

The Hidden Side of Your Brain: Fast Type 1 Thinking

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There is a large, hidden side to our brains. Understanding how it works and what it does is *key* to improving our thinking and deciding.

We have this *amazing* ability to think without thinking. Not *literally* think without thinking, but thinking without thinking that we're thinking.

Let's try that again. We are often *thinking*, but because we can't *feel* or *notice* this thinking, we're not *aware* of it.

While walking down a street and chatting with a friend, you're not thinking, "Right foot, left foot, right foot – stay balanced! – left foot, right foot..." Yet you walk without difficulty, taking thousands and thousands of steps without fault, *and* you're keeping a conversation, *and* you're aware that your friend is in a good mood, *and* you notice a car approaching from the corner of your eye. All of this is the furthest thing from an effortful task. How much could your brain really be doing if you don't *feel* anything happening in there?

A FEW EXAMPLES

Take a look at the following:

What is $2 + 2$?

Assuming you didn't have any difficulties with that, let me ask: Why not? Why was it so easy?

Now take a look at the picture on the right.¹

When glancing at this picture there is a flurry of activity in your brain. You had a bunch of automatic thoughts and reactions. For starters, you instantly recognized that this woman's hair is dark, and that she is angry. She is probably about to say something unpleasant, and probably in a loud voice. This thought process was fast and intuitive.



Here's one more example. Take a look at the following sentence but *do not* think about the meaning behind it.

The sky is green.

Several things just happened *almost instantly* in your brain. First, you were able to recognize, process, and understand all of the words in the sentence, whether you wanted to or not. You couldn't *not* understand the words in the sentence, even if you tried! Second, you understood that I was attributing a color to the sky. Third, you recognized that green is an odd color to claim about the sky.

In all of these cases, your reaction is *fast*. You don't consciously reason, "Hmm, this is rather unpleasant, I would like to look away now." It just *happened*, and shortly afterward you realized you had turned your head.

WHAT ARE THE SIMILARITIES?

There are some *key similarities* in the above situations and examples. In every case, your thinking is:

1. *Autonomous* – This is the *most defining* characteristic; everything happens "behind the scenes", as though it has a mind of its own, separate from your consciousness. You see it as much as you see the back of your head, and it doesn't matter how hard you try. It *just happens*, whether you want it to or not; it is beyond your control. It is as automatic and unstoppable as your beating heart.

2. *Fast* – The answer or reaction comes to mind in a fraction of a second. This is the sports car of thinking.
3. *Effortless* – You don't have to think hard to make it happen, it just happens, all on its own; you didn't have to concentrate or focus. In terms of effort, it is like taking a casual stroll.
4. *Simultaneous* – You can process many things at once, in parallel. As you walk while holding a conversation you're not just automatically placing one foot in front of the other; you're also processing language, emotions, balance, and distance, all at the same time. You're like a juggler with ten balls simultaneously in the air.

In fact, the type of thinking that shares these features has been grouped in the scientific literature into a single category.

WHAT IS THIS KIND OF THINKING CALLED?

This type of thinking – autonomous, fast, effortless, simultaneous – has many different common folk terms, such as “intuition”, “instinctive” thought, or subconscious thinking.

Scientists tend to avoid these vague words so they can be more precise. However, for a long time there was no single consistent or common word for this sort of thinking. Various words have been used, such as *tacit thought processes*, *modular processes*, *reflexive system*, *associative processing/system* and *automatic processing*. The term *heuristic* is one of the oldest and most popular.²

Keith Stanovich (1999) suggested the generic *System 1* as a general term for all the types of thinking presented in the above examples – particularly that which is autonomous, but also fast, low-effort, and parallel. This is intentionally nondescript, so that it won't needlessly confuse the thinker or associate this thinking with a single word like “automatic”. This has become a popular term used in psychology today.

However, several people, including Stanovich, have since discussed why this name isn't ideal. It's not because of how 'nondescript' it is, but rather because “System 1” sounds like you're referring to a *specific*, single system in the brain, but this isn't so.³

The type of thinking you used in the examples from this post aren't from a single system in the brain, they are from a *collection* of systems. Calling it “System 1” can cause accidental confusion.

For this reason, *Type 1 processing/thinking is a better word.*⁴ This emphasizes that **we're talking about various parts of the brain that all perform a similar form or type of thinking** - specifically, thinking that is autonomous (automatic and hidden), fast, effortless, and simultaneous.

WHAT ELSE IS THERE?

You may be wondering: **What other types of thinking are there?** What about my conscious awareness?

Take a look at the following:

24 x 37

You know, instantly, that it is a multiplication problem, and that the answer is definitely more than 10 and definitely less than 1,000,000. That's your Type 1 (automatic) thinking at work.

Now spend a minute and try *solve* the problem, *by hand*.

This is an example of the *other* type of thinking: **Type 2** processing. Notice how completely different your experience was compared to all of the other examples in this post! It was *not* autonomous. It was slow and deliberate, it took time, you had to concentrate, you were *conscious* of all that was happening, and effort was required.

We won't get into Type 2 thinking here. For now, recognize that there clearly *is* a different type of thinking than the autonomous Type 1, and recognize just how *different* performing the multiplication problem was from all the other examples.

IN SHORT...

Much of your thought happens beyond your awareness. Type 1 processing is totally automatic. If I say "elephant" it is *impossible* for you to *not* think of an elephant. In general, Type 1 thinking is:

- *Automatic* like your beating heart.
- *Hidden* like the back of your head.
- *Fast* like a sports car.

- *Effortless* like a casual stroll.
- *Simultaneous* like a juggler.

We may recognize what our Type 1 thinking did after the fact, but not while it's happening. It's too fast! Your conscious awareness (Type 2 processing) needs *time* to process and recognize it, but by then you have already made a disgusted face, caught your balance, or noticed your mother is angry.

Remember how completely unaware you are of your Type 1 thinking as it happens.

This will play an important role in much to come. Type 1 and Type 2 processing interact in interesting and illuminating ways. Recognizing the key characteristics of our Type 1 thinking will help us understand both how our minds work and how to improve our thinking and deciding.

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Car image by [Damian Morys Foto](#)

Heart image by [yaba](#).

Walking image by [o5com](#).

Juggling balls by [Callum McKain](#).

1. Image and description adapted from Kahneman (2011), Chapter 1. Image is originally from Paul Ekman Group, LLC. [[↵](#)]
2. See Stanovich (2011), Table 1.1 for a thorough list; see Evans (1984, 1989) for a discussion of the term *heuristic*. [[↵](#)]
3. Stanovich (2004), Evans (2006). [[↵](#)]
4. Evans (2008, 2009). [[↵](#)]