

NO 27 RAYMOND DART II

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1. Last time I told you about Raymond Dart and his claim to fame as the discoverer of the *Australopithecus Africanus* fossil. This discovery caused a major revolution in paleoanthropology – the study of human origins.
2. I also told you about how he happened upon the AT in the early 1940s when he was struggling to find ways of dealing with the severe physical handicaps afflicting his son Galen who was a very premature baby.
3. He came across Alexander's books and read them with great interest. When he learned that Irene Tasker (1887-1977), who had been working with Alexander since 1913, was in South Africa, he got in touch with her and had daily lessons with her for about a week until she had to leave on the boat for England. He had one lesson with Alexander in 1947.
4. He later became friendly with Walter and Dilys. I asked Dilys if Walter had given Dart lessons and she said she presumed so but I am not so sure. In his writings, Dart does not refer to having any lessons beyond those with Irene Tasker and the one with Alexander in 1947.
5. Essentially we are dealing with another self-taught Alexandrian. On the basis of a reading Alexander's books and a small number of lessons, together with his own anatomical and physiological expertise and an awful lot of careful introspection, Dart worked out a version of the Technique for himself.
6. The result is certainly not the AT as we know it but Dart was a highly intelligent anatomist and scientist – as well as an original thinker – and his observations on the workings of the human neuromuscular mechanisms and how they relate to Alexander's work, in my view are quite stimulating and informative. I always find that reading him adds to my understanding of the Technique.
7. I mentioned the book *Skill and Poise* as the main source for Dart's thinking about the AT. In particular, it contains the text of three papers Dart wrote in the 1940s when he was reading Alexander's books and after he had the lessons from Irene Tasker
8. Dart said:

Within the next four years I had written three papers about what I had already learned therefrom – one for my anatomy students, one for my dental colleagues, and one for our fellow members of the medical profession.¹

9. The book also contains the full text of the Alexander Memorial Lecture in 1970, and a paper by Alex Murray on the Dart Procedures.
10. All of Dart's papers are quite technical and rather difficult. I have read them many times but each time I go through them I get a bit more out of them. I think this is a very worthwhile book.
11. I will begin with a quick word about the Dart Procedures. These happened because Alex Murray happened to be visiting here in 1967 and was talking to Walter about the role of the jaw in head balance. Walter asked him if he had read the paper Dart had written for his dental students which has the riveting title *The postural aspect of malocclusion* and lent him a copy. Murray was so impressed by it that he spent several days copying it out by hand.²
12. When Alex Murray got back to the US, he and his wife Joan visited Dart who was lecturing in Philadelphia and they became friendly with him. The Dart procedures were essentially the exercises that Dart had developed when he was working with Galen but at that stage were only in hand-written form. The Murrays had them typed up and had the diagrams redrawn and presented them to Dart for his approval in 1967.
13. The Murrays have used them in their own training school for a long time and have demonstrated them here and around the AT circuit. Alex Murray has said of them

...working with these Procedures will not teach one the Alexander Technique, but patient and intelligent investigation by one with no Alexander experience may still lead to a certain enlightenment by revealing inefficient patterns of movement and helping to discard them.

¹ Dart (1996) p27

² Murray (1988)p69

*Undertaken with the guidance of a skilled Alexander teacher, they are a constant source of insight and a point of reference in one's patterns of behaviour. One can continually return to these as to Alexander's "positions of mechanical advantage" in which category they certainly belong.*³

14. A great deal of what we do in teaching, and learning, the AT is to do with heightening our own and other people's awareness of how we use ourselves. I know that quite a few people have found the Dart Procedures useful in this. They have also influenced some of the exploratory "games" which are used here and in other training schools.
15. Looking at the other papers in *Skill and Poise*, the most comprehensive is the 1970 Alexander Memorial Lecture. Walter was in the chair and Irene Tasker who was then 83 was in the audience.
16. The address is very long and it would have been impossible to deliver it verbally and expect everyone to stay awake let alone remember it. It is obvious that Dart wanted it to be a record for Alexander teachers of his considered views on the Technique after nearly thirty years of thinking about it and putting it into practice in his own life.
17. In introducing the talk, Dart showed a very modest attitude to his knowledge of the AT. He said that Walter had had twenty years of personal contact with Alexander, whereas he, Dart, had had 35 minutes.
18. But he recalled that when he first came across Alexander's books in the 1940s,
*Alexander's terminology of 'primary control' and 'head-neck relationship' on the one side, and the work of Sherrington and Magnus on segmental and suprasegmental reflexes on the other side, had riveted my attention...*⁴
19. This is his introduction to a long section in the lecture which he calls *Basic facts about cranial phylogeny and body movements*. This gives a very detailed description of the twelve

³ Murray (1988)p6

⁴ Dart (1996) p33

cranial nerves which emerge from the brainstem as opposed to those which emerge from between the spinal vertebrae.

20. These are the nerves which control the workings of our eyes, ears, nose, tongue, voice, the muscles of our face and scalp, and those of our neck, including the trapezius. Medical students have to know them by heart and have devised a variety of extremely rude rhymes or mnemonics based on their initial letters which you can look up on Google.
21. The summary that Dart gives of the working of these nerves is very useful if you just want to look them up. Given Dart's sympathy with recapitulation theory, it is not surprising that he puts the functioning of these in an evolutionary perspective.
22. I will just pick out one point which I think is particularly important to an understanding of the neurophysiology of the AT. Dart picks out for attention the top or first cervical segment of the spinal cord. Here we are talking about the link between the head and the neck – the head-neck relationship that Alexander placed so much emphasis upon.
23. Dart says:

The only sensory information it receives from its own body segment is internal or proprioceptive. Its direct and presumptively dominant information thus comes directly from the first cervical muscles, from the atlas vertebra, and the cranial occiput to which the muscles of its own segment are attached, and from the joints and ligaments between these two bones alone.⁵
24. What Dart is doing here is highlighting the importance of what are called the sub-occipital muscles. These are little deep-seated muscles which link the base of the skull with the atlas and axis vertebrae. They act as sensors informing the postural reflex control centres in the brainstem of the relationship between the head and the neck.
25. The point is that if we pull the head back and down, so that we prevent relative movement in this head-neck area, we also prevent the proper working of this highly important muscle system from providing the postural control centres in the brainstem with the necessary feedback on the relative positions of the head and neck.

⁵ Ibid. p35

26. The importance of the head-neck relationship is of course nothing new to us. But I find it reassuring that someone of Dart's neurological and anatomical expertise, also highlights the importance of feedback from the muscles in this area.
27. This is hard scientific support for Alexander's idea of the head-neck relationship acting as a *primary control* over the functioning of the rest of the body's muscular system.
28. Dart then goes into considerable detail in a section called *How any intelligent individual can study his or her own self*. Basically, this is about putting oneself into semi-supine or other positions every day and using gentle movements to explore oneself. He also suggests the value of making notes about what is discovered. This is what we call "working on oneself".
29. Another paper in *Skill and Poise* is entitled *Voluntary musculature in the human body: the double spiral arrangement*. This is the origin of the spirals group which was developed by Dilys and is carried on by Sara.
30. If you are looking this up, as homework for the spirals group, it is useful to know that Dart comes back to the idea of these spiral patterns in the musculature in the next chapter in the book. He has a few quite informative pages under the sub-heading *The neuromuscular background of body posture* beginning on page 87.
31. This spiral arrangement of the muscular anatomy is in fact crucially important to how we use and misuse ourselves but is rarely given any attention outside AT circles.
32. The point is that when we flex the body, we do not just bend it forward and backwards. Virtually everything we do when we walk, run, brush our teeth or whatever, involves a greater or less degree of twist or spiral movement.
33. This is particularly true if we have any degree of scoliosis which is a side to side curvature of the spine. As Walter used to point out, this is inevitably accompanied by some degree of rotational twisting.
34. Dart said his
...experience in modifying my own scoliosis (and its concomitant postural twisting of the body framework), in assisting my son to acquire increasing control over his body movements (and the concomitant postural,

twisting of the body framework, which such seizures involve), gave me ample opportunity during the next seven years to observe what I have now come to regard as ‘the spiral mechanism of the body’ in action, and to appreciate the extent to which habitual or acute spasticity in a reflexly operating mechanism can be modified by a thoughtful individual.⁶

35. There is more technical detail in this paper than most of us need but I think the basic message is important. Dart says:

In the members of my family and in myself, the ‘Undoing’ of previously leftward twists, whether congenital or acquired, has been a major preoccupation of the past seven years. That employment has led me to recognize and to correlate many facts about the body and its functioning both as a whole and in parts, which had previously eluded my notice. Amongst those anatomical facts, the double-spiral arrangement of the voluntary musculature is basic.⁷

36. The other technical paper in *Skill and Poise* is *The postural aspect of malocclusion*. Malocclusion is when the bite is abnormal and the lower jaw is pushed too far forward or pulled back.

37. A lot of this paper is addressed directly to the dental profession of his day. I cannot say how it relates to what dentist think nowadays. I know my own dentist did not pay much attention to the copy of the paper I gave him – even though he remembered being lectured by Dart.

38. This is also quite a technical paper which covers much of the same ground as the Alexander Memorial Address. But there is one passage about the conscious brain and the postural reflexes which I think is particularly interesting. He follows Magnus’ analysis and says:

The forebrain is neither an initiator nor regulator of posture; it follows immediate objectives as consciousness of them awakens, and employs the apparatus of movement momentarily at its disposal,

⁶ Ibid. p58

⁷ Ibid. p71

*whatever the postural development of the apparatus may be. When the postural development of the individual is such as to place at the forebrain's disposal a perfectly poised apparatus, the conscious and subconscious aspects of movement are happily integrated. Unfortunately, conscious objectives so outstrip postural evolution as to produce bodily disharmony more frequently than body poise.*⁸

39. So when we have got out of the habit of standing or sitting properly

*... steps should be taken to train or educate the respective parts to undertake their proper relative roles in body support in the posture under consideration. This training, however, is not so much a training to do good movements as a restraining of the individual from performing improper and inappropriate movements by means of manipulative and personal inhibition.*⁹

40. We could spend quite a bit more time looking at Dart's work in more detail. But I think this gives you a good flavour of what he was about and, I hope will send some of you to reading some of his papers.
41. A postscript on Dart's career is that after he retired from the Faculty of Medicine in Johannesburg University his interest in recapitulation theory led to his appointment as a visiting professor at an organisation called *The Institutes for the Achievement of Human Potential* in Philadelphia in 1967 when he was in his mid-seventies.
42. The Institutes began as a centre for the treatment of damaged children. It was taken over by a physiotherapist called Glenn Doman, and an educational psychologist called Carl Delacato and renamed as *The Institutes for the Achievement of Human Potential* in 1955.
43. Doman and Delcato had been inspired by a Philadelphia neurosurgeon called Temple Fay (1895-1963). Dart describes him in the Alexander Memorial Lecture as being "...an

⁸ Ibid. p85

⁹ Ibid. p97

*evolutionary neuro-surgeon, and therefore long before his time.*¹⁰

44. Basically, Temple Fay was a believer in recapitulation theory and he had particularly studied epilepsy. Dart says of him
To him, in particular, the involuntary movements of patients during seizures or epileptic fits were simply exhibiting ancestral and beneficial movement patterns reminiscent of piscine, amphibian or reptilian antiquity.
45. Temple Fay believed that by learning from and using these and other reflex symptoms it might be possible to prevent or eliminate the lack of bodily control displayed in epilepsy.
46. Doman and Delacato met Dart in South Africa in 1966 and were very impressed with him. When they got back to the US, they offered him a professorship at the Institutes which he accepted.
47. Walter and Dilys visited him there and Dilys recalls it as being extremely boring. In her forthright way she said *I think he went there because he was bored in South Africa after he retired.*
48. I have not found any record of work he produced there. So as far as we are concerned Dart drops out of sight after the Alexander Memorial Lecture.
49. As a footnote, the *Institutes* are still in business. They say on their website that their mission is to provide home-teaching programmes to improve the health and development of children who have suffered brain damage.
50. But their main business nowadays seems to be selling books with titles like *Teach your baby to read; How to teach your baby math; How to multiply your baby's intelligence; How to give your baby encyclopedic knowledge; How to multiply your baby's intelligence*, all showing very small children or infants in the arms of their loving mothers which leaves me rather queasy.
51. So, to sum up on Raymond Dart. He had limited – though pretty high-quality – experience of the Technique as pupil. But he read and thought deeply about Alexander's books. He took the ideas he had gained from this reading, his anatomy, his paleoanthropology, his working with his son Galen, and his own

¹⁰ Wheelhouse (1988)p105

native intelligence, and wove them all together into his own particular view of how we should learn to use ourselves.

52. A lot of what he wrote is quite technical and rather hard going. His involvement with recapitulation theory looks to me like a wrong turning. But his sheer intelligence and experience, and the depth of his thinking, mean to me that what he wrote about the Technique is well worth reading. I always get something out of it when I read him.
53. The fact that he seems to have been a thoroughly nice man, for whom Walter and Dilys had a great deal of time, confirms my view that he is another very good one to have on our side.

References

- DART, R. A. (1996) *Skill and poise* - STAT Books, London
MURRAY, A. (1988) *The Dart Procedures* - Direction, Vol.1 pp 68-77