

7. Fade to Black

One of the more common problems I deal with in my practice is *lack of follow through* or *commitment* to a cause.

Take exercise for instance. Most people have had the experience of starting off strong in an exercise program only to eventually find themselves skipping workouts. At first it is just every now and again and then it becomes a string of skipped workouts that ultimately lead to stopping altogether - a slow, methodical, predictable *fade to black*.

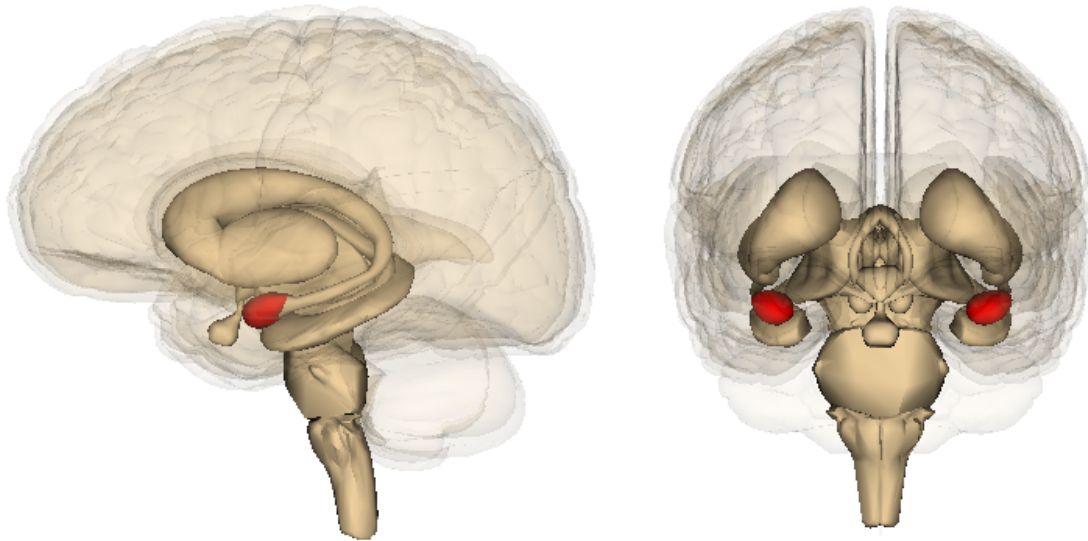
Recently I was working with a client who described this as his problem when it comes to exercising. As he described it: 'I start off strong, but then all of a sudden something comes up. I miss a day or two for whatever reason and then before I know it - I am back to not working out at all.'

I was interested in finding out if he knew why this happened? So I asked him what he thought. He thought about it for a minute and gave me this answer: 'When I am going strong and then miss a workout, I feel like I have let myself down. I get this sense of feeling like I am a failure. Then I start thinking it is easier for me to just quit - quitting seems better than failing.' (He was quick to add that he knew that wasn't a good way to be thinking, but that is what he does.)

At this point my client **had** started off strong and was *still* going strong, and my primary goal was to **keep** him going strong this time - for keeps. So I wanted to be thinking ahead **right then**, exploring the patterns of thinking that ultimately lead to quitting. It was not time to celebrate the success of starting off strong and hoping for a better result this time, it was time to look forward, identify the *usual* thought processes that precipitate the *usual* fade to black and get new thought processes in place '**now**' to pre-empt any event, situation and/or thought pattern that normally takes him out of the game. We have to get these in place **now**, while the going is good.

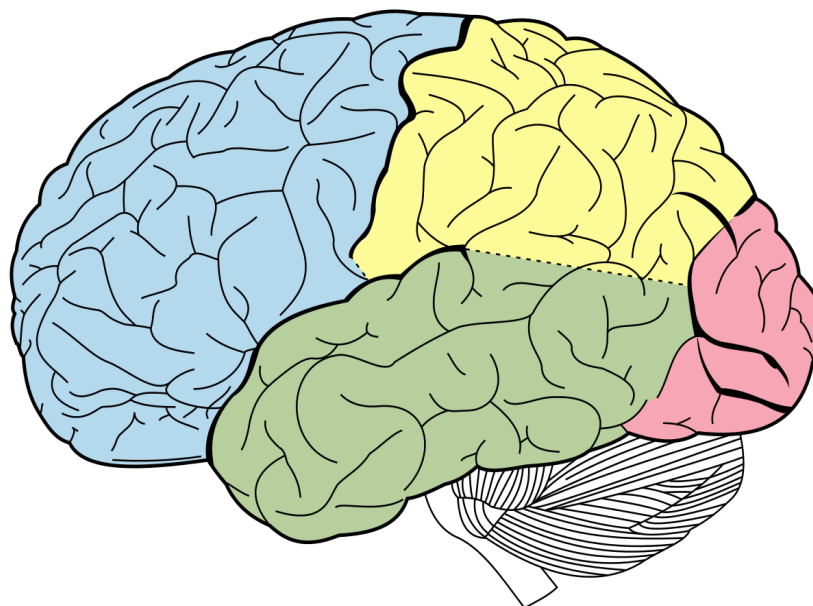
But first a bit about brain function. To answer my own question, the one I posed to my client about why he thought this typical '*fade to black*' happened, I translated his thought-process into neurobiological terms. He had described the thoughts that occurred in his mind, I proceeded to explain to him 'why' they were occurring.

The human brain has no use of exercising - period. We are not genetically wired to burn fuel for no good reason. To catch some food or get away from a predator?? Yes, we are wired to gladly burn fuel for that, but to lift some dead weight in the air, or run a distance simply to do it is just plain idiotic - at least to the part of our brain known as the limbic system. Deep in the heart of the brain are 2 almond-sized and almond-shaped structures called the amygdalae. (See below) They are the part of the brain system that is responsible for processing pain, pleasure and fear. That system is responsible for making sure that we avoid things that are painful or harmful and that we participate in things that are pleasurable. It is also responsible for making sure that we don't spend any precious fuel reserves (aka body fat) unless there is a damn good reason for doing so.



So when it comes to exercising, we come pre-wired to think: 'Are you kidding me? No thanks. It is not pleasurable and it makes no sense. No thank you.'

The reason that we can 'start of strong' in an exercise program is that we have another part of our brain, the cerebral cortex (below), that has the ability to 'over-ride' the limbic system temporarily. The cerebral cortex is huge, by way of comparison - roughly 50 times bigger than the tiny amygdala, but the tiny amygdala is strong and fast. The cerebral cortex is slower and weaker - and that is by design. The brain is masterfully engineered to work this way - and it works perfectly.



With our thinking, logical, rational cortex we can make the decision to start an exercise program - with all of the carefully thought-out reasons for doing so. When starting off strong these thoughts appear to be fully in control, over-riding the thoughts that are being pumped out by the amygdala: *'This exercising thing sucks, it's uncomfortable, save your energy, save your fuel - rest, sleep, do nothing.'* If we listen carefully, we can clearly hear the amygdala, launching 'anti-exercising' thoughts left and right. For a period of time we can ignore the amygdala, just long enough to get to the gym, but the amygdala is relentless in its pursuit of pleasure and eventually it gains the upper-hand again. A day gets missed because we were 'sick' or 'too busy' and the amygdala jumps back into the driver's seat, exploiting the opportunity to launch some pretty clever 'anti-exercise' thoughts like: *'You have let yourself down, you have failed, no point in re-starting, just quit already.'*

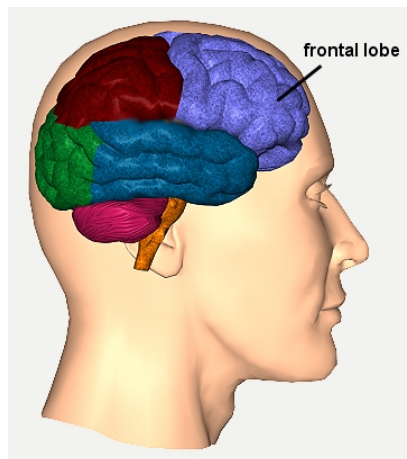
Usually, by this time the initial flurry of activity in the cerebral cortex has cooled off a bit, not because the reasons for exercising have suddenly become **less logical or less true**, but simply because we have stopped 'thinking' those thoughts as often. We have to actually 'think' thoughts and think them 'powerfully' and 'repeatedly' to keep them in charge. We make the fatal mistake of thinking that our more logical thoughts about the benefits of exercise somehow have enough signal strength to keep right on subduing the amygdala **just because they are more logical** - that would be way wrong.

In the world of neurobiology the strongest signal gets the nod - every time. The thoughts being launched by the amygdala have more speed and signal strength than those being launched by the cerebral cortex - again, that is the way it is supposed to work and it works well.

But ... we have an 'ace in the hole'. The sheer size of the cerebral cortex gives us the power to quiet the amygdala, if - and only if - we use it correctly. What the cerebral cortex lacks in speed and strength it more than makes up for in volume. In order to cash in on this size difference, however, we have to recruit as many neurons as possible in the effort and keep them engaged in the fight.

This is where CAVT comes into play. CAVT, (Cognitive Audio Video Technique) is really a multi-disciplinary, multi-sensory approach that is aimed at engaging as much of the cerebral cortex in this fight as humanly possible.

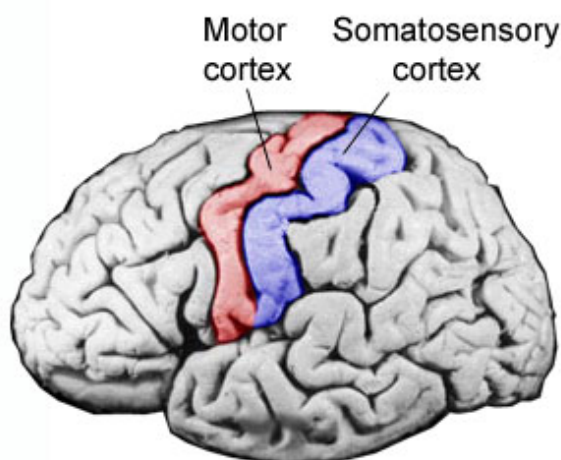
The amygdalae would be quite happy if we simply tried to use a small portion of the cerebral cortex, the pre-frontal cortex, in the fight. Then the amygdalae would win the war, every single time. And that is what usually happens. The pre-frontal cortex is typically the only portion of the cerebral cortex that gets engaged in the fight. That is the region of the brain that we use to **'realize'** that exercise would be good for us and **'make the decision'** to start an exercise program. In the pre-frontal cortex we have planned the exercise program, orchestrated those thoughts in accordance with our internal and long-term goals, abstracted the idea that something that feels uncomfortable **now** is good because of what it does for us **in the long run**. It is in the pre-frontal lobe that we have worked out the details of getting to the gym and have executed that function so far.



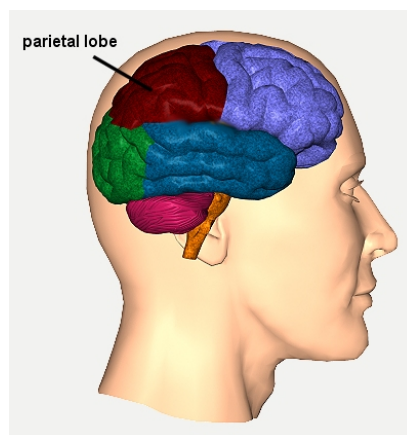
The problem is that all of these wonderful functions that can be executed by the pre-frontal cortex really don't stand much of a chance of toppling the strong, fast and relentless amygdala - at least not without some serious assistance. Here is where CAVT begins to emerge as a major player.

Lying adjacent to the pre-frontal cortex is the **motor cortex**, which is responsible for preparing and executing limb movements, fingers, hands, arms, etc. and for learning and imitating movements. To bring the motor cortex into the fight we are going to have to *write* our thoughts out on paper, type them in a computer, text them into a phone - and not just once, but over and over again. Many people write their ideas down - their plans for exercising, their reasons for exercising, the benefits, etc. - but then that is it. They get stuffed in a drawer somewhere. The *act of writing itself* is what engages the motor cortex, so writing them out again, every day, keeps the motor cortex engaged in the fight. Each time we write down our *plans, reasons* and *preferred ways of thinking*, we are creating new connections in the motor cortex - even if they are the same ideas we wrote down yesterday. It is the act of writing - coordinating the movement of the hands - that brings this region of the cerebral cortex into the fight.

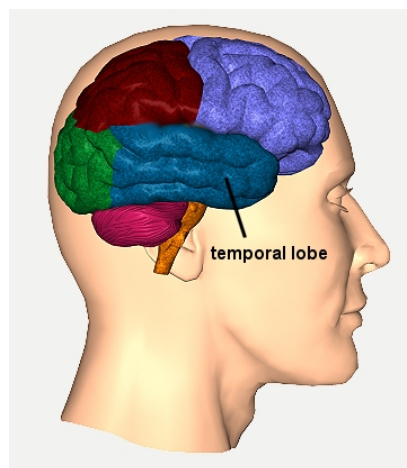
Figure F-3: Motor and Somatosensory Cortex



Moving back in the brain, the next lobe is the parietal lobe, which contains the sensory cortex. This region of the brain processes all our sensations, touch, texture, etc. Feeling the pencil in our hand, our fingers on the keyboard or text pad, these are the sensations that are processed when we write or type. Together the motor and sensory cortex use a lot of cognitive horsepower to write down an idea or thought. The number of synapses that must be fired and connected to complete a written thought, as opposed to simply thinking that same thought, is exponentially greater. Thus we have now recruited the sensory cortex into the fight as well.



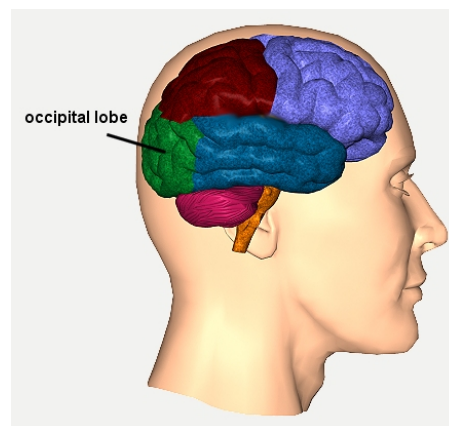
Nestled below the sensory cortex is the Temporal lobe which contains the auditory cortex. This region of the brain is responsible for processing everything we hear as well as language interpretation. This is where we turn spoken language into something that has meaning. This region also plays a big role in *producing* language - spelling, grammar, sentence structure, syntax - all of these functions use a tremendous amount of cognitive horsepower.



Just how much horsepower this region requires can be neatly demonstrated by a study that was done on distracted driving. In this study drivers were placed on a closed course with a hands-free headset. While these drivers were negotiating the obstacle course they were asked simple true/false questions which they had to answer. The study was designed to isolate cognitive distraction - literally how much of the brain is devoted to processing language. Drivers who participated made 37% more errors on the course when attempting to process language while

driving. This study clearly demonstrates just how much cognitive processing power is devoted to processing language and demonstrates how much of an advantage we gain when we bring this region of the cerebral cortex into the fight.

Finally we move our way to the very back of the brain where we find the occipital lobe. This region is responsible for processing and interpreting everything that enters the brain through our eyes. This region is by far the most complex of the sensory processing systems. The number of neurons devoted just to visual processing number in the hundreds of millions and take up about 30% of the entire cortex, as compared to 8% for touch and 3% for hearing. Each optic nerve consists of 1 million fibers compared to a mere 30,000 fibers in each auditory nerve. Visual processing is by far the most powerful system in the brain. That is the very reason that a TV advertising spot can range in the millions for 30 seconds as opposed to the thousands for a radio spot.



An often quoted Statistic on the Internet is that one minute of video is worth 1.8 million words. This is not an actual research project it is simply an extrapolation of the proverb that a picture is worth 1000 words. There are 60 seconds in a minute and a standard *frames per Second speed* for video is 30 frames. 30 frames per second times 60 is 1800 pictures X 1000 words = 1.8 million words. So the statement often quoted that one minute of video is worth 1.8 million words should be prefaced by the statement *if one picture is worth 1000 words then* 1 minute of video is worth 1.8 million words.

So how many words is a picture really worth? In Nicholson Baker's 1983 investigation of *the size of thought* he did an experiment in which he had participants describe 'in words' the same information expressed in a single diagram by others. What he found was that on average it took 84.1 words to describe the same thing that could be described with a diagram or picture. From this he deduced that a picture is actually worth 84.1 words - not 1000. Using this calculation $84.1 \times 30 \times 60 = 151,380$ then one minute of video is more precisely worth 151,000 words - not 1.8 million, but still pretty impressive. It certainly explains why Budweiser makes so darn much profit from a 30-second video spot, doesn't it?

Suffice it to say that if we are not using audio and video feed to infuse rational thinking into the cerebral cortex, we are leaving two *very big dogs* out of the fight - not a good idea if we are up against the might amygdala. So how exactly do we bring these big dogs into the fight?

First we have to isolate the thoughts that the amygdala is launching to thwart the exercise effort. Remember those are thoughts that 'take one out of the game':

- When I am going strong and then miss a workout, I feel like I have let myself down.
- I get this sense of feeling like I am a failure.
- Then I start thinking it is easier for me to just quit - quitting seems better than failing.

How rational are these thoughts? Not very. What are their rational counter-parts?

- When I miss a workout, it is not a great thing, but certainly not letting myself down. Missing a workout is just a fact of life - the best laid plans sometimes get messed up. I will not only get right back at it today, at my next opportunity, but I will give the next few workouts just a bit more effort - to make up for the miss.
- A missed workout has nothing to do with failure. It is a miss, nothing more, nothing less. One day out of 365. It happens to everyone. Successful people miss an occasional workout and get right back to it. I am successful, if I miss for whatever reason, the next opportunity I have I am right back on it.
- It is actually much harder to quit - due to all that crap that quitting brings with it - self loathing, poor health, flabby body. It is far more easy to keep right on going, especially after a skipped workout. I will triumph and I will feel great. Getting right back on it after a skip is the sweetest feeling ever!

I could go on for hours here, but you get my drift. There are an infinite number of ways that we can refute the thoughts that the amygdala is attempting to launch. The goal is to carefully construct these thoughts in such a way that they are saying virtually the opposite - rationalizing the irrational.

I am not going to just save these thoughts and use them when I find myself missing a workout (which of course is inevitable unless you don't happen to be human). No, I am going to start launching them **now**, in anticipation of the eventual missed workout. I want to have these new thoughts loud, strong and ready to fire - way in advance. I call this the act of **pre-empting** the amygdala.

Now that I have spent the time creating and writing these new thoughts down, I have successfully engaged the pre-frontal, parietal and a portion of the temporal cortex used for producing written language. If I were to continue writing these ideas down every day, and maybe adding to them new ideas or at least novel ways of saying the same thing, I am going to begin building some power in the cortex system so I will be ready for the eventual missed workout. If I stop at this step I might defeat the amygdala, or I might not - depending on how many times I re-write these preferred ideas. But why stop here? We still have two big dogs to bring into the fight.

Once I have written these thoughts out I will take out my cell phone and pop open the video app, flip it to 'selfie' mode and produce a video of me, speaking these thoughts out loud. If you want, you can take the written thoughts and hold them right behind the cell phone to use as a 'tele-prompt' to read the thoughts - this is what I do so that I can concentrate on my facial expressions and tone of voice, rather than trying to remember the exact words. The goal of this selfie is to really 'sell' this

message to myself. I want to say it like I mean it, confident, convincing, forceful. I will shoot it as many times as necessary to achieve the body language I desire to support the message.

This is where we are kicking the effort into high gear. It has been said that communication is 55% body language, 38% inflection (modulation, intonation, pitch) and only 7% the actual words spoken. That has got to be close. When I am simply writing down the preferred thoughts, I have no body language or inflection streaming in, only the actual words. When I am using the medium of video to 'record' those same thoughts I am gaining 93% more power in my communication of a great way of thinking 'to myself'. If you are still skeptical after all of this I have two words for you - try it!

If you are hesitant to try video because it just 'seems weird' relax - you are not alone. It seems weird to everyone - at first. My first attempts with video were certainly laden with the weirdness factor. I am 53 and did not grow up accustomed to 'shooting a selfie' so it was 'uber' weird at first. It felt weird to even do it, but then to see myself on tape - my first reaction was definitely strange: I couldn't decide what I hated more - how I sounded or how I looked. You probably will feel the same way, but don't let that deter you from trying it. That reaction will go away - I promise. It takes a couple of dozen views to happen, but eventually that feeling will fade.

When you think about it we hear our voices every day and we see our images in the mirror every day but that doesn't *weird us out* (at least most of us), but when it comes to video that does - there is a reason. When we hear our own voices leaving our body that is a different sound than that which we normally hear as our voices are bouncing off the walls and traveling back to our ears. It is different to our brains and different = weird. The image we see in the mirror is not the same as the one we see on video, it is flipped 180 degrees. Since we are not perfectly symmetrical, again the difference = weird. After several viewings our brains begin to consolidate these two differing images and blend them together as one. I honestly cannot tell the difference between the two in my brain anymore and now my brain simply focuses on the message and the power of the process. I guarantee yours will too - just power through the initial weirdness. Bringing audio and video into the fight is simply powerful - mega powerful. And we need all the power we can get to gun down the persistent amygdala.

Last, but not necessarily least, is one last 'ace in the hole' that we can tap using CAVT - Hebbian Plasticity. This phenomenon is named after Donald Hebb, a neuroscientist who discovered it in the 1980's. In layman's terms the phenomenon is simply this - neurons that fire together wire together. This means that when we engage all of these regions in the cortex together in this effort we are wiring millions of neurons together that will fire together. To put this simply, when we watch the finished tape we are not only firing the neurons involved in processing audio and visual signals but also the other regions that were involved in *creating* the tape - because we are not just in the tape, we created it. By using this method we are virtually recruiting and coordinating an effort that involves the entire cortex - firing in unison - to bring down the stronger and faster amygdala. That, my friends, is how we win the war and keep going strong, for good.

One final thought before I close this chapter addresses this question: How many times do I need to watch this tape? The answer - until the amygdala goes quiet, quiet enough that the cortex can be heard loud and clear, at the moment we need to hear it - which in this case is after we have skipped

a workout and the amygdala is screaming at us to just give it up, you big fat loser.

Okay, so really, how many times might that be? I am going to suggest 10,000 thoughts. But before you get too freaked out, that is only 10 thoughts on a 1 minute video viewed 10 times per day for 100 days - 10 minutes per day for just a bit over 3 months. So why 10,000? Two reasons really.

First, it is an extrapolation of a statistic used by Malcolm Gladwell in his book 'Outliers'. In this book Malcolm studies the amount of practice it takes to be an 'outlier' - an anomaly, a phenom in a chosen field. He studied the likes of Michael Jordan the great basketball player and Bobby Fischer the great chess player. His conclusion was that it takes about 10,000 hours of repetition to become an **outlier**. Using this number as a starting point I reasoned 2 things, first this is when they became a phenom, not when they became 'decent' at it, I reason that Michael Jordan is 10 times as good as I am at basketball, and I can play the game pretty well, second we are talking about a concentrated effort. I believe that one minute of video, with it's 151,000:1 ratio to written words, and 93%/7% ratio in communication has to be worth at least an hour of simply *thinking* the thoughts.

Second, this is when I see my clients experience the feeling of crossing that threshold from the **amygdala** being the loudest region, to the **cortex** gaining the upper hand. It is right at 100 days, on average, that I have clients who are using CAVT tell me:

'You are not going to believe what happened. I missed a workout and started to feel bad about it. I heard myself thinking - 'Here we go again, you are such a failure, you might as well just quit ... and out of nowhere I heard the thought - 'Wait a minute: This isn't failure, this is just a normal part of the process. You are not a failure, you are a success. Look at all the days you have worked out. Workout tomorrow, you will feel great. The triumph will be awesome!' This second set of thoughts just smoked the first set and by golly I got up the next morning, worked out and felt awesome.'

So if you have started off strong, or you are getting ready to start off strong, grab your pen/computer/phone and get busy writing down the thoughts that usually precipitate the familiar fade to black. They may be similar to the ones I have listed, or they may not be - we are all individuals, we have to find our own set. Get busy editing these thoughts and working them into a list of 'antonym' thoughts that you can use to narrate your own personal 1-minute, pre-emptive selfie. Get brave and shoot yourself on video, critique it and re-shoot until you get it polished - really sell the message to yourself. Then sit back and listen - 10 times a day, 100 days - a small price to pay to keep going strong forever.