

No 33 Science and the Alexander Technique

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1. Today I am going to talk about the AT and its relationship to science.
2. It is a subject about which many AT teachers are uneasy. They say the Technique is an art not a science; that trying to fit it within a rigid scientific framework risks destroying the creativity of teachers. I can certainly understand why they might feel that way.
3. There are also plenty of teachers who firmly believe in a variety of things that do not fit within a scientific framework of thought. We know that this does not make them bad teachers. You do not have to understand much about science to be an extremely good teacher.
4. Most of the time as teachers we can ignore questions about our relationship to science because in the normal reality of teaching they do not arise. We are too busy looking after ourselves and dealing with our pupil.
5. But they do become relevant when we start to think about the place of the AT in the wider scheme of things. A lot of us would like the AT to be seen as part of mainstream thinking rather than on the fringe.
6. My own personal history is fairly typical. Rather than coming straight to the AT when I had a bad shoulder, I followed the normal medical approach. I had pain-killers and injections of hydrocortisone, and various forms of physiotherapy, before, as a last resort, I decided to try the AT.
7. It would be much better if, as Alexander and various of his medical friends wanted, the AT were included in the medical curriculum. If that were the case, my GP and the consultant in the Charing Cross Hospital would have checked me to make sure nothing was broken and that I was not suffering from some dreadful disease.
8. They would have then said my shoulder pain was probably a result of the way I was misusing myself and would have referred me directly to an AT teacher.
9. If the AT is to achieve that position, we need to think hard about where it fits in a medical-scientific view of the world and its relationship to all the other things that doctors learn.

10. The idea that the AT can be treated as a scientific discipline is in fact quite old. It dates back about a hundred years and began with John Dewey.
11. Dewey was a philosopher and educationalist and one of the most important intellectual figures in America in the late 19th and early twentieth centuries. He had his first lesson with Alexander in 1915. He was immediately impressed with the effect of the Technique on his health and well-being and he and Alexander remained friends for the next thirty five years.
12. One of the things that was important to Dewey was how the AT fitted into the rational pragmatic philosophical view of the world to which he was committed. When Alexander invited him to contribute an introduction to *Constructive conscious control of the individual* published in 1923, Dewey said:

Mr Alexander's teaching is scientific in the strictest sense of the word...(and) satisfies the most exacting demands of scientific method.¹
13. With his background in reciting and voice teaching this may well have come as surprise to Alexander but he certainly embraced it enthusiastically. When he wrote *The use of the self* nearly ten years later, he included an introduction in which Dewey repeated this verdict.
14. So what did Dewey mean when he said that? What exactly is the scientific method and why did Dewey think we satisfy its most exacting demands?
15. Answering these questions in depth would take us into the philosophy of science on which there is a large literature. Two of the biggest names you will come across in it are Thomas Kuhn who wrote *The Structure of Scientific Revolutions²* and Karl Popper who wrote *The Logic of Scientific Discovery³*.
16. One of the important aspects of science associated with Karl Popper is what is called falsifiability. If someone makes a statement about an aspect of the world, a scientist will ask how can it be falsified or proved wrong.
17. If there is no way of putting something to the test, then anyone can say it without fear that it may be contradicted. If I say there are 11 million angels in heaven how can we test this assertion?

¹ Alexander (1923) pxxviii

² Kuhn (1962)

³ Popper (1959)

18. We may passionately believe something but if we have no objective way of testing whether it is true, it is not a scientific statement. So when scientists have an idea about something in the world, one of the most crucial questions is how can it be falsified or put to the test.
19. Scientists do this by subjecting the idea to tests or experiments to see whether these support or contradict the idea. Over time, these verified ideas gradually accumulate and as a result we have an agreed scientific view of the world about us. We know the melting points of metals, the fact that the continents are all moving about, the way the muscles work, quite a bit about what goes on in the brain and that the level of the sea is slowly rising.
20. In principle, something may turn up which makes us question some of these scientifically established facts but for the moment the scientific community is quite happy to accept this view of the world.
21. We have no such independently verified observations of the existence of ghosts or aliens or telepathy or Atlantis. That does not mean they do not exist. It only means that no one has yet been able to produce verifiable and repeatable observations that they do exist.
22. You may not like this way of looking at things but the scientific view is what underpins the modern world. Computers would not work, machines would not run, spaceships would miss their targets, big buildings would not stand up, there would be no electrical equipment or iPhones or keyhole surgery, if the scientific view of the world were not firmly and reliably established.
23. Thomas Kuhn used the word “paradigm” to describe the agreed way we look at the world in scientific terms at a particular time. A paradigm can be an overall view of the whole of science, or a view within a particular branch of science.
24. When new facts emerge, they can change the way we look at the world. This is called a paradigm shift or as Kuhn calls it a “scientific revolution”.
25. There have been plenty in history. We have moved from believing in the sun going round the earth to the earth going round the sun, from indivisible atoms to splittable ones, from the idea of cholera being caused by vapours from swamps to

realising it is caused by drinking water contaminated by bacteria, and so on.

26. Since a paradigm shift puts an awful lot of what has been taken for granted into question, scientists require a lot of convincing that it is true. The more contrary to the accepted view, the more stringent the examination of the claims will be. The astronomer Carl Sagan said *extraordinary claims require extraordinary evidence*.
27. Another aspect of how scientists go about their job is by making predictions based on the theory, or hypothesis, they have about some aspect of the world. If something is true, then certain consequences should follow.
28. If the earth is getting warmer, we would expect, for example, to see glaciers and ice-sheets melting. If these consequences do not follow, then it is likely the theory that the earth is getting warmer is wrong.
29. One of the pillars on which the development of science rests is the publication of results in what is called the refereed, or peer-reviewed, scientific literature. There are hundreds of scientific journals and they all, in principle, work in the same way.
30. If I have discovered something I think important, I write a scientific paper about it. I describe in detail what I have discovered, and I give full details of the equipment and methods I used so that anyone else can repeat what I have done. I will then submit the paper to a scientific journal.
31. If the editor of the journal thinks the paper is credible and interesting, he or she will circulate it to people regarded as knowledgeable in the area, my peers. These are also called referees, and if in their view the paper is worth publishing, the editor will do so. I will not get paid for the paper.
32. It is then open to scrutiny by the rest of the scientific community. Some scientists will accept it and kick themselves for not thinking of it themselves. Others will see if they can repeat the results in their own laboratory and if they can they will accept it and perhaps explore some of its consequences.
33. For some it will be a big blow because they are unable to reconcile this with their own previous work. If this is true, they may have accepted that their life's work is in ruins. They will be very reluctant to accept it and will do all they can to disprove it.

34. Others may refuse to accept the evidence and continue to assert that they are right and that this new stuff is wrong. We see, for example, that there are climate change deniers and AIDS deniers in the scientific community.
35. That broadly is a picture of science and its working. It is a bit messier than is sometimes thought, but the scientific method, provides a robust way of advancing our knowledge of the world about us.
36. So what did Dewey mean when he said that the AT “*satisfies the most exacting demands of the scientific method*”?
37. He meant that the way it was practised by Alexander made perfect sense within the framework of a scientific view of the world. But Dewey was writing almost a hundred years ago.
38. Although the basic principles are the same, the way science goes about its business today is more complex, especially the publication of results in refereed journals.
39. Most of the papers published in journals dealing with human health, well being and so on are the results of clinical trials. But these are very expensive.
40. Drug companies are prepared to go through the process because they hope to get their money back by selling drugs that cost a fortune. They are certainly not going to invest in AT studies which show people how to fix themselves without using any drugs.
41. Otherwise if you are in a university laboratory and you want to do research into the AT you have to get funding from one of government-funded Research Councils which allocate money between the various research organisations. The competition for funding is very heavy.
42. The low back pain study carried out by the University of Southampton had the title *A randomised controlled trial of Alexander Technique lessons, exercise, and massage (ATEAM) for chronic and recurrent back pain*. The results were published in the British Medical Journal in August 2008. The work was supported by a grant of £586,956 from the Medical Research Council.
43. The number of AT people have gone through the process and had papers published in the scientific literature is quite small. STAT lists a total of twenty papers that have been

published over the past twenty-five years. This is a drop in the ocean of scientific publication.

44. I am full of admiration for the people who are prepared to go through the slog of getting funding, doing the research and publishing the results. I hope that we will see more of them but it is going to take a lot time and effort before we reach a stage where the AT is fully accepted by the medical and scientific community.
45. In the meantime, we can do a lot to draw the AT closer to the mainstream medical and scientific conversation. If scientists feel we are a sensible lot of people who are doing interesting things that can be investigated in a scientific way, the chances are better that they will look at us as potential research subjects than if they believe we are simply another rather peculiar complementary therapy.
46. It is interesting in this respect, and I remember talking to John Brown about it, how little of physiotherapy is backed up by solid science. The concept of developing the core muscles, for example, is extremely dubious. Another is the use of traction to which I was subjected but for which I have never seen a credible justification.
47. But doctors are reassured by the fact that by and large physiotherapists speak the language of medical science.
48. I would very much like if we too were able to talk to doctors and scientists in language they are comfortable with and can understand. It would make it easier for them to refer people to us. Ideally they would say as a matter of routine, *“Before you have a knee replacement, have a couple of AT lessons.”*
49. The idea that the AT can be solidly rooted in a modern scientific outlook is something that Walter and Dilys very much favoured. They were both members of the Royal Institution and we used to joke about giving a Friday evening lecture on the AT.
50. We are, of course, a broad church in the AT. I have no problems with AT teachers who want to talk about their auras and their chakras. I have heard of some who put crystals on the navels of their pupils when they have them on the table.
51. They are positioning themselves to deal with people who are happy with these ideas. As Walter used to say, the important thing is whether they are keeping their necks free and giving

good lessons. Perhaps, in time, there will be a shift to a paradigm that includes them.

52. In the meantime, those of us with a more orthodox outlook can say that the AT, as it was practised by Alexander, described in the books, and handed on to us by Walter Carrington, Frank Pierce Jones and as we saw in the last talk, Wilfred Barlow, and plenty of others does not claim anything that is contrary to the established facts of science.
53. We are still some way from having the AT on the medical curriculum but we are making progress.

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