

**October 22, 2018
Day 3 lecture notes
BAU – Istanbul, Turkey**

**“Cognitive Science and The Practice of Law.”
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Eyewitnesses statements

Play a vital role in securing criminal convictions

The main form of evidence in more than 20% of cases.

Often not reliable

Research: 75% of false convictions are caused by a inaccurate eyewitness statement.

This means up to 100 innocent people could be wrongfully convicted each year of a violent or sexual crime in the UK because of these false eyewitnesses.

<http://theconversation.com/new-research-reveals-how-little-we-can-trust-eyewitnesses-67663>

Eyewitness misidentification is the greatest contributing factor to wrongful convictions proven by DNA testing, playing a role in more than 70% of convictions overturned through DNA testing nationwide.

<https://www.innocenceproject.org/causes/eyewitness-misidentification/>

32% of the eyewitness misidentification cases involve multiple eyewitnesses misidentifying the same innocent person.

Human memory can be unreliable.

- Making an identification is a difficult task.
- Traditional police procedures undermine the reliability and accuracy of identifications.

Eyewitness Descriptions:

- Often 5 to 7 items, half clothing
- Hair style & color often given
- Details of facial features rarely mentioned
- Pressing for additional detail increases guessing, reduces accuracy

Jurors believe eyewitnesses:

- even when they are discredited
- more than other witnesses
- more than scientific evidence

**Confidence is the single most important
factor in whether a factfinder will believe
witnesses**

The Innocence Project (founded in 1992 at Cardozo School of Law) Exonerates the wrongly convicted through DNA testing

Works to reform the criminal justice system to prevent future injustice. IP found that Mistaken eyewitness identifications:

- Contributed to approximately 70% of the more than 350 wrongful convictions in the United States overturned by post-conviction DNA evidence.
- Confound investigations from the earliest stages. Causes police to be distracted from the real perpetrator, focusing on an innocent person.
- Are still among the most commonly used evidence against criminal defendants.



In a standard police lineup:

- Police know who their suspect is. They provide unintentional cues to the eyewitness about which person to pick from the lineup.
- The eyewitness often assumes that the perpetrator of the crime is one of those in the lineup. Therefore, they often select one of those persons despite having doubts.
- Police sometimes create a photo lineup where non-suspect “fillers” do not match the witness’s description of the perpetrator. This can cause the suspect to stand out to a witness.
- Police often fail to ask the witness to state their level of confidence. Information provided to a witness after an identification suggesting that the witness selected the right person increases the witness’s confidence.

Innocence Project's Proposed Reforms for more accurate police lineups:

- A “double-blind” lineup is one in which neither the administrator nor the eyewitness knows who the suspect is.
- The police tell the eyewitness that they are not compelled to make a selection from that group. For example, **“The suspect may or may not be present in the lineup.”**
- Non-suspect photographs and/or live lineup members (fillers) should resemble the description provided by the eyewitness, not the police suspect.
- Immediately following the lineup procedure, the eyewitness should state their level of confidence.
- The Lineup Procedure Should Be Recorded.

False Confessions

A false confession is an admission of guilt for a crime for which the confessor is not responsible.

False confessions can be induced through coercion or by the mental disorder or incompetency of the accused.

Example

“I’m Sure I Remember”

Memory is not perfect. It is prone to various kinds of errors, illusions and distortions.

Daniel Schachter - Memory
Researcher who published the
“Seven Sins of Memory.

Transience - Memory deteriorates over time. Two reasons: “proactive interference” (old information inhibits the ability to remember new information), and “retroactive” interference (new information inhibits the ability to remember old information).

Absent-mindedness – Occurs where attention and memory interface. For example, misplacing keys or eyeglasses, or forgetting appointments. The cause: At the time of encoding of the memory, the person was not paying enough attention to what would later need to be recalled.

Blocking - when the brain tries to retrieve or encode information, but another memory interferes with it. Blocking is a primary cause of Tip of the tongue phenomenon

Misattribution - Correct recollection of information with incorrect recollection of the source of that information. For example, a person who witnesses a murder after watching a television program may incorrectly blame the murder on someone he or she saw on the (unrelated) television program. Prevalence and confidence of witnesses make this a big problem.

You can create misattribution errors with Deese–Roediger–McDermott paradigm.” People are given a list of words like **sharp, pin, sewing**, and so on, **but not the word needle**. Later they are given a second list of words **including the word “needle”** and are asked to pick out which words were on the first list. **Most of the time, subjects confidently assert that “needle” was on the first list**

Suggestibility - Similar to misattribution, but with the inclusion of overt suggestion. It is the acceptance of a false suggestion made by others.

Bias - One's current feelings and worldview distort remembrance of past events. Always in play in American rules of evidence.

Persistence - Unwanted recall of information that is disturbing. The remembrance can range from a blunder on the job to a truly traumatic experience. The persistent recall can lead to formation of phobias, **post-traumatic stress disorder**, and even suicide in particularly disturbing or intrusive instances.

“Penance” (solutions) for these Seven “Sins:

1. Obtain information quickly after an event, when it is fresh in people's minds.
2. Use a prioritized task list.
3. Take notes regarding important events, such as meeting minutes.
4. Record important events and milestones daily.
5. Use neutrally worded questions when soliciting information.
6. Understand the basis or perspective of the person providing the information.
7. Understand and recognize the symptoms of PTSD.

https://en.wikipedia.org/wiki/The_Seven_Sins_of_Memory#Transience

The power (and the danger) of asking leading questions. Suggestability!

How fast was the car going?

<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.89.2703&rep=rep1&type=pdf>

Working Memory Test

Working Memory Limitations:

"The Magical Number Seven, Plus or Minus Two" One of the most highly cited papers in psychology. It was published in 1956 by the cognitive psychologist George A. Miller and called "Miller's Law"

The number of objects an average human can hold in working memory is 7 ± 2 .

Chunking

Memory span is not limited in terms of bits but rather in terms of "chunks," the largest meaningful unit in the presented material that the person recognizes. What counts as a chunk depends on the knowledge of the person being tested.

The human equivalent of the computer's RAM **retains input is for only twenty seconds.** Remembering material for longer periods requires constant rehearsal; this is why we mutter a new phone number to ourselves while searching for a pen to record it.

Working memory is a narrow channel that tolerates a very low cognitive load.

All new information must navigate this passage to reach the brain's long-term storehouse.

Working memory is the bottleneck that constrains learning.

LEGAL EDUCATION IN THE AGE OF COGNITIVE
SCIENCE AND ADVANCED CLASSROOM TECHNOLOGY,
DEBORAH J. MERRITT

David van Essen, (Department of Anatomy and Neurobiology, Washington University) presented the **dramatic loss of information from perception to long-term memory as an inverted pyramid**

- We start with the World of information, which is unlimited.
- 10^{10} bits/second of information = capacity of retina
- 10^7 bits/second of information = capacity of optic nerve
- 10^4 bits/second of information = capacity of attention
- 10 bits/second of information = capacity of long term memory

I did my best in law school when I focused on what to ignore as my first step.

This cleaned out my mental work space.

Attention Limitation: Spotlight & executive functions.

E.g., The fovea is employed for accurate vision in the direction where it is pointed. It comprises less than 1% of retinal size but takes up over 50% of the visual cortex in the brain. The fovea sees only the central two degrees of the visual field, (approximately twice the width of your thumbnail at arm's length). If an object is large and thus covers a large angle, the eyes must constantly shift their gaze to subsequently bring different portions of the image into the fovea (as in reading).

https://en.wikipedia.org/wiki/Fovea_centralis

Illusion of Fullness

What you see is all there is. (WYSIATI)

Article on the Power of Attention - Conscious and Unconscious

Attention:

“The taking possession by the mind, in clear and vivid form, of one out of what seem several simultaneously possible objects or trains of thought. Focalization, concentration, of consciousness are of its essence. It implies withdrawal from some things in order to deal effectively with others, and is a condition which has a real opposite in the confused, dazed, scatter-brained state”

See article by Erich Vieth: “Decision Making, the Failure of Principles, and the Seduction of Attention”

http://dangerousintersection.org/wp-content/uploads/2017/09/heuristics_as_perceptual_strategy.pdf

How Models Work

Examples of Models: Diagrams, flow charts, theories, describing personalities, advertisements. And metaphors and legal rules.

These models steer Attention – They highlight some aspects of reality and ignore others.

Much of life we are in a engaged in battles for attention.

Use technology in the courtroom to provide MODELS to steer the Judge's ATTENTION and assist the Judge's MEMORY.

Use every type of multimedia that works to help the court understand. Guide attention and assist memory.

Even paper handouts!

Powerpoint and other document display programs (E.g., "Trial Pad") using a projector.

If I had more time, I would have written a shorter letter.

- Marcus T. Cicero

Bryan Garner

American Scholar on Effective Legal Writing.

The Importance of being succinct.

“How to frame issues clearly and succinctly for effective motions and briefs”

http://www.abajournal.com/magazine/article/effective_pleadings_issue_framing

Garner's mission: to find a method for presenting legal issues clearly enough that they could be understood in one reading with minimal effort

He named his method the “**deep issue**,” “a multi-sentence issue statement that begins with a legal premise, then states a factual premise or miniature story demonstrating the applicability or inapplicability of that legal premise, and ends in a short question devoid of new information. Essentially, it's a syllogism ending in a question mark.”

Example: “**The Voting Rights Act requires Texas cities conducting elections to publish all election-related information in both English and Spanish. Although the city of Irving publishes official election-related materials in both English and Spanish, it also publishes a community newsletter that often contains election-related information in English only. In doing so, has the city violated the Voting Rights Act?**”

That's 61 words. The absolute maximum of such statements should be 75 words.

Plain Language

“The great myth that plain language is not precise
Just say no to that lawyerly concept of: ‘Why say
something in five words when you could say it in 10?’”

[https://apps.americanbar.org/buslaw/blt/blt7-
kimble.html](https://apps.americanbar.org/buslaw/blt/blt7-kimble.html)

The problem with much Lawyer Language:

- The sentences don't begin with the main, or independent, clause.
- The sentences are too long.
- It uses too many words.
- It fails to break the material down into subparts.

Plain language does not mean baby talk or dumbing down the language.

It means clear and effective communication — the opposite of legalese —and it has a long literary tradition.

Plain language and precision are complementary goals, not antagonists.

The choice between clarity and precision is usually a false choice.

Plain language is not prevented by the need to use technical terms, Those terms are a tiny part of any legal document.

Try to find a case saying that the word “give” won't do in a will —that it has to be “give, devise, and bequeath.”

- Pay attention to document design —the typeface, length of line, white space, and so on.
- Use short sections, or subdivide longer ones.
- Use lots of headings. Sometimes, put the main headings in the form of a question.
- Group related ideas together, and order the parts in a logical sequence.
- At the beginning of most documents, have an executive summary Don't hesitate to use examples, tables, and charts.
- Eliminate all unnecessary words and details.
- “Plain Language: How to Simplify Content for a Better Reader Experience”

<https://zapier.com/blog/plain-language/>

When you write in plain language, your audience can easily read, understand the first time they read your writing.

Consider that judges are like YOU: they are often tired, bored or hungry judge. They really want you to get to the point!

- Even users with graduate degrees completed tasks faster when language was simplified.
- You don't want to make your users hunt for the main idea.
- Put your opponent's best foot forward.
- Use Active Voice and Personal Pronouns
- Write Short, Simple Sentences
- Use Everyday Words
- Plain language advocate Sandra Fisher-Martins suggests writing for your grandma to encourage clear language [or your small child!]
- Use a Readability Test Tool

<https://zapier.com/blog/plain-language/>

Readability Test Results


Web Address: usa.gov/register-to-vote

This page has an average [grade level](#) of about 8.

It should be easily understood by 13 to 14 year olds.

[Tweet this result!](#)

Readability Indices

Flesch Kincaid Reading Ease	54.8	
Flesch Kincaid Grade Level	7.6	
Gunning Fog Score	9.8	
SMOG Index	7.6	
Coleman Liau Index	12	
Automated Readability Index	4.9	

Text Statistics

No. of sentences	203
No. of words	1645
No. of complex words	334
Percent of complex words	20.30%
Average words per sentence	8.10
Average syllables per word	1.70

John Campbell Article on Writing succinctly at various levels of the courts.

When the case goes higher in the Federal Court system, the writing gets simpler.

Instead of “Welcome to Court” we hear this:

The Honorable, the Chief Justice and the Associate Justices of the Supreme Court of the United States. Oyez! Oyez! Oyez! All persons having business before the Honorable, the Supreme Court of the United States, are admonished to draw near and give their attention, for the Court is now sitting. God save the United States and this Honorable Court.

Consider the typical ending of an affidavit:

Further your Affiant saith not.

Further your Affiant sayeth not.

FURTHER THAN THIS YOUR AFFIANT SAYETH NOT,

“Path Dependence”

Law Professor Paul Spitz:

“I teach law students that every time they use “hereby” or “hereto,” a puppy dies. If they use both in one sentence (the parties hereto hereby agree), the puppies die an agonizing and prolonged death.”

“10 Legal Writing Tips From Bryan Garner”

- 1. Judges will trust your writing and you will win more often, even when the merits are not in your favor.**
- 2. . A good brief should be able to stand up to a strong oratorical reading.**
- 3. like putting citations in the body of your writing and double-spacing legal briefs whenever possible and appropriate, but don't push your luck and lose your job in the process.**

<https://lawyerist.com/10-legal-writing-tips-from-bryan-garner/>

Confidence

“A person's subjective confidence in his or her judgements is reliably greater than the objective accuracy of those judgements, especially when confidence is relatively high.”

Confidence https://en.wikipedia.org/wiki/Overconfidence_effect

On Being Certain

On Being Certain: Believing You Are Right Even When You're Not. By Neurologist Robert A. Burton

People often claim they are “certain” to convince themselves that they are even more certain than they actually are.

Often, they use “certainty” as a (poor) substitute for careful fact-finding and careful methodology.

Burton concludes:

Feelings of certainty are not legitimate substitutes for careful fact-finding and reasoning.

What is certainty? An involuntary sensation akin to an emotion.

Burton: Once you start seeing the feeling of certainty as a **non-intellectual feeling**, rather than evidence of well-earned knowledge, you will start seeing this problem of *feeling* of certainty cropping up **everywhere you look.**



Lieutenant commander Spock of “Star Trek”



Spock, Kirk and McCoy

Descarte's Error

Rene Descartes held that the human mind was separate from bodily processes.

Dr. Antonio R. Damasio disagreed. *Descartes' Error: Emotion, Reason and the Human Brain* (1994).

Damasio introduced the cases of Phineas Gage (long dead) and "Elliot" (a living patient).

They both suffered brain damage to the ventromedial prefrontal area of their brains.

Demasio:

I had been advised early in life that sounds decisions came from a cool head ... I had grown up accustomed to thinking that the mechanisms of reason existed in a separate province of the mind, where emotion should not be allowed to intrude, and when I thought of the brain behind that mind, I envisioned separate neural systems for reason and emotion ... But now I had before my eyes the coolest, least emotional, intelligent human being one might imagine, and yet his practical reason was so impaired that it produced, in the wanderings of daily life, a succession of mistakes, a perpetual violation of what would be considered socially appropriate and personally advantageous.

Damasio:

Reason was “not be as pure as most of us think it is or wish it were, that emotion and feelings may not be intruders in the bastion of reason at all: they may be enmeshed in its networks, for worse and for better.”

A reduction in emotion correlates with irrational behavior. This “counterintuitive connection between absent emotion and warped behavior may tell us something about the biological machinery of reason.”

The bottom line: pure reason is not sufficient for meaningful decision-making.

The mind is embodied, in the full sense of the term, not just enbrained. The mind is actually about the body: the neural processes that are experienced as the mind concern the representation of the body in the brain. Our minds critically depend on our human bodily existences.

“Somatic markers” comprise the emotional learning that we have acquired throughout our lives and that we then use for our daily decisions. These markers record emotional reactions to situations. Somatic markers work as emotionally-weighted indicators, steering us away from or toward choices, based on past experience. It’s not that we can necessarily recall the specific past experiences that formed our system of markers, but we feel them and they allow us evaluate some options over others. These emotion-laden markers help us to rank our options.

The brain does not merely record advance in the world but “also records how the body explores the world and reacts to it.”

Even though these neurological processes may occur in various portions of the brain, people experience and act on them in a unified coherent: the records that bind together all these fragmented activities . . . are embodied in ensembles of neurons.”

In these “convergence zones”

The axons of feedforward projecting neurons from one part of the brain converge and join with reciprocally divergent feedback projections from other regions. When a reactivation within the convergence zones stimulates the feedback projections, many anatomically separate and widely distributed neuron ensembles fire simultaneously and reconstruct previous patterns of mental activity.

Emotion is not a limitation or distraction,

Emotion is an integral part of cognition.

Emotion constructs and maintains the somatic markers that allow us to evaluate the desirability of our actions.

Let the Judges tell you otherwise . . .

**Demasio's work explains why I
enjoy writing the "dry" and non-
argumentative" "Statement of
Facts" of legal filings.**

**You can use the "facts" to trigger
emotions in the judge (or jury)**

**Remember the discussion of
Narrative too.**

Abstract concepts are largely metaphorical.

But not everything is a metaphor!

All basic sensorimotor concepts are literal.

A cup (the object you drink from) is literal.

Grasping (the action of holding) is literal.

“In” (in its spatial sense) is literal.

Steven Winter:

Responding to the Enlightenment claim that Reason itself is “rigorous, linear, cool, and unemotional.”

Winter points out that such a claim actually proclaims the metaphorical quality of reason: “Reason is cold; it is rigorous; it is linear; it is clear; it is felt. Indeed, in its dependence on embodied experiences like temperature and rigor, the metaphorical quality of reason is anything but detached and impersonal.”

My comments will now follow closely the points made by philosopher Mark Johnson in his 2010 talk:

https://www.youtube.com/watch?list=PLXvNovc_7_fS7hNJaVrCfjzgi1KFRC7QV&time_continue=4&v=HaMeGdrKnEE

Western Tradition

offers only shallow explanations. Philosophy has been irresponsible.

Assumes humans are made up of a body and a separate mind. A dichotomy.

Assumes that science and humanities have nothing to do with each other.

Other false dichotomies: knowledge vs. imagination, cognition vs. emotion.

Words as envelopes for ideas.

The WORD itself means something or maybe it hovers over your head.

They want to avoid relativism.

A human has a functioning brain in a functioning body in constant interaction with environment that physical, social and cultural.

Without a brain: no meaning

Without body: no meaning

Without an environment: no meaning.

Go back in time and put a newspaper on a rock next to a dinosaur. No meaning.

Note: colors do not exist in the external world either.

Every day we experience “**image schemas**”: recurring structures within our cognitive processes which establishes patterns of understanding and reasoning

For example, consider **containers** – we experience the logic of this constantly (actual containers, also rooms, your body)

Example 2: **Verticality** – up-down orientation. Body projection.

Example 3: **Forces** – because we have bodies that get moved by forces.

These image-schemas are our basis for human ability to understand, for meaning.

More about **containers**.

Boundary, interior and exterior.

Seems simple, but there is a logic of containment.

If key is in hand, and hand is in pocket, then my keys are in my pocket. Seems simple.

Object is in or out or passing over a boundary. Simple structure. Forms a gestalt.

The body learns its own logic.

Another example of an image schema: **Source-path-goal.**

Things start from a source, moving along on a path (of contiguous points) and then moving to an endpoint.

Seems simple, but there is a lot of structure.

A thing that moves, a starting point, a goal, a route, the path of motion, the position of the object at any given time, the direction at any given time, the final ending point.

Lots of structure here: If two objects and different speeds, one will get to the ending point faster.

Image schemas are topological: They can undergo a wide range of distortion while retaining their logic. E.g., Stop and go. Twisted path

Where do we get abstract concepts like justice, love, democracy, virtue?

For abstract thought, we recruit these sensory motor structures for ALL abstract thinking.

Psychologists have tested it.

“Desire is hunger” (we hunger and thirst for victory, success etc) This has been tested in several languages.

How does an image schema become an abstract concept?

Assume you are holding a baby.

What is the baby feeling?

Warmth of your body and your affection.

There is a neural co-activation.

This is the basis for a metaphor. **Affection is Warmth.**

Example: “They gave me a cool reception, but they warmed up and things were really cooking at the end.”

Ex. Understanding is Seeing.

“I see what you mean.”

“That is a murky argument.”

This is based on a conflation of seeing with knowing.

Children learn this naturally, without needing to think about this.

We do this with hundreds of metaphors.

Time is Motion. There are actually two metaphors based on this.

Version 1: Observer is not moving, but objects move toward or away from you.

We project fronts and backs on these objects.

Monday and Tuesday. Tuesday is coming.

Future is in front of me.

The past is behind me.

The present is where I am.

Do it here and now (combined location and time).

Moving objects have speeds. This week flew by. Time went slowly during this lecture.

The “LOVE IS A JOURNEY” METAPHOR

Love Is A Journey

The Lovers Are Travelers

Their Common Life Goals Are
Destinations

The Relationship Is A Vehicle

Difficulties Are Impediments To
Motion

This marriage is out of gas.

Examples:

Look how far we've come.

It's been a long, bumpy road.

We can't turn back now.

We're at a crossroads.

We're heading in different directions.

We may have to go our separate ways.

The relationship is not going anywhere.

We're spinning our wheels.

Johnson and Lakoff: Every abstract
though we have is based on one or more
conceptual metaphors, and many of
them are inconsistent.

ALL of the abstract concepts around the
world are defined by metaphor.

Meaning draws on body-based meaning
– image schemas.

This is the only way meaning could work.

We use a metaphor every 10-25 words, and they are far more prevalent in abstract fields like law.

Metaphors containing parts of the body

‘The crime may be laid at the **feet of the law** ’

‘The petition was dismissed, the two parties being equal
in the eyes of the law’

‘Similar cases have been **digested** by the law and
lawyers’

This law **cries out** for reform

Metaphors referring to Building

‘the **foundation** of this law is the concept of
‘scienter’

the accusation **collapsed**’

‘the lawyer **constructed** a good argument.

‘It is, however, **common ground** that the
applicant does not use’

Metaphors referring to Container

‘the allegations **contained** in the first petition

‘the Penal Code is **full of** vaguely worded provisions’

‘the ‘Property’ includes **any part or parts** of the Property’

The war / confrontation
metaphor

‘Action **brought against** the
decision of the First Board...’

‘This legal battle has dragged
on for several years’

‘a point not really contested by
the applicant

‘It is undisputed

Oriental metaphors

‘the proceedings took a different course’

‘... such a measure must not go beyond what is necessary’

‘... the parties had reconciled and **had gone back to live together**’

‘... to propel the law in a new direction

‘goods and services covered by the trade marks’

Language choice can be a very powerful tool.

Words used to describe noncitizens in public discourse often trigger fear of the "other."

The practice is so widespread, listeners barely recognize that the language is not literal

In his article "Alien Language: Immigration Metaphors and the Jurisprudence of Otherness," Keith Cunningham-Parmeter identifies three prominent immigration metaphors:

"Immigrants are Aliens,"

"Immigration Is a Flood," and

"Immigration Is an Invasion."

He also analyzes the metaphoric language used in three seminal Supreme Court opinions concerning immigrants.

Metaphor: “Rational Is Up”

Example: “high-level intellectual discussion”

Metaphor: “Unknown Is Up”

Example: “That’s still up in the air”

Metaphor: “Happy Is Up”

Example: “I’m feeling up today”

Metaphor: “More Is Up”

Example: “Prices are high”

Metaphor: “Control Is Up”

Example: “I’m on top of the situation”

Turkish Conceptual metaphors: <http://www.iub.edu/~celcar/ConCALL2014/proceedings/Sahin.pdf>

Review of some Turkish metaphors http://www.turkishclass.com/forumTitle_54459

<http://ded.mersindilbilim.info/download/article-file/182619> container metaphor in Turkish.

- In Turkish culture, the conceptualization of body as a container in the form of a jar is not limited to anger only:

<i>sinir</i> küpü	a jar of nerves
<i>hırs</i> küpü	a jar of ambition/anger
<i>dert</i> küpü	a jar of troubles
<i>akıl</i> küpü	a jar of wit
<i>zeka</i> küpü	a jar of intelligence
<i>bilgi</i> küpü	a jar of knowledge
<i>altın</i> küpü	a jar of gold
<i>sihir</i> küpü	a jar of magic
<i>sır</i> küpü	a jar of secrets
<i>şifa</i> küpü	a jar of healing
<i>lezzet</i> küpü	a jar of (good) taste
<i>yağ</i> küpü	a jar of fat (a very fat person)

ANGER IS THE HEAT OF A FLUID IN A CONTAINER

Öfke kaynıyor her yerde.

anger boiling everywhere

‘Anger is boiling everywhere/all over the place.’

Öfkesinin için için kaynamasını engellemeliyiz.

his anger internally we must stop.

‘We must stop his anger boiling internally.’

Derinden derine/altan alta/ içten içe öfke kaynıyor.

from deep / from below/ from inside anger boiling

‘An anger is boiling deep/below/inside.’

Nerves are fibres and they are conceptualized as strings. Anger is then the tension on the nerves as strings. The internal pressure is conceptualized as the pressure exerted on the nerves, stretching them beyond their ordinary rest position.

Sinirlerim tel tel oldu
my nerves strings become
'My nerves became strings (I got very angry).'

Sinirler gerildi.
nerves stretched
'Everybody got angry.'

Yay gibi gerildim.
'I was stretched like a bow.'

Just as they can be stretched, they can also be relaxed, conceptualizing diminishing anger as relaxing the tension:

Sinirleri boşandı.

nerves loosen

‘Her nerves are loosened.’

Sinirleri gevşedi.

nerves relax

‘His nerves untightened.’

Hepimiz *sabır küpü* olduk.
all of us patience jar became
'We all became *patience jars*.'

Sabır taşı çatladı.
patience stone cracked
'The *patience stone* cracked open (i.e. fluid started to leak out).'

Sabır çanağı taşmış.
Patience bowl overflow.
'Her *bowl of patience* has overflown.'

Begin Day 4

**Daniel Kahneman's Research and its relevance to
Law**

Thinking, Fast and Slow (2011).

Go get this book!

System 1" is fast, instinctive and emotional. System 1 operates automatically and quickly, with little or no effort and no sense of voluntary control.

"System 2" is slower, more deliberative, and more logical.

- **System 1:** Fast, automatic, frequent, emotional, stereotypic, unconscious. Examples (in order of complexity) of things system 1 can do:

- see that an object is at a greater distance than another

- localize the source of a specific sound

- complete the phrase "war and ..."

- display disgust when seeing a gruesome image

- solve $2+2=?$

- read a text on a billboard

- drive a car on an empty road

-

- **System 2:** Slow, effortful, infrequent, logical, calculating, conscious. Examples of things system 2 can do:

- point your attention towards someone at a loud party

- look out for the woman with the grey hair

- dig into your memory to recognize a sound

- sustain a higher than normal walking rate

- determine the appropriateness of a behavior in a social setting

- count the number of A's in a certain text

- park into a tight parking space

- determine the validity of a complex logical reasoning

- solve 17×24

What you see is all there is (WYSIATI)

WYSIATI is a function of “System I,”

It encourages us to jump to conclusions based on only the information we are thinking of.

Jumping to conclusions on the basis of limited evidence is so important to an understanding of intuitive thinking, and comes up so often in this book, that I will use a cumbersome abbreviation for it: WYSIATI, which stands for what you see is all there is. **Page 86**

We rarely questioning the things that we don't yet know. In fact, the less we know, the better, because in the absence of detailed knowledge, we are better able to construct a story that supports our beliefs: Page 86.

We build the best possible story from the information available, and if it is a good story, we believe it. Paradoxically, it is easier to construct a coherent story when you know little, when there are fewer pieces to fit into the puzzle.

We have an almost unlimited ability to ignore our own ignorance. Page 201. We are fearless in our profound ignorance.

WYSIATI gives us the freedom to easily create history, friends, enemies and gods

All we need to be confident that we are correct are a few facts and a story.

WYSIATI explains many cognitive biases including overconfidence (“we often fail to allow for the possibility that evidence that should be critical to our judgment is missing—what we see is all there is”), framing effects (different ways of presenting the same information often evoke different emotions”), and “base rate neglect” (our judgments regarding probability are often warped by vivid exemplars). (Page 87.).

Gappy information is no problem at all. Unless a message is rejected as a lie, “it will have the same effect on the associative system regardless of its reliability.”

A mind that follows WYSIATI will achieve high confidence much too easily by ignoring what it does not know. It is therefore not surprising that many of us are prone to have high confidence in unfounded intuitions

See also, the Dunning Kruger Effect.

Kruger and Dunning noted earlier studies suggesting that ignorance of standards of performance is behind a great deal of incompetence. This pattern was seen in studies of skills as diverse as reading comprehension, operating a motor vehicle, and playing chess or tennis. Kruger and Dunning proposed that, for a given skill, incompetent people will:

1. tend to overestimate their own level of skill;
2. fail to recognize genuine skill in others;
3. fail to recognize the extremity of their inadequacy;
4. recognize and acknowledge their own previous lack of skill, if they can be trained to substantially improve.

<http://dangerousintersection.org/2010/11/06/more-on-the-dunning-kruger-cognitive-bias/>

Confirmation bias, also called confirmatory bias

The tendency to search for, interpret, favor, and recall information in a way that confirms one's preexisting beliefs or hypotheses.

When people would like a certain idea/concept to be true, they end up believing it to be true. They are motivated by wishful thinking. This error leads the individual to stop gathering information when the evidence gathered so far confirms the views (prejudices) one would like to be true.

Once we have formed a view, we embrace information that confirms that view while ignoring, or rejecting, information that casts doubt on it.

Confirmation bias suggests that we don't perceive circumstances objectively. We pick out those bits of data that make us feel good because they confirm our prejudices.

Hindsight bias

A basic example of the hindsight bias is when, after viewing the outcome of a potentially unforeseeable event, a person believes he or she "knew it all along". Such examples are present in the writings of historians describing outcomes of battles, physicians recalling clinical trials, and in judicial systems trying to attribute responsibility and predictability of accidents.

https://en.wikipedia.org/wiki/Hindsight_bias
(Kahneman p. 351)

Anchor effect

When making estimates, people start from an initial value, which is then adjusted, based upon a variety of factors.

Research has shown that one's final result can be heavily influenced by drawing one's initial attention to a particular initial value (anchor) which has no relevance to the actual situation.

The subsequent adjustments are often insufficient to overcome an erroneous anchor. In other words, “[D]ifferent starting points yield different estimates, which are biased toward the initial values. We call this phenomenon anchoring.”

People were asked to estimate the result of the following two equations within five seconds:

$$8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1$$

$$1 \times 2 \times 3 \times 4 \times 5 \times 6 \times 7 \times 8$$

The average prediction for A) was 2,250, while the average prediction for B) was 512. The results were, therefore, anchored by the initial few steps of each problem, and the subsequent adjustments were insufficient to overcome the initial anchor. The actual answer to both is 40,320.

Another illustration of this phenomenon was discussed by Massimo Piattelli-Palmarini:

Another classic experiment consists in asking a subject, for instance, how many African nations there are in the United Nations. Before asking him that question, however, one turns the wheel of fortune in full view of the subject, stopping it on some number between 1 and 100. You can tell your subject until you're blue in the face that the number that turns up on the wheel.

Ego Depletion.

People are first depleted by a task in which they eat virtuous foods such as radishes and celery while staring at a plate of chocolate and cookies. Later, these people will give up earlier than normal when faced with a difficult cognitive task such as math questions.

Activities that impose high demands on System 2 require self-control, and the exertion of self-control is depleting and unpleasant.

Experiment: Tired and hungry judges tend to fall back on the easier default position of denying requests for parole. Both fatigue and hunger probably play a role

Therefore, self-control (willpower) draws upon a limited pool of mental resources that can be used up

https://en.wikipedia.org/wiki/Ego_depletion

Related topic - Drowsy driving

a.dangerous because sleep deprivation similar effects as drinking alcohol.

b. Being awake for 18 hours straight makes you drive like you have a blood alcohol level of .05 (for reference, .08 is considered drunk).

c. If you're awake for a full 24 hours for any reason, it's like you have a blood alcohol level of .10.

d. <https://www.sleepfoundation.org/sleep-topics/drowsy-driving-vs-drunk-driving-how-similar-are-they>

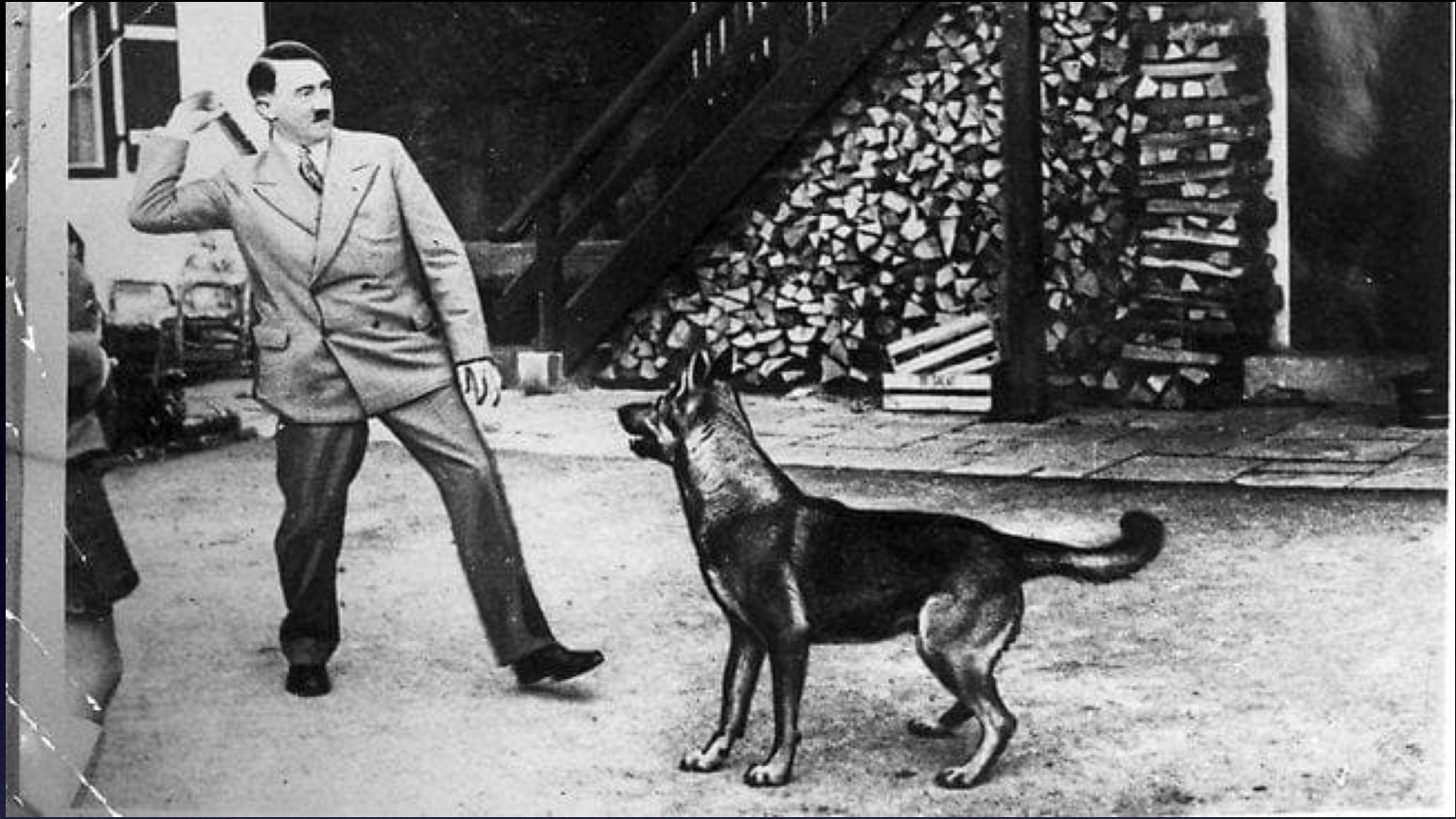
Halo Effect.

Hitler loved dogs and little children.

This is true, and people hate these facts. We construct simple stories about people and it disturbs us when new facts don't "fit."

Visit youtube for actual videos of Hitler enjoying dogs and children.





Kahneman:

If we think a baseball pitcher is handsome and athletic, for example, we are likely to rate him better at throwing the ball, too. Halos can also be negative: if we think a player is ugly, we will probably underrate his athletic ability. The halo effect helps keep explanatory narratives simple and coherent by exaggerating the consistency of evaluations: good people do only good things and bad people are all bad. The statement “Hitler loved dogs and little children” is shocking no matter how many times you hear it, because any trace of kindness in someone so evil violates the expectations set up by the halo effect. Inconsistencies reduce the ease of our thoughts and the clarity of our feelings.

Highlight (yellow) - 19. The Illusion of Understanding >
Page 199

This shows the importance of being seen as the most trustworthy person in the courtroom.

Trust and truth. Under-promise and Over-deliver (the anchor effect).

Another example: Trial prep and trial against an attorney in an auto fraud case.

<http://dangerousintersection.org/2012/02/28/to-understand-american-politics-understand-the-halo-effect/>

Base Rate Neglect

The **base rate fallacy**, also called **base rate neglect** or **base rate bias**, is a [formal fallacy](#). If presented with related [base rate](#) information (i.e. generic, general information) and specific information (information pertaining only to a certain case), the mind tends to ignore the former and focus on the latter.^[1]

Kahneman example regarding Curriculum

https://en.wikipedia.org/wiki/Base_rate_fallacy

Sunk Costs

A sunk cost is a cost that has already occurred and cannot be recovered by any means. Sunk costs are independent of any event and should not be considered when making investment or project decisions. Only relevant costs (costs that relate to a specific decision and will change depending on that decision) should be considered when making such decisions.

Sunk costs https://en.wikipedia.org/wiki/Sunk_cost

Regret

Regret is an emotion, and it is also a punishment that we administer to ourselves. The fear of regret is a factor in many of the decisions that people make (“Don’t do this, you will regret it” is a common warning), and the actual experience of regret is familiar. The emotional state has been well described by two Dutch psychologists, who noted that regret is “accompanied by feelings that one should have known better, by a sinking feeling, by thoughts about the mistake one has made and the opportunities lost, by a tendency to kick oneself and to correct one’s mistake, and by wanting to undo the event and to get a second chance.” Intense regret is what you experience when you can most easily imagine yourself doing something other than what you did. Page 346

The research says you should ask yourself two questions.

1) Ask yourself, “What can I learn from this?”

Regret has a purpose. It’s like the oil light on the dashboard of your car. When it comes on, something needs to be fixed.

2) Ask yourself, “How could it have been worse?”

An “upward counterfactual” is great for learning but over time it’s what creates that nagging ache of regret.

How do we kill the pain now that we’ve learned our lesson?

This is where we need what researchers call a “downward counterfactual.” “How could things have been worse?” Research shows this kills the feelings associated with regret. Turn disappointment into gratitude.

<https://www.bakadesuyo.com/2014/05/overcome-regret/>

The Mere Exposure Effect.

“There is nothing so absurd that it cannot be believed as truth if repeated often enough.” - William James.

The mere-exposure effect is a psychological phenomenon by which people tend to develop a preference for things merely because they are familiar with them. In social psychology, this effect is sometimes called the familiarity principle. The effect has been demonstrated with many kinds of things, including words, Chinese characters, paintings, pictures of faces, geometric figures, and sounds. In studies of interpersonal attraction, the more often a person is seen by someone, the more pleasing and likeable that person appears to be.

https://en.wikipedia.org/wiki/Mere-exposure_effect

<http://dangerousintersection.org/2013/03/01/william-james-on-the-effect-of-repetition/>

Competition Neglect

Neglecting competitors can be particularly destructive in efforts to enter new markets. When a company identifies a rapidly growing market well suited to its products and capabilities, it will often rush to gain a beachhead in it, investing heavily in production capacity and marketing. The effort is often justified by the creation of attractive pro forma forecasts of financial results. But such forecasts rarely account for the fact that many other competitors will also target the market, convinced that they, too, have what it takes to succeed. As all these companies invest, supply outstrips demand, quickly rendering the new market unprofitable.

<https://hbr.org/2003/07/delusions-of-success-how-optimism-undermines-executives-decisions>

Substituting Questions

I propose a simple account of how we generate intuitive opinions on complex matters. If a satisfactory answer to a hard question is not found quickly, System 1 will find a related question that is easier and will answer it. I call the operation of answering one question in place of another substitution. I also adopt the following terms: The target question is the assessment you intend to produce. The heuristic question is the simpler question that you answer instead. The technical definition of heuristic is a simple procedure that helps find adequate, though often imperfect, answers to difficult questions. The word comes from the same root as eureka. **Page 97**

People often let their likes and dislikes determine their beliefs about the world.

Highlight (yellow) - 9. Answering an Easier Question >
Page 103

Your emotional attitude to such things as irradiated food, red meat, nuclear power, tattoos, or motorcycles drives your beliefs about their benefits and their risks. If you dislike any of these things, you probably believe that its risks are high and its benefits negligible.

This is the essence of intuitive heuristics: when faced with a difficult question, we often answer an easier one instead, usually without noticing the substitution. Page 12.

And we are usually not aware that we are answering a different question.

Dealing with complex problems of the modern world is impossible. But “substitution” is an heuristic alternative to careful reasoning that gives us easy answers, doesn’t tax cognitive System 2 (which is lazy), sometimes works fairly well but sometimes leads to serious errors.

(p. 98). Here are some samples:

Should we work hard to save endangered species?
(Substitution causes us to answer a different question:
“How do I FEEL about endangered species?”).

How will the judge rule on this case? (How do I hope
that the judge rules on this case?)

Have you handled this type of case before? (Do you
think you are able to figure out how to handle this type of
case?)

From article by Kahneman at Edge.com

Kahneman: "Nothing In Life Is As Important As You Think It Is, While You Are Thinking About It"

Education is an important determinant of income — one of the most important — but it is less important than most people think. If everyone had the same education, the inequality of income would be reduced by less than 10%. When you focus on education you neglect the myriad other factors that determine income. The differences of income among people who have the same education are huge.

Income is an important determinant of people's satisfaction with their lives, but it is far less important than most people think. If everyone had the same income, the differences among people in life satisfaction would be reduced by less than 5%.

Prospect Theory - a theory about how people make choices between different options or prospects, is designed to better describe, explain, and predict the choices that the typical person makes, especially in a world of uncertainty. Prospect theory is characterized by the following:

a.Certainty: People have a strong preference for certainty and are willing to sacrifice income to achieve more certainty. For example, if option A is a guaranteed win of \$1,000, and option B is an 80 percent chance of winning \$1,400 but a 20 percent chance of winning nothing, people tend to prefer option A.

b.Loss aversion: People tend to give losses more weight than gains — they're loss averse. So, if you gain \$100 and lose \$80, it may be considered a net loss in terms of satisfaction, even though you came out \$20 ahead, because you'll tend to focus on how much you lost, not on how much you gained.

c.Relative positioning: People tend to be most interested in their relative gains and losses as opposed to their final income and wealth. If your relative position doesn't improve, you won't feel any better off, even if your income increases dramatically. In other words, if you get a 10 percent raise and your neighbor gets a 10 percent raise, you won't feel better off. But if you get a 10 percent raise and your neighbor doesn't get a raise at all, you'll feel rich.

d.Small probabilities: People tend to under-react to low-probability events. So, you may completely discount the probability of losing all your wealth if the probability is very small. This tendency can result in people making super-risky choices.

e.The above summary is from Behavioral Economics For Dummies Cheat Sheet - By Morris Altman <https://www.dummies.com/personal-finance/investing/technical-analysis/what-is-prospect-theory/>

See also, Behavioral economist's work offers lessons for legal storytellers about judgment and decision-making, BY PHILIP N. MEYER

http://www.abajournal.com/magazine/article/behavioral_economists_work_offers_lessons_for_legal_storytellers

1. A video lecture by Daniel Kahneman: <https://www.youtube.com/watch?v=CjVQJdIrDJ0>

2. Another video lecture by Daniel Kahneman: <https://www.youtube.com/watch?v=HVMywUcH-Uk>

3. Graphic video illustrating ten ideas from Thinking, Fast and Slow. <https://www.youtube.com/watch?v=tiyTYGY5X3Y>

See this Long list of cognitive biases here:
[https://en.wikipedia.org/wiki/
List_of_cognitive_biases](https://en.wikipedia.org/wiki/List_of_cognitive_biases)