion when I and a colleague were about to go on a concert platform: I was on the floor 'switching off' in Alexander position

while he (a pianist) was walking about doing arm swings; as the space was rather limited he kept having to step over me! Both our items went successfully!

The Alexander Principle in Relation to Finding and Developing the Singing Voice

For some time I have been concerned about the lack of singing in schools, and the lack of good vocal quality in general. I have attended courses in the Kodály and Ward Methods, both of which claim to eliminate 'growlers' and to enable everyone to sing with musical understanding. Whilst higher instrumental standards, creative opportunities and participation for all have improved school music, the voice has been neglected. I have frequently heard horror stories from adults who were told that they were 'not musical' or were 'tone deaf' because they 'growled' or sang out of tune, and were prevented from singing from then onwards, growing up to believe that they had no singing voice. Now, in order to avoid this, all children are encouraged to participate, but often without criticism.

I should like to believe that any child could be helped to find a singing voice, and enabled to develop it to its full potential. At one Primary School I visited this was being achieved. The whole school was about to perform parts of Carmen and, except for the new intake who were gradually being 'de-growled', all the singers could pitch accurately.

Last autumn term I spent an interesting secondment observing primary and secondary class teaching, and peripatetic teaching in various contexts. It struck me forcibly that, except in the one notable primary school, singing standards were low; and also, with the same exception, that children usually sang sitting cross-legged on the floor with hooped backs, or on chairs with slumped posture. It was often the growlers or poor singers who had the worst posture. In one school where I taught the class for a short time, I found that the general vocal quality improved immediately when I asked them to stand up and swing their arms and free their shoulders and breathing.

In October a friend asked me how her daughter aged ten could be helped to sing in tune, which the child was keen to learn to do. I decided to try to help her myself to see what we could achieve. I taped parts of each lesson, initially for her to have a model during the week (her parents both being 'non-singers'), but also as a record of how she progressed. In lesson one, she could only get five single notes of poor quality and flat in pitch. Seven weeks later she had reached two octaves A-A², in tune, and with improved tone quality. (See recorded examples on accompanying cassette tape.)

My aim in the first lesson was to put Eleanor at her ease, and to discover what she was capable of singing. To start with, her shoulders were hunched, her neck retracted, and her breathing shallow. The voice was tentative and husky, wavered in pitch,

and was almost always flat. She could manage only five single notes F-C¹. We spent some time on the shoulder-freeing, movements that I use for 'cellists ('pendulums, windmills', etc.) and I also got her to stretch her arms out to the sides and up, thus freeing the rib-cage and her breathing. She had obviously never become happy using her singing voice, and had been struggling with school songs with too large a range. I kept her on single notes, 'conversations' on one note, a Spike Milligan 'Tiger' poem which she sang on one note, and finally some 'cuckoos' (cf. Kodály and Ward), which were scoopy and thin in tone. She was unable to manage a unison with me – the pitch of the notes immediately wandered – and she could not pitch a note sounded on the piano.

We found that spending time on postural balance and relaxation in the early part of each lesson, and then aiming for *quality* sound on a *limited range*, built up her confidence in using her voice and gave her a goal that she would be likely to reach. She was very keen, and excited by her progress; and her non-singing parents started to teach themselves to sing from the tape I had given her (though, as yet, they have not allowed me to hear them!).

One vocal exercise, which links up well with Alexander ideas, was given to Eleanor in the second lesson, and this has turned out to be one of the most important things we have done. The best results are obtained standing. The sound 'noo' is sung on long single notes. On the 'n' Eleanor places her finger tips on the crown of the head and feels the buzzing vibrations of the skull. On the 'oo', the mouth is to be as round as possible inside, with pouting lips; and as 'oo' is sung the arms stretch up and out to the sides, freeing the breathing. (This exercise comes from the Ward Method.) As soon as Eleanor had done this once, her vocal quality started to improve. She has continued to practise it ever since, and it was by singing notes in this way that she reached top A, and bottom A (two octave range) in the dramatic seventh lesson.

After she had learned this exercise we spent time improving her head balance and then getting her to breathe from lower down. She had the common fault, noticed by Alexander, of retracting the head and sticking up her chin. This, of course, restricted the flow of air, constricted the vocal chords, and caused her original thin tone and flatness in pitch. The more she tried (Alexander called this 'end gaining'), the more she stuck out her chin, and the worse the result was. Once she had learned to feel correct head balance and to imagine the top of the skull suspended from a puppet string, she was able to direct the sound forwards (not up), and the quality showed immediate improvement. She also reached top E the first time we concentrated on head-balance. Another problem was that she tended to get very tight in the chin and neck. By getting her to stroke her chin underneath back to the throat, and also to stroke the back of her neck, we found she was able to become freer.

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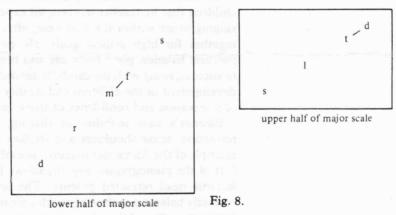
major arpeggio

Tone quality improved again. All this illustrated well Alexander's 'primary control': namely, balanced head and neck affecting everything else.

To improve Eleanor's breathing I used an idea learned from an Alexander-trained singer in London, Melanie Harold: namely, to take in the breath from below the navel, and to push the air out from there, imagining a bellows at work. Singing 'doo', and 'too' in this way, and focusing attention on better breathing in things she had already done, gave Eleanor's tone more body and confidence. Up till this point she had been breathing too shallowly.

Physically speaking, this was almost all that we did, with constant practising and reminders of fundamentals. The ability to combine different patterns of sound progressed in parallel fashion. To start with, she could not usually sing new things in tune; but she soon learned, partly through confidence in understanding, listening and recognition, and partly by now having the 'instrument' - her body - in working order, and learning to do new things with it. After the initial lesson almost all on single notes and with a few 'cuckoos', we evolved at first through Kodály patterns: sls, slsm, slsmd, in various combinations. We then felt that she needed to be able to sing well known major melodies, and so semitones became imperative. (We started with Pease Porridge Hot.) We concentrated on the lower half of the scale, as the Ward method does; and using Ward-based diagrams for pitch, helped her conception of pitching tones and semi-tones considerably (see Fig. 8).

Ward-based pitch diagrams



Semitones were difficult to sing, but not impossible; and Eleanor was able to criticise herself accurately. From this we progressed to d m s d, etc. to the top-half of the major scale (s l t d); and finally to the whole major range, both authentic and plagal.

We made some attempts at canon and at combining melodies, and also at singing Kodály-based two part exercises, e.g.



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The single thing that she has found most difficult has been holding a sustained note while the other singer moves. She learned to sing in unison in the autumn term, and also to be accompanied by the piano, which had at first been impossible for her.

Although Eleanor improved so quickly in her lessons with me, she found that she still could not sing in tune with a class at school. However, this happened later during the spring term.

Although Eleanor learned solfa and the formation of the major (and later the minor) scale, I did not use formal notation because our main aim was to find her singing voice. She now finds different tonic notes and their scales on her Casio keyboard, and I expect to introduce formal reading soon.

The experience of teaching this child has reinforced for me the crucial importance of postural balance in singing, not only for professionals and music students, but in order for anyone to find their singing voice in the first place. Inside every fat man there is a thin man trying to get out, and inside every growler or uncertain pitcher there is a singing voice waiting to be discovered.

This is a technical account of a successful professional experiment, but there is another dimension: here is a child who had assumed that singing was a closed book to her, and who has been able to take possession of her 'rightful kingdom'; this has increased her confidence in other respects. My experience with her has echoed the findings of David Joyner whose practical work, subsequent to his thesis of 1971, leads him to say (quoted from conversation): 'It is the right of every child to be helped to the limit of their vocal potential.' Of the large numbers of children that he teaches in class, all expect to have found their singing voice within the first year, after which everyone aims together for high artistic goals. He pays prime attention to postural balance, good body use and breathing as a key means to success, along with the carefully graded and nurtured musical development of the children and quality sound. The high level of motivation and confidence of these children is striking.

Eleanor's near inability in singing, combined with head retraction, tense shoulders and shallow breathing, is a classic example of the Alexander maxim, 'use affects functioning'. The first of the photographs (Fig. 9.) shows Eleanor in the uncomfortable head retracted posture. The second shows her head correctly balanced as she sings with a pleasing quality. It is worth noting that this inhibited 'use' was particularly associated with the stress of trying to sing. By contrast, her co-ordination in other, non-musical activities was excellent: she could stand on her head, was the fastest runner in her primary school, and had ridden a bicycle at four.

Recent research has shown that many children who have pitching difficulties have been expected to sing too high for their natural voice. G. Welch's 'A developmental view of children's singing', 1986, sums up these findings. It is worth noting,

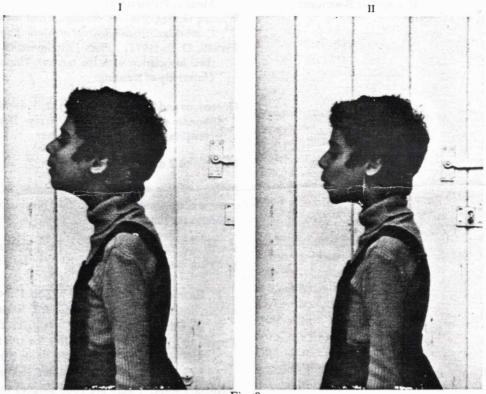


Fig. 9.

therefore, that Eleanor was not an example of this. Her 'comfortable' notes at the start were F-C, and she is now at her happiest A^1 - A^2 (top of treble stave).

Alexander's principle of good 'use', body alignment and balance, as I tried to show in the early part of this article, has implications for any activity, and is most obviously seen to be of importance in occupations which demand fine motor skills such as those involved in muscial performance. The benefit of Alexander's ideas both in a remedial capacity and in improving quality sound, physical comfort and confidence is widely recognised by professional musical performers. It is equally important, however, at all other levels of musical education, as I have tried to show with examples from my own experience.

References

TINBERGEN, N. (1978) Ethnology and Stress Diseases. In W. Barlow (Ed.), More Talk of Alexander. London, Gollancz.

Barlow, W. (1973) *The Alexander Principle*. London, Gollancz. (Reprinted, Arrow Books, 1984.)

Bosanquet, R. C. (1987) An Attempt to define some of the fundamentals of 'cello playing. II. ESTA *News and Views*, February. Menuhin, Y. (1986) *Life Class*. London, Heinemann.

- Wirked, R. (1984) Athletic Ability and the Anatomy of Motion. Wolf Medical Publications.
- Welch, G. F. (1986) 'A developmental view of children's singing', Cambridge. British Journal of Music Education 3, 3.
- JOYNER, D. R. (1971). 'Pitch Discrimination and tonal memory and their association with the larynx'. Unpublished M.Phil. Thesis, University of Reading.
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Figs. 6 and 7 drawn by Ulla Frisch.

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Recorded excerpts from Eleanor's singing lessons (on accompanying cassette tape):

- 1. Extract from the end of lesson 1 showing rather uncertain single notes, between F and C, and some wavery 'cuckoos'.
- 2. In this extract Eleanor practises the 'noo' exercise and begins to get some vocal quality for the first tune.
 - 3. She sings a complete melody in tune for the first time.
- 4. She manages to hold her own in the lower part of a simple two-part song. There are four singers taking part.
- 5. This demonstrates the 'noo' exercise again, showing her improved quality. In this lesson, the seventh one, Eleanor reached top A and bottom A, thus achieving a two-octave range.
- 6. In this extract she sings her first song involving arpeggio leaps; and is now happy to be accompanied by the piano.
- 7. In this extract (from the tenth lesser.) we near her singing a Christmas carol and the theme of Beethoven's 9th symphony. She has plenty of semitones to cope with.
- 8. Finally, a brief reminder of how she sounded in her first lesson.