



Blink, by Malcolm Gladwell

Back Bay Books

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Introduction

The principles in Blink apply to what you have learned in the Human Factors: Threat & Error Management course. A summary of the book's key points will add to your subject knowledge of the points we covered in class. This review pertains specifically to the Human Factors: Threat & Error Management chapters on Stress & Performance, Situational Awareness, and Decision Making.

I have taken the liberty to capture key points from the book and add my comments and analogies where appropriate.

This Slicing

Blink is a book about a principle known as "Thin Slicing." Thin slicing is about how we process information in the blink of an eye. We are capable of making sense of situations based on a very rapid unconscious process. You may wish to refer back to your Human Factors: Threat & Error Management text, Chapter 3, Situational Awareness - Information Processing - Unconscious Process.

Thin slicing is thinking – it's just thinking that moves a little faster and operates a little more mysteriously than the kind of deliberate, conscious decision-making that we usually associate with "conscious thinking."

Modes of Thinking

In high stress situations our brain uses two different strategies to make sense of the situation. The first is the one we are most familiar with. It's the conscious strategy (rational thought). We think about what we have learned, and eventually, come up with an answer. This strategy is logical and definitive. It's slow and needs a lot of information.

The second strategy operates a lot more quickly. This strategy operates below the surface of consciousness (experiential thought). It sends its message through weirdly indirect channels, such as the sweat glands in the palms of our hands. The part of the



brain that leaps to conclusions like this is called the adaptive unconscious. It can be related to a giant computer that quickly and quietly processes a lot of data we need in order to keep functioning as a human being. The only way we could have survived as a species for so long is to have developed another kind of decision making apparatus that's capable of making very quick judgments based on very little information. We do this by "thin-slicing". In other words we take lots of thin slices of information very quickly and process it unconsciously. What we are doing is automated, accelerated, and an unconscious version of conscious problem solving.

Look at an example from the medical profession. Medical research looked at two groups of surgeons. Roughly half the doctors had never been sued. The other half had been sued at least twice. The surgeons who had never been sued spent more than three minutes longer with each patient than those who had been sued did (18.3 minutes verses 15 minutes). Three minutes, doesn't seem like much, so what is happening. Patients don't have a lot of time to get to know their surgeon so they thin-slice. They make unconscious judgments about the individual based on their short interaction. It was found that the surgeon who spent an extra 3 minutes with the patient were more likely to make "orienting" comments, such as:

- "First I'll examine you, and then we will talk the problem over."
- "I will leave time for your questions."
- "Go on and tell me more about that."

There was no difference in the amount or quality of the information they gave their patients. The difference was entirely in how they talked to their patients. Patients who think their doctor cares are reluctant to sue. The feeling that someone cares (in a short interaction) comes from thin slicing.

You do the same thing when you meet someone for the first time. We call that a first impression.

How Does It Work?

We have known for centuries that this form of decision making exists. In basketball we call it "court sense." In the military, brilliant generals are said to possess "coup d'oeil" which means "power of the glance." Mothers may call it "intuition," cops call it "street smarts," Whatever you call it, it's real and it works well.



The mind operates most efficiently by relegating a good deal of high level, sophisticated thinking to the unconscious, just as a modern jetliner is able to fly on autopilot, the “unconscious computer,” with little or no input from the “conscious” pilot.

We toggle back and forth between our conscious and unconscious modes of thinking, depending on the situation. We are often suspicious of this kind of rapid cognition. We live in a world that assumes that the quality of a decision is directly related to the time and effort that went into making it.

How Well Does It Work

Decisions made very quickly (unconscious) can be every bit as good as decisions made cautiously and deliberately. Our instinctive reactions often have to compete with all kinds of other interests, emotions, and sentiments. Our attitudes operate at two levels. First of all, we have our conscious attitudes. This is what we choose to believe. They are our stated values, which we use to direct our behavior deliberately. Our second level of attitude operates on the unconscious level – the immediate, automatic association that tumbles out before we’ve even had time to think. We don’t deliberately choose our attitudes. The giant computer crunches data from experiences we’ve had, the people we’ve met, the lessons we’ve learned, the books we’ve read, the movies we’ve seen, and so on, and forms an opinion.

When our powers of rapid cognition go awry, they go awry for a very specific and consistent set of reasons, and those reasons can be identified and understood. Snap judgments and first impressions can be educated and controlled. Just as we can teach ourselves to think logically and deliberately, we can also teach ourselves to make better snap judgments.

Let’s look at how there is sometimes a conflict between the unconscious and conscious process. What if we asked you to pick a person out of a police lineup that you had clearly seen at the scene of a crime? You probably wouldn’t have a problem doing that. We don’t have to think about faces, they just pop into our minds. Now suppose you were asked to take a pen and paper and write down in as much detail as you can what the person looks like. Describe his face, what color was his hair, what was he wearing, were there any distinctive marks. After doing this you will do a lot worse picking that face out of a lineup. This is because the act of describing a face has the effect of impairing your otherwise effortless ability to subsequently recognize that face. This effect is called verbal overshadowing. The left hemisphere of the brain thinks in words and the right hemisphere thinks in pictures. When you described the face in words your actual visual memory was displaced. Your thinking was bumped from the right to the



left hemisphere. When faced with the lineup now what you are drawing on was your memory of what you said the person looked like, not the memory of what the person actually looked like. We are a lot better at visual recognition than we are at verbal description.

Sometimes less is more. We often take it as a give that the more information a decision maker has, the better off we will be. Very often quite the opposite is true. You often only need to know very little to find an underlying signature (pattern) in a complex situation.

There are two important lessons here. The first is that truly successful decision making relies on a balance of deliberate (rational) and instinctive (experiential) thinking. The second is that in good decision making frugality matters. Complex problems can often be reduced to its simplest elements. Overloading the decision maker with information makes picking up patterns (the signature) harder, not easier. To be successful, decision makers have to edit.

As you have heard me say in class, "With something good there is always the potential for something bad." While split second decisions can be good they can also be flawed. Split second decisions are very vulnerable to being guided by our stereotypes and prejudices. One thing in split second decisions that can make a difference is forcing people to wait a beat before reacting.

Would you rather be in a patrol car alone or with another officer? Many officers and departments feel that having two officers together makes sense. They can provide backup for each other. They can more easily and safely deal with problematic situation. Research does not support this. An officer with a partner is no safer than an officer on his own.

- Two officer teams are more likely to have complaints filed against them.
- Two officer encounters with citizens are more likely to end in arrest or an injury to whomever they are arresting or a charge of assaulting a police officer.



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When police officers are by themselves:

- They slow things down, and when they are with someone else, they speed things up.
- Get into less trouble because of reduced bravado.
- An officer alone makes an approach entirely different.
- They are not as prone to ambush.
- They don't charge in.
- They are more likely to wait for backup to arrive.
- They act more kindly.
- They allow more time.

Stress & Thin Slicing

Remember what we talked about in the class about our reactions under extreme stress. Dave Grossman in his book *On Killing* discusses the optimal state of arousal. Most of us under extreme pressure get too aroused, and past a certain point our bodies begin shutting down so many sources of information become useless.

Optimal Range: The range in which stress improves performance is when our heart rate is between 115 and 145 beats per minute (BPM). The increased heart rate we are talking about is a result of the chemicals released by the endocrine system in response to a stressor, not exercise.

Strange things start to happen to us in this stage. We will often describe things that would seem ordinarily impossible. Look at this account of an officer involved in a shooting.

"I fired five rounds. My vision changed as soon as I started to shoot. I went from seeing the whole picture to just the suspect's head. Everything else just disappeared. I saw four of my five rounds hit. The first one hit him on his left eyebrow. It opened up a whole and the guy's head snapped back and he said "ohh," like "Ohh, you got me." He still continued to turn the gun toward me, and I fired my second round. I saw a red dot right below the base of the left eye, and his head kind of turned sideways. I fired another round. It hit on the outside of his left eye, and his eye exploded, just ruptured and came out. My fourth round hit just in front of his left ear and I saw a red dot open

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on the side of his head, then close up. I didn't see where my last round went. Then I heard the guy fall backwards and hit the ground."

Here is another account:

"He raised the knife above his head and started closing toward us," the officer recalls. "There was no place to retreat. All I could see was that blade. It looked *huge*." Both officers at the scene screamed, "*Knife!*" and commanded the suspect to drop the weapon. "He kept coming," the officer said. Almost simultaneously, one officer discharged a Taser and the other squeezed the trigger on her Glock-22. She can't remember firing that round, a fact that still troubles her. The bullet tore through the suspect's belt buckle and exited his body near his rectum. She shot again. This time, "I could see the bullet peel his skin" as it punched in, center mass. I remember his breath against me, I felt his knuckles brush across my hand" as he fell. He was pronounced at the hospital.

How can someone watch a bullet hit someone and see the bullet hole close up? This is how the human body reacts when the stress level is optimal. Our mind, faced with a life threatening situation, drastically limits the range and amount of information that we have to deal with and process important information faster. Sound and memory and broader social understanding are sacrificed in favor of heightened awareness of the threat directly in front of us. Time distortion occurs, information is processed quicker, and as a consequence we see things in slow motion.

Initial Breakdown: Between 145 - 175 BPM, bad things start to happen. Complex motor skills start to break down. Doing something with one hand and not the other becomes very difficult (reloading a magazine into a pistol). Response times increase and as you approach 160 BPM a significant delay in response time occurs. Memory problems also occur in this area. Information is either lost or not completely transferred from short to long term memory and information is more difficult to retrieve from long term memory.

Collapse of Cognitive Processing: At 175 BPM, we begin to see an absolute breakdown of cognitive processing. The forebrain shuts down, and the mid-brain (animal brain) reaches up and hijacks your forebrain. Vision becomes more restricted and behavior becomes inappropriately aggressive. In an extraordinary number of cases people will void their bowels because at the heightened level of threat represented by 175 BPM and above, the body considers that kind of physiological control a nonessential activity. Blood is withdrawn from our outer muscle layer and concentrated in core muscle mass. This leaves us clumsy and helpless. Without training and experience people can not perform even the most basic functions.



Lessons for All of Us

Controlling our level of stress is critical. Remember, it's the perceived stress that affects us. If you are prepared for the stressor the perceived stress is less than if you are unprepared.

- Pre-planning, contingency planning, and cognitive rehearsal will reduce the time to respond to 1-2 seconds.
- Pre-planning, contingency planning, and cognitive rehearsal will reduce the "surprise factor" and the perceived level of stress will be less.
- Repetitious training will build habit patterns that are resistant to high levels of stress.
- Stress inoculation (being exposed to a particular stressor over and over) in training will reduce the overall level of stress when you encounter it in real life.

Human Factors: Threat & Error Management

We covered most of these points in class. Don't forget to periodically review your text and send a friend to one of the classes.