

## **No 34: STANDING, BALANCE AND MONKEY REVIEWED**

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1. Today I am going to talk about standing in the upright on two feet, balance and monkey in a simple non-specialist way. We can come back to the science and engineering at another time. I very much welcome any questions or discussion.
2. Standing on two feet as opposed to four is known as bipedalism. Our early human ancestors began to do it about five million years ago. There is plenty of discussion about it among students of early humanity – called paleoanthropologists.
3. Having a pair of hands that we don't need for walking was a crucial evolutionary breakthrough which gave early humans an advantage over the rest of the vertebrate kingdom. We can see that it brings all kinds of advantages.
4. It got us into tool making, beginning with flint weapons and farming implements, and as our tool-making became more sophisticated it gradually increased our control over our environment. It enabled us to make all kinds of things and use them in increasingly sophisticated ways.
5. Think of how difficult it would be to do things like use a smart phone or drive a car, let alone make them, if you only had your jaws or your beak to do it.
6. But being bipedal comes at a price. We are not as stable as if we were on all fours.
7. And while having our head up in the air helps us to see better what is going on around us, it also means it has a longer distance to fall. The head is the control centre and contains our brain, as well as our eyes, ears and nose which tell us about our environment.
8. The skull provides a lot of protection but whacking it on the ground is clearly a bad thing. In other words, when we are in the upright, staying in balance – not falling – is highly important for us.
9. Because of this, we are equipped with a variety of ways of monitoring our balance. One of the most obvious of these is our eyes.
10. When we are moving about in our environment, our eyes tell us when we are in the vertical by comparison with things that we know are in the vertical.

11. One of the most amusing ways we can learn about some of this is by visiting the Crazy House in a fairground. In the Crazy House, things like walls and doors and windows which we know are in the vertical are not. Most people find it wildly disorienting.
12. Changing our glasses prescription also alters the way we see the world and many people find their balance is uneasy for a few days until they get used to their new glasses.
13. Another way the body has of monitoring our balance is the vestibular system. This is an elaborate system of little tubes known as the labyrinths in the inner ear. These provide the brain with various ways of measuring the angle and the movement of the head.
14. The actual way in which the labyrinths things work is not as obvious as the eyes. But we can sometimes notice that our sense of balance is affected when we have an inner ear infection that affects the labyrinths.
15. The fact that when we in the Crazy House our eyes and our labyrinths are giving us different signals about whether we are in the vertical or not, is why some people get dizzy or even nauseous when they are in it.
16. Another important indicator of our balance is the weight distribution on the soles of our feet – what is called the plantar area. The word comes from the Latin for the sole of the foot.
17. The skin on the sole is filled with little pressure sensors which respond to the weight upon them. When I lean forward, more weight comes on the front of my foot and the sensors tell my brain that this is happening.
18. When I lean forward a lot, I am moving out of the vertical and am in danger of falling on my face. The plantar sensors get even more excited and trigger the body's defence mechanism which is to stiffen my muscles to prevent myself leaning further forward.
19. Many of us get into habits in which we are leaning forward more than necessary. This is often associated with being anxious – it can also be to do with wearing heels that are too high. This can lead to continual stiffening of the muscles in the front of the body.
20. Similarly, if I lean back, the pressure sensors in the back of my foot register that fact and I also tend to stiffen.
21. You see this with pompous people – especially in public life – who like to standing with their weight on their heels and their

stomach pushed forward. This causes a different kind of imbalance and a different kind of stiffening in the muscles.

22. Apart from the sensors in the soles of the feet, there are also pressure sensors around our joints which tell us about how we are carrying our weight.
23. When we are standing naturally and quietly, with our eyes registering our environment, all these systems are sending signals into the brain, reassuring it that things are happening nice and quietly and normally. The muscles are no tighter than they need be to keep us in balance. We are neither slouching nor stiffening
24. This also happens to be the most energy-efficient way of doing our standing. The muscles are not using up unnecessary energy. The weight is going down through the joints in the way that nature intended. The wear and tear on our body is kept to a minimum.
25. This is why as AT teachers we place so much emphasis on the idea of getting our pupils into a quiet balanced standing position. Walter Carrington used to begin with you standing in the upright, looking straight ahead, and he would ask you to “Let standing happen.”
26. This is not as easy as it seems. A lot of us have very deep habits of doing our standing and it is not easy to let go of these habits, You then get people – I was one of them during my training – who tend to do their not doing by concentrating on it with their eyes closed.
27. It is not easy to get into the proper state but many of you will have had a feeling of lightness or lengthening when you get yourself when it does happen as a teacher is working on you. g.
28. The simple explanation for the sense of lengthening is that it is exactly what is happening. When the body is in a true state of balance it does not feel threatened by the fear of falling. There is no need to tighten or stiffen.
29. The muscles which run in great spirals down the body are able to release and lengthen. We get longer because we stop shortening ourselves.
30. And then our AT teacher says “Let’s go into monkey now” and all hell breaks loose in our carefully organised body.
31. It seems a peculiar thing to do. And when I was learning how to do it, I used to get such aches in my thighs in particular.

32. But it is important not to see monkey as a peculiar AT thing. It is a way of mobilising the four main hinge points in our body to enable us to move in an easy and balanced way.
33. It is a life skill. And as you get into the Technique you find it increasingly comes to you automatically as you are going about your daily business at work, in the kitchen or doing the gardening.
34. The four main hinge-points are the head-neck joint, the hips, the knees and the ankles. These are true hinge points.
35. There is flexibility in other parts of the body. We can bend our neck and our back to a limited extent but these four are the true hinge-points.
36. What these joints enable us to do, at its most basic, is move our arms without going out of balance. When we extend our arms in front of us, we alter the body's balance.
37. The body's balance systems take this as an early warning and begin to stiffen our muscles in case this imbalance gets out of hand.
38. If we have a nicely working body – which is unfortunately not as common as it should be – the various bits of our body adjust themselves to keep it in balance with the minimum effort when we are doing things with our arms.
39. Some practical aspects of monkey begin to make sense in this perspective. When we put our hands forward, the most obvious way of counterbalancing them is to let our bum back. Normally this is only possible if our hips and knees are free.
40. Then there is the 4 or 5 kg weight of the head. If it is in the wrong place, too far forward or back, it can interfere with the balance and trigger stiffening.
41. So what is the right position for the head at any time. Luckily we don't need to know. If we can avoid stiffening the neck, the head will take up the optimum position automatically and supply the final adjustments to our balance.
42. This is particularly important when we are teaching. We want to be able to work with our pupils without collapsing on top of our pupil, or hanging on to them to stay in balance.
43. This also means that the various out-of-balance warning systems are happy with how things are and my muscles have just the right amount of tone. As a result my nervous system is nice and quiet.

44. Because of that I am much better able to detect the state of things in my pupil. It is like having a quiet conversation in a quiet place. I am better able to feel the subtle changes in the muscular tone of my pupil. When my nervous system is not agitated by my body being out of balance.
45. You might say if monkey is such a good thing, why does going into it, and especially being in it for any prolonged period of time, cause me such agony?
46. This is an indicator of what modern life does to us. From the earliest days we are learning bad habits by copying our parents. Then we go to school and we are put on unsuitable chairs and told to keep still. Then we get into computer games and get a job in an office or a shop.
47. By the time we decide to become an AT teacher, we are stiff and distorted.
48. I remember being in a rural area in Tunisia, looking at an electricity project. We were there with our clipboards and drawings. There was an old man from a nearby village watching us.
49. He was sitting in the most relaxed squat you could imagine, just like a bird. He had never lost the ability to be in balance.
50. Before I started my training, doing a deep squat like that old man was completely beyond me. When I tried to squat, I used to get all kinds of aches in my legs and a dreadful scrunching feeling in my knees.
51. The reason was I had spent the first fifty years of my life misusing myself and I still carry the scars of it. But the training and practice I have got in going into and working in monkey means that I can get down an awful lot better than I could twenty years ago.