THE 5000 YEAR HISTORY OF HOW WE LOST HALF OUR MIN

(Or How Blah-Blah-Blah Has Gradually Taken Over Our Lives)

DAN ROAM

um... hello?

How We Lost Half Our Mind

The Test. The SAT is the standard high-school aptitude test in the United States. It is taken by every teenager hoping to attend college and every higher-learning institution requires an SAT score for admission. As the primary nationally-standardized measure of intellectual ability, SAT scores are considered the single most reliably consistent predictor of academic fitness. (The other two measures considered by application boards are grade-point average and extra-curricular activities.)

In many ways, a young adult's SAT score is the number one determinant of his or her academic future. A high score significantly increases the chances of acceptance to a good university while a medium or poor score virtually guarantees non-acceptance. It's not an overstatement to say that for most college-bound students, the three hours and forty-five minutes they spend taking the SAT will have more impact on their educational future than anything else they do in their first sixteen years.

For most young Americans, the SAT test is the single most important determinant of future educational opportunity.

The road to YOUR FUTURE

YOUR LIFE SO FAR

EXTRA CURRICULAR STUFF
YOUR GRADES
S.A.T.

↑ College Acceptance
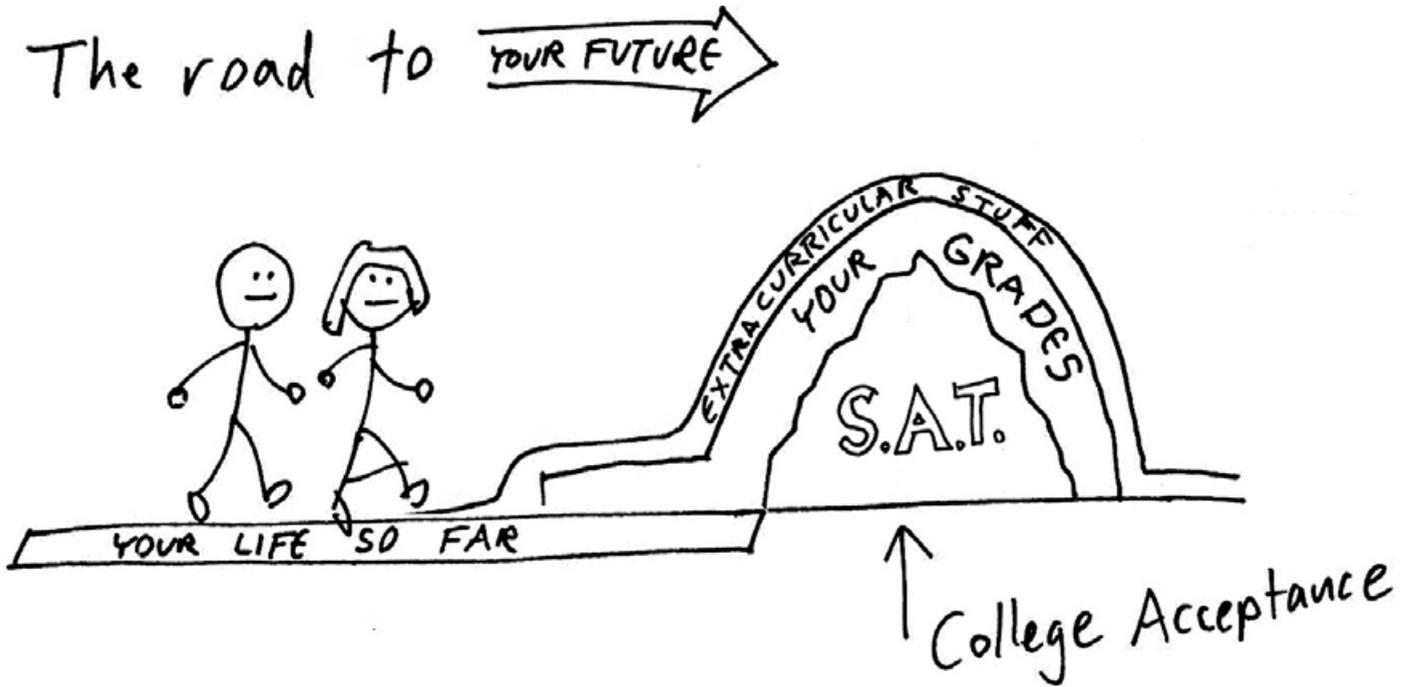
Given the extraordinary impact this test has on young peoples' future (and the future of the country) you might think that the SAT test would include sections on logical deduction, multi-dimensional problem analysis, creative problem solving, mechanical-conceptual-physical reasoning, and visual-spatial processing. You'd be wrong. The SAT contains none of these.

What does the SAT actually test?

What the SAT does contain are three sections, one each for math, critical reading, and writing. That's all. Our student's future is determined 66% by his or her ability to read and write and 33% by his or her ability to correctly answer structured math questions. For the test creators and college acceptance boards, that makes sense: these are all critical skills that can be taught, tested, and most importantly measured. But for the rest of us, that's absurd: none of these sections actually prove our ability to solve anything.

S.A.T.

What do we test?

☐ Logic

☐ Multi-dimensional Analysis

☐ Creative Problem Solving

☐ Mechanical-Conceptual-Physical Reasoning

☐ Visual/spatial Processing

☑ Math   2+2=

☑ Reading   "Four score and..."

☑ Writing   "The best way to describe the origins of..."

A tale of two studies.

That the SAT remains the critical deciding factor in the lives of so many young people tells us more about the conceptually impoverished nature of our educational system than it does about our future leaders' abilities to meet the challenges of today and tomorrow. We used to know that a solely verbally-taught and verbally-measured mind is missing half its thinking capability. Today, we know more than that: we know that a solely verbally-taught and verbally measured mind is in many ways worse.

> 66 *Using words alone to discover, develop, and share ideas blinds us to entire worlds of possibilities.*

That's right: using words alone to discover, develop, and share ideas blinds us to entire worlds of possibilities. All fox and no hummingbird does not a great problem-solver create.

Two studies give a glimmer of what does. (Note the age on these studies; both are more than twenty years old. Hey educators: this is not new stuff.)

Study #1: The Picture Superiority Effect.

In 1984, two business scholars conducted a series of tests aimed at understanding what makes consumers remember brands. The result was what they called "The Picture-Superiority Effect on Consumer Memory." In their studies, Terry Childers and Michael Houston verified that "visual imagery is a rich mnemonic device that enhances learning and retention of material over such techniques as sentence elaboration or rote rehearsal."

What does all this tell us? When we want to remember something, a visualized picture is more useful than a bunch of memorized words.

The Picture Superiority Effect

Study #2: Verbal Overshadowing.

In 1990, two cognitive psychologists conducted a different study that looked at the visual-vs-verbal balance from another direction—and came up with the same answer. In their study "Verbal Overshadowing of Visual Memories: Some Things Are Better Left Unsaid" Jonathan Schooler and Tonya Engstler-Schooler used six experiments to determine whether talking about a visual memory improved the accuracy of the memory. They found the opposite; their studies consistently showed when we talk about something we saw (faces and colors were the objects used in the tests) we actually lose our ability to accurately remember what the original object looked like.

In plain English, that means that a witness to a crime who is asked to verbally describe the perpetrator is then less likely to identify the real criminal in a lineup than the witness who said nothing.

Take that damn pictures!
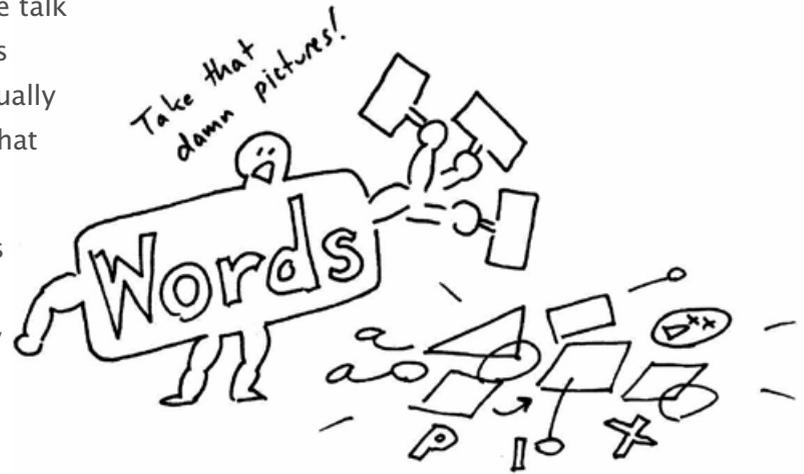
Words

Verbal Overshadowing

Two studies, complimentary results. First: pictures are a better way to remember a sensory stimulus. Second: applying words degrades our ability to accurately recall the reality of that stimulus. The SAT mostly measures our ability to think with words. What truth is that test really measuring?

What happened on the way to the SAT?

How has it come to pass that we have so successfully purged our visual mind from our understanding of intelligence? No matter where we look in human history, recorded language started with pictures. What happened? (And what have we lost along the way?)

The clan of the cave bull. Long, long before any words were ever written, people believed in the power of pictures. Thirty-two thousand years ago, two of our most ancient ancestors—let's call them Oog and Aag—walked walked into a cave in what is today southern France. They picked up a couple pieces of charcoal and started drawing a bull. We don't know anything about Oog and Aag except that they could draw beautiful bulls, horses, and rhinos. We don't know why they chose to draw these animals, whether they were spiritual leaders among their people or bored loners, whether their pictures were part of a language or were purely decorative—we don't even why they chose to draw their animals in the darkness of a cave.

What we do know is that their pictures are the oldest discovered images ever made by a human hand. In the entire sweep of history, Oog and Aag's bull are the beginning of the whoosh. When we look back from our vantage point today and try to imagine who might have been the first person to pick up a pencil and record a vision of the world, we end up with Oog and Aag and their bull. And what a beautiful bull it is.

Oog and Aag's bull. As far as we know,
this is the oldest drawing ever made.

Then came the Egyptians.

Now we jump forward in time twenty-seven thousand years. Five thousand years ago, another group of people thousands of miles away from Oog and Aag's cave also started to draw bulls. In the cliffs along the Nile river in what is now Egypt, a scribe—let's call him Heptep—picked up a stick and in a wet mud brick drew his version of a bull. It looked a lot like Oog and Aag's.

Heptep's bull. Although drawn 27,000 years later and thousands of miles away, it looks a lot like Oog and Aag's.

At first, Heptep and his people drew the bull to represent… well, a bull. Bulls were important to the commerce of ancient Egypt and drawing them gave traders a way to record transactions. Before long, Heptep's drawings evolved to become a complete visual system useful for recording economics, politics, and history—as well as the sacred texts for keeping track of the hundreds of gods that ruled life along the Nile. Thus, hieroglyphics were born, the world's second writing system .

The problem for Heptep and his fellow scribes was that people said a lot more and a lot faster than they could record with their elaborate pictures. (Look at that: just a few centuries after introducing the first language recording system it was already overwhelmed with blah-blah-blah. Let this be a lesson to us all.) So Heptep decided to make some of the pictures represent sounds. For example, when Heptep drew an owl, he didn't mean the bird (although owls existed along the Nile, they did not figure prominently in Egyptian life); he meant the sound "M"—which sounded like the ancient Egyptian word for "owl." This was huge. Not only was there now a written way to convey ideas, there was a written way to convey words.
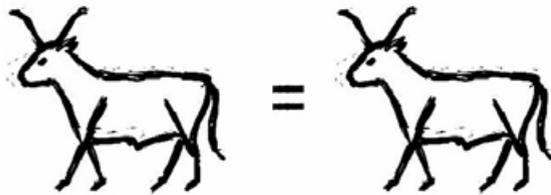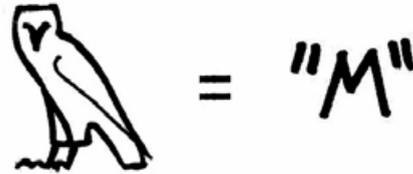
Pictogram vs. phonogram. Heptep's bull means bull, but his owl stands for the sound "M".

That proved to be the great puzzle of hieroglyphics. Sometimes the "words" in hieroglyphics are pictograms, meaning that the pictures really do represent the things they look like. But sometimes the "pictures" in hieroglyphics are phonograms, meaning they represent sounds that have nothing in common with the picture.

The fact that hieroglyphics are both pictorial and phonographic is precisely the reason it took so long for Europeans to decode their meaning. For a thousand years, word-centric European scholars could not believe that a language as visually resplendent as hieroglyphics was really a written language at all. It took a self-educated (and probably dyslexic) Frenchman to prove them wrong.

After years of laborious effort, Jean-Francois Champollion, a man who himself struggled to distinguish the difference between pictures and words in his native French, discovered the binary picture-and-sound structure of hieroglyphics. The key lay in not only comparing the parallel hieroglyphic and Greek texts found on the Rosetta Stone , but in recognizing that the same pictures appeared to represent both objects and sounds. Ironically, part of Champollion's revelation was triggered by a contemporary's insights into the world's other great pictographic language, Chinese.

Through Champollion's work, Europeans finally came to recognize that a language could be both pictorial and verbal. In other words, the first written languages were vivid.

Then came Phonetics.

But that's not the end of the story. Around two thousand years after Heptep drew his bull, seafaring merchants from the far eastern shores of the Mediterranean saw his pictures and liked them. As the world's greatest traders, these Phoenicians also needed a written language to keep track of who-owed-whom what. They adopted the Heptep's picture for use in their own writing and for a brief time used his bull's head to represent "Alf," the Phoenician word for ox.

$$= \text{"Alf"} \quad (ox)$$
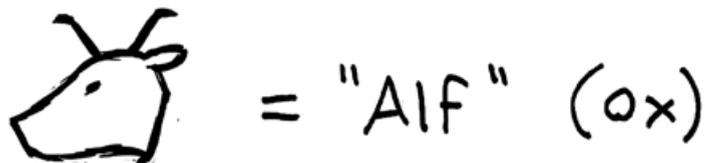
But the bull didn't last long. These Phoenicians had a different idea about writing. They weren't interested in using pictures to represent things the way the Egyptians often did. The Phoenicians wanted their picture to only represent sounds. This is the crucial turning point in our story because it marks the beginning of the end for pictures in European languages. There are many possible reasons why the Phoenicians dropped pictures—maybe drawing took too long or was too difficult for the rapidly-growing population of writers; maybe drawings weren't specific enough or flexible enough for the countless details the Phoenicians needed to document. We'll never know exactly what this new generation of scribes was thinking, but we all live with the result.

Sometime around 1000 BCE, by simplifying and rotating the bull (perhaps to make it easier to draw quickly) the Phoenicians created a letter that no longer meant "ox" but only represented the sound "alf."

The Phoenicians called this new letter "Aleph" and made it the first letter in the alphabet they were creating. (And this is why today we call any language that uses symbols for sounds "phonetic.")

= "Aleph"
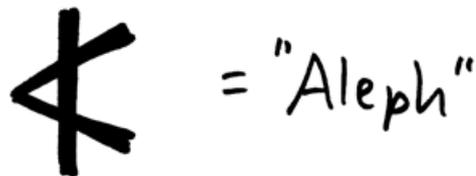
It only took another six hundred years for another Meditteranean seafaring people, the Greeks, to pick up that symbol, further simplify it and rotate it again, and make it their own. Thus arrived the Greek letter "A," and the rest, as they say, is history.

A = "A"

66 When we want to remember something, a visualized picture is more useful than a bunch of memorized words.

There we have it: the thirty-two thousand years of European writing history, a straight line from Oog and Aag to Heptep to us; from our original cave pictures to the "vivid" writing system of ancient Egypt to our purely verbal system of today.
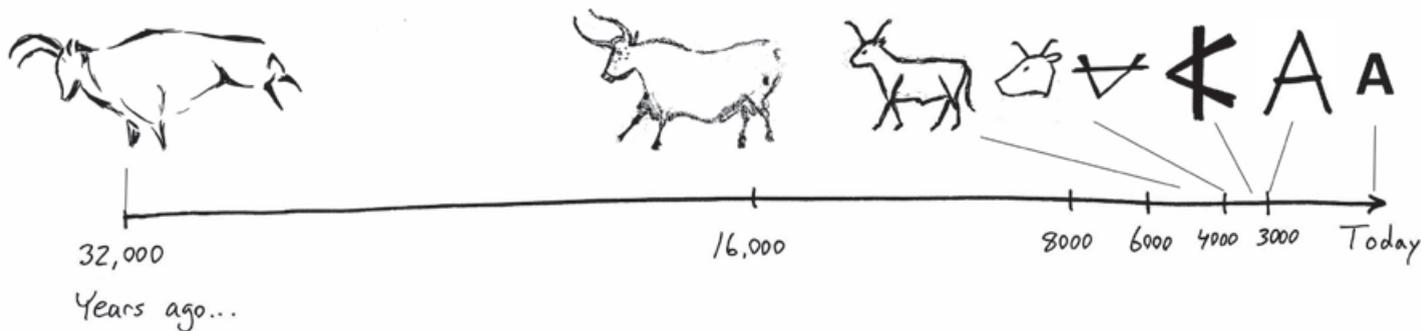
32,000 years of European writing: a long road from pictures to words.

While the sound-based writing system we Westerners use today is efficient, straightforward to learn, and easy to duplicate, the long road to get here has taken its toll on our visual mind. Our visual mind (which I represent with the all-seeing yet flighty hummingbird), once central to all thinking, is no longer called upon when writing. For all educational, political, and practical intents, she has died. Our verbal mind (which I represent with the clever yet linear-thinking fox) killed her. 🖼

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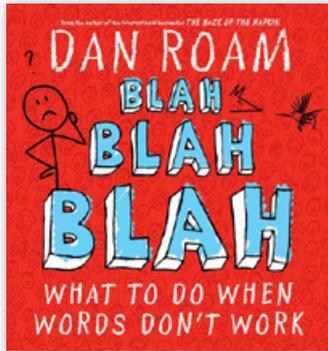
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