

You and Your Motor Cortex

The golf swing is frequently broken down into its major physical and technical components. Set up, initiation, take-away, backswing, top position, transformation, downswing, impact zone, follow through, finish position. This is great for us writing and talking about it as it gives us a reliable system of unequivocal pictures and points of reference. But it might not be so good for those trying to improve their golf. A golf swing is just that... a swing. It is, quite simply, one of the many movement patterns that is stored in our brain's motor cortex, along with the one for kicking a ball, or changing gear in a car, or even sitting to standing. The brain stores these practiced, pre-rehearsed and specific movement patterns as individual motor programmes that it can reliably call upon when needed. In terms of movement, since our early childhood, very little of what we do is a "first time event". The brain puts absolute trust in its store of movement pattern programmes...you will go through a whole day just firing them off to get you from bed to your car, to work, to the gym, to the pub and back up to bed again. You see the brain deals in movement and not muscle, joint and tendon. You think in terms of movement and **not** specific wrist angles, degrees of shoulder turn, "pronating and supinating" or opening club faces. It's sort of hard to explain, but try this: when you want to go and switch the light on, you think "I'll go and switch that light on", you don't say, "right then, quadriceps heave me out this chair, glutes you stabilise my pelvis, and knee joints let those hamstrings flex you 40 degrees, oh and arm, and particularly you index finger, get ready to aim at that switch cos I'm gonna need you soon." What actually happens is that the motor cortex responds to your decision, has a browse through its programmes, selects the "get up, stride and reach programme", and just runs it without you even knowing!

Is the light bulb switching on yet?

When you stand over that ball you are a spontaneous and unstoppable chain reaction about to happen. As soon as you creep that club head away from the ball your motor cortex accesses your own unique "golf swing" motor programme and runs it. We all own one. Mine is around 26 years old. I reckon I banked it when I was around 16 yrs old thrashing one of my schools collection of car boot 8 irons at the side of a cricket net. By the time they let me aim at the rugby posts I had a sort of flattish affair with busy hands, a pretty looking end pose, but no impulsion and a tendency to drift the ball right (commonly referred to as a slice). Of course at 16 I didn't care, I hadn't read any books, or paid for any lessons, I had an enormous advantage, I was having fun playing a game, it just happened to be golf... **I didn't know any better.** I aimed left, hit harder, had a fearless short game because I thought that any shot under 80 yards had to be easy, and scored OK on the municipal.

Then I got older and less wise.

You can't buy a swing. You can buy books, videos, lessons and new clubs, but you only apply them to your swing. Your swing is you. It is an honest expression of your movement. But you will betray it. The very fact that you are reading this article is just another act of betrayal. Don't beat yourself up... I wouldn't write this stuff if I didn't think you could benefit from reading it! Your primal swish, your raw swing, your own motor programme, can only get you so far. Mine took me to about a 16 handicap, and would have probably kept me there for about 60 years.... I wanted to play lower, we all do.

A handful of us are granted superb motor programmes. Roger Federer has a hard drive full of them; he would be the best ballet dancer, best slalom skier and best trapeze artist in the world if it wasn't for tennis taking up too much of his time. Tiger is exactly the same... not

only does he play the game better than everyone else, he even walks up the fairways better as well, and he makes putting on green jackets an athletic art form. Anneka is of the same brood, just as happy in the martial arts dojo with her black belt around her waist as she is closing out on the 18th at Pebble Beach. But don't despair, even the gifted hang their swings out to dry. Tiger may have laid down his programme in his high chair watching his dad thrash balls in the garage. By 4 yrs old he was swinging his cut-downs with a motor programme as refined and established as a collegiate hot shot. But then Earl, Butch, and Hank got tucked into him. He even had his famous sabbatical of 2 years where he rebuilt his swing and missed out on 10 majors. But I'm not buying it all. I have looked at his swing at 19, 25 and now 31 and it's all Tiger. Ok he has his dip now, and he doesn't screw and snap that knee with so much vigour, but in terms of gross movement that's like taking a felt tip to the Mona Lisa, you might have time to tweak that enigmatic smile, or slap some glasses on her, but by the time the guards nail you it will still be an instantly recognisable masterpiece.

There are very few uncorrupted motor programmes on the pro tours, and there will be less in years to come. I love watching Laura Davies swing a club. It's a swing I can't get bored off. There is something "primal" about it. It is very real, brutal but almost naïve and playful. When she drives, to me it looks like her caddy goes up to her and says:- "Ok Laura, here is a ball, and here is a bat. I want you to hit the ball as far as you can up there with the bat." Laura has been lucky though. Her swing motor programme is supremely effective. She is a gifted striking athlete, slamming tennis balls, footballs and golf balls for fun...one of the only tour pro's I know who was late for a competition tee time because she got carried away playing a set of tennis with her caddy... now that is a warm up.

Are you struggling with picturing an uncorrupted "primal" golf swing?

Try out this virtual experiment. We find an isolated island of indigenous natives completely untouched by modern society. We give all the young women, men and youths an 8 iron and a sack of balls each. We give them one instruction and no demonstration...hit these with that to that tree from here. We ask them to practice hard for 6 months. On revisiting I absolutely guarantee you that many of them will be able to pepper the tree, and some of them will have acquired a pretty decent motor programme that we would call a golf swing. No books, no lessons, no one has heard of David Leadbetter, but a recognisable and efficient golf swing. Experimentation, trial and error, peer group sharing, copying, and the natural process of motor skills development would do it all for them.

I know what you are thinking....I am getting it, but how is it going to help me play better?

I agree with you. All this theory is fun, but we need to get down to some ways of putting it into practice. So here are some motor programming rules, golfers like rules.

- 1) With the club in your hand, if you have to think, think in terms of gross movement.
- 2) See and feel your whole golf swing as a single entity, a flowing chain reaction and not isolated "compartments" of movement.
- 3) Involve all parts of the chain even when your emphasis may be only on one link.
For example, if you feel that your performance will improve if you have higher hands at the top, then you will probably fall into the trap of focusing solely on the hands as you creep that club away. Your result will be that you will lift your hands within your swing, rather than making a swing that lifts your hands...two entirely separate things.
In the first isolated response, only one segment of the chain can provide the solution, you are consciously asking for an arm lift, and your motor cortex will try and sort this for you the best way it can. It will take an arm-lifting sub-programme, and crudely slot it into your golf swing main programme, frequently with clumsy effect... your swing becomes commotion in motion.
In the integrated response, you picture your whole swing, from your toes to your tongue, contributing to this, and you see it as a total body movement. Not one

segment, but all segments doing their bit to achieve the goal. See the club itself in its higher position and visualise that it is the whole body that has put it there and not just the hands. When you put the club behind the ball, if you have to think something, do not think hands high, think **swing** high.

The motor cortex likes this way of thinking. In this case instead of accessing it's banks and guessing where to splice in an arm lift, it simply says...I see, you are running your swing programme, you just want me to massage it a bit, a gentle re-model... sort of pull on both ends in this case....I know the move.

Your motor cortex and you are now talking the same language....movement.

Bob Wood