Getting Started with Visceralization

Visceralization is the enhanced version of visualization. When you visualize, you try to make mental pictures. When you visceralize, you work to add sound, movement and other sensations.

It's the difference between a black and white silent film and one with 3D goggles.

Visceralization hits on a core principle of holistic learning: making the abstract tangible. It's a general purpose tactic, but it has specific advantages with:

- Abstract and concrete information
- Technical subjects
- Dull or unimaginative subjects

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The last two points may surprise you. Technical people always like to think the literature department is the field doing fanciful imaginations. If you're in science or mathematics, you stick to the formulas, right?

Wrong. Visceralization works best precisely with subjects where it isn't an obvious tool. Because you're probably not visualizing physics formulas or vector spaces, that's precisely where it can come in handy.

Some subjects make visualization automatic. When I explain how the circulatory system works, this automatically evokes a little imagery of where blood is flowing, the heart and veins. Because of this automatic imagery, many people find these concrete subjects easier than completely abstract topics.

The real power of visceralization is using it deliberately in places where it isn't automatic. For example: try visualizing a heartbeat. Not too bad. But now, what's the visualization you have of a differential equation?

Imagining the Unimaginative

The truth is, it isn't too difficult to form images for technical subjects. With a little practice, you can take any idea in a field and make it more memorable by adding color, sound, motion or other senses to it.

As a side note, I find it interesting that many savant-like geniuses report that they are able to perform complex calculations easily because they don't see them as calculations. They see them as colors, textures or sounds. This synesthesia may be automatic

for some, but it doesn't mean you can't create these colors or textures with practice.

My favorite example of how I've used visceralization is in matrix mathematics. When trying to remember how to take the determinant of a 2x2 matrix, I visualized my hands moving through the corners of the box, one adding weight the other subtracting weight. Later in the course, I used the same process to visualize a subspace as a giant red grid intersecting a vast blue void.

The visceralizations don't need to be perfectly accurate (and they often can't be in highly technical fields). Like metaphors, you want numerous images, not just one or two, which might have weaknesses.

Unfortunately, many people have been trained by the academic establishments to forego imagination in technical subjects. Science and mathematics are about the facts and laws of the universe–nothing else.

But, even if on a testing situation you'll be penalized for imagery, that doesn't mean you can't use it privately. In fact, the more you use these ideas privately, the easier they will be to access in a testing situation.

Stages of Visceralization

Like metaphors, visceralization is a complex skill that requires some practice. Some of my readers undoubtedly recognize themselves doing these types of things in their classes occasionally. While other readers may think this entire idea of visceralizing is a little nutty.

Depending on your starting, point, you may want to practice at different stages. Don't try to come up with perfect visceralizations to start, just emphasize a stage which you think you can handle.

Stage One: Paper Pictures

The first stage of any mental technique is on paper. If you have difficulty thinking abstractly in your head, write it out.

You can start by creating simple pictures sketched in your notepad regarding the subject to help visualize them. They don't need to be works of art, as long as you understand them, that's all that matters.

I think its interesting that many of us have been scolded for doodling in our notebooks during classes. Picture creation is a powerful learning technique, often far better than linear notetaking.

Using my determinant example, a paper picture could simply be a diagram of the matrix with arrows drawn through the corners. Nothing crazy about that, but it's a start.

Stage Two: Mental Images

The next step is to work on creating images in your head. The only advantage this has over Stage One is time. It can take a few minutes to draw a visualization that would only take a few seconds mentally.

However, because the principle advantage is time, this doesn't mean drawing out your pictures is bad. I still do it frequently, and I find it very useful.

Continuing with the example, I could make a mental image by taking the drawing and visualizing it clearly in my mind. Potentially adding a blue arrow where I need to add numbers and a red arrow where I need to remove it.

Stage Three: Mental Movies

The next step is to add sound, color, motion and other sensations into your mental image. With the last example, this could be achieved by visualizing your hands moving through the plane of the matrix, collecting material and putting it away. There could be colors and sounds involved.

An image like this doesn't usually come all at once. I would try to go from the picture, try turning it into a mental image and then add the other sensations. Each an additional step to make the image more vivid and memorable.

Core Images

Core images are types of imagery that are common in many abstract ideas. They aren't necessary to use if you already have an image, but they can help you think of a basic picture to draw when you're getting started. Here are some ideas to consider:

Movement - Is there any change involved in what you're visualizing? It doesn't have to be change through time, even moving along a graph or when different values are inserted into the formula is a form of movement.

Interaction - Where do two different elements meet? In a chemical formula, the molecules need to conjoin, break apart or catalyze. If you can figure out where these interactions occur, that's a good starting point for any picture.

Shape - Many abstract ideas have a shape associated. A bell curve is just an abstraction, but it has a signature hump to it. An array is just 1's and 0's, but it has a shape of a long row. Basic shapes are your building blocks for more complex images.

Cases - Some ideas split into different cases. These are easy to represent in flow-diagrams by an arrow splitting or merging onto a different idea. Different cases can be visualized in the same way, as splitting or merging together when different events happen.

Practice Visceralizations

Here's a walkthrough of two potential visceralizations, each going through the three stages:

4 P's of Marketing

The four P's of marketing are commonly defined as: product, price, place and promotion. So what would be a way we could visceralize this?

Stage One:

What's a product? Perhaps a can of beans will be our product, we could quickly draw a can on our paper. We could then add a

price-tag to the can, fulfilling the second P. Place is a bit trickier to draw, but we could draw the can as being located on a simple floor layout. For promotion, all we would need is a "Sale!" sign pointing to the can.

Is it a simplification? Of course–that's exactly the point.

Stage Two:

Now we'll take the idea and imagine it clearly in our head. Maybe fill in the gaps that were difficult to run through in the drawing phase.

Stage Three:

Maybe the "Sale!" sign has flashing lights and makes an

advertising jingle. You could pick up the can and feel the weight, hold it up by the price tag. You could also zoom out from your position and monitor the location of the can in the store layout.

Creating a Linked List

A linked list is a computer programming term for a collection of objects that point to the next object in the list. Starting with the head pointer, you can traverse the list by asking each object what comes next. If the object says nothing, then it is the last object.

Stage One:

This would simply be a diagram of the linked list. You could draw an arrow for the head, and a box with two compartments as each node. One compartment would have the data, the other

compartment would have another arrow pointing to the next node.

Stage Two:

Try taking that same diagram, and put it in your head. Instead of just an abstract shape, maybe consider each node to look like a suitcase with an arrow glued on. You could then see each suitcase pointing to the next one in the chain.

Step Three:

Imagine now that you're in a surreal world, you pick up a first arrow painted on a card and walk toward the location it points. You spot a suitcase, filled with objects, attached to it is another arrow card, pointing to another suitcase location. You can pick up

the suitcase and smell the polyester and leather container. The arrow cards are printed on manilla and could give you a papercut if you weren't careful.

See the difference? Stage one is factual and bland, it's where most people stop. Stage three is Wonderland, you just need to see how far down the rabbit hole goes.

Implementing Visceralization

I suggest starting a new 30 Day Trial where you commit to creating 3-5 visceralizations every day. If you're having difficulty reaching stage three, you may want to commit only to stage one or two visceralizations for the first week.

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Once again, talk is cheap, action is what matters. If you want to possess savant-like, genius-level visualizing powers you need to practice.

Good luck to you, and I'll see you on the other side!