

## 7-2: The Link Method

Basis of almost all the mnemonic system is what is called the link. The link is a way of forming a mental bridge between 2 completely different ideas. And the power of it, it works even if these ideas are unrelated. So as compare to metaphor, visualization, the other techniques that we've talked about before you're looking for real connections between the ideas and you're trying to enhance them, this works even if there's no connections between the ideas. Again the disadvantage is that you tend to understand the idea the superficial way because you are just creating connections between ideas rather than actually exploring the deep structure that already exists but it can be incredibly powerful and they don't mean it works. So for example this basic technique expanded into a more complicated system is how mnemonic can memorize the entire deck of cards in less than a minute or thousands of digit with looking only at the numbers individually at once. So this is a basic system but the way it works is you wanted to form a mental image of the two ideas your thinking of. Now some of them are too obvious, if the mental images are immediately apparent, it's an object that you are trying to link, now it's easy. If you are trying to link an abstract concept, then sometimes you need to use a few other tricks in order to turn it to a mental image first. But that's the idea, you start with the concepts, turn them into mental images, and then you form the link. And the way you form the link is by trying to combine the two mental images in a ridiculous or exaggerated fashion.

So let's work thru a really quick example. So let's say I'm trying to mentally associated banana and pinecone, this might seem stupid and ridiculous but it forms a good starting point. So in this example, I can easily imagine a banana, easily imagine a pine cone. So the first step in finding a mental image there, they already have a mental image that I can associate with the concept with the banana and the pine cone. Now how do I link those two mental images, now here I need to come up with a scene in my head that really exaggerate and puts those two things in a ridiculous and very vivid and memorable content. So the idea I thought of was a giant banana, it's like Godzilla, it's crashing thru a city and it is picking up this huge pinecone and throwing them into the building and then they exploding on in fact, and showering in tons of little pinecones every area of the city and this banana is angry and raucous just throwing everything. And I'm forming these images and the banana is huge and it is a thousand feet tall and the pine cones are the size of boulders and they're destroying everything. Now this is the perfect example because this is very ridiculous, this is not a way that you normally associated banana and pinecones but it's memorable. In that way when you think of banana you automatically think of pinecones because you will be reminded of this extreme association. Now I'm trying to keep this video PG13 but making them more profane, bolder even sexual can make it more vivid. So if you have a very pervasive imagination and make something disgusting and grouser or sexual; that will also make it more memorable. Because you remember things that are disgusting,

grouse and sexual more that you remember boring or uninterested things. A few other ways you can make the mental link stronger is imagining, instead of using things in its normal size imagine them to be on a thousand times bigger. So a thousand foot tall banana is considerably more memorable than one then regular size banana and consider instead of just using one or two of an object considers a thousand of them so when I was throwing the giant pinecones they were shattering into thousand and millions of pinecones that coming all over the city and bringing down. So now the thousand of something is also more memorable than just one or two. Now this particular method of associations seems very ridiculous but it works much better than let just say imagining a bowl in both bananas and pinecones, that's not going to be memorable, the former is.

It's very important you also close your eyes and deeply imagine. As you get better to this technique, you can often do this in a couple of seconds. It doesn't take much time but it does take a little bit of practice because this is a very unusual technique if you're not used to it. So pinecones and bananas might be a very trivial example it probably not something you are going to actually use on your studies. So let's focus on something that you might actually want to memorize. So let's say you wanted to memorize connection between the amino acid leucine and you wanted to connect that with the idea that it is hydrophobic or it has a hydrophobic side chain. Now immediately to me these don't correspond to any mental images. Hydrophobia and leucine are not things like banana and pinecones that can find the mental images. So a very good technique for linking this is to come up with the symbol or a mental image that easily associates you with the idea. So the context with the amino acid one way you can do this is you can just actually think of what the idea looks like so if you we're very well versed with biology maybe you could think of what is leucine actually look like as the amino acid as the chemical formula. But even easier way in doing this you're not very well versed with the chemistry and that probably won't work because the mental image will not very well associate with the actual idea. In this case, what you might wanted to do is just use the sounds like method to figure out what the word is and you try to find a visual symbol that sounds like what the word is. So in this case leucine to me sounds like Lucy, so I'm thinking of Lucy from Charlie Brown when she pulls the football away and it falls on his back. So Lucy from Charlie Brown and hydrophobic means that you are afraid of water, that you are unable to touch water that you are polar water actually. So the fact that Leucine has the hydrophobic side chain, I can imagine Leucine being a swimming pool, all the task and peanuts are the pool we're all looking around and Lucy cannot go swimming. She tries to jump in and then she repels and bounces out of the water like a trample.

Now that's a very good starting point from an immediate but we make it better, we make it more vivid. So one way we could do this, we could make Lucy gigantic, so we can make it so that she's a thousand foot tall Lucy. She's towering over everything when she

jumps on the pool, she immediately bounces back like it's a trampling circus. Another way you could make there's a thousand of little Lucy's running around and they try to jump in to the pool and they all bouncing off like pingpong balls bouncing off the floor. That's another way you can make it more dramatic. You can also make it more profane, more vulgar, more sexual, anything to make it vivid or imaginative. Now the idea of this link is that when I see leucine, I wanted to think of Lucy because that was the most obvious mental image I came across it and I am going to think of Lucy and I'm going to think of this pool situation where she's bouncing out of the water so I'm going to remember leucine is hydrophobia.

That's a very simple system often when you're learning this kind of information you wanted to organize into a larger structure. There just forming an association between two ideas isn't terribly useful. However if you were to organize whether the amino acid are hydrophobic or not base on entire array or 20 amino acid then you will be able to get more information, you will be able to actually use this mnemonic in a very clever way, but the basic idea, the basic idea of the link, you form mental images of the 2 ideas and you form a ridiculous association between the 2 is very powerful whether or not you use a big system or whether or not just using individually. So this is the core idea that I' going to realize most mnemonic system and it's a core thing you need to practice and you need to be able to do quickly if you wanted to make good use of mnemonic system in your self