



Digital Dementia

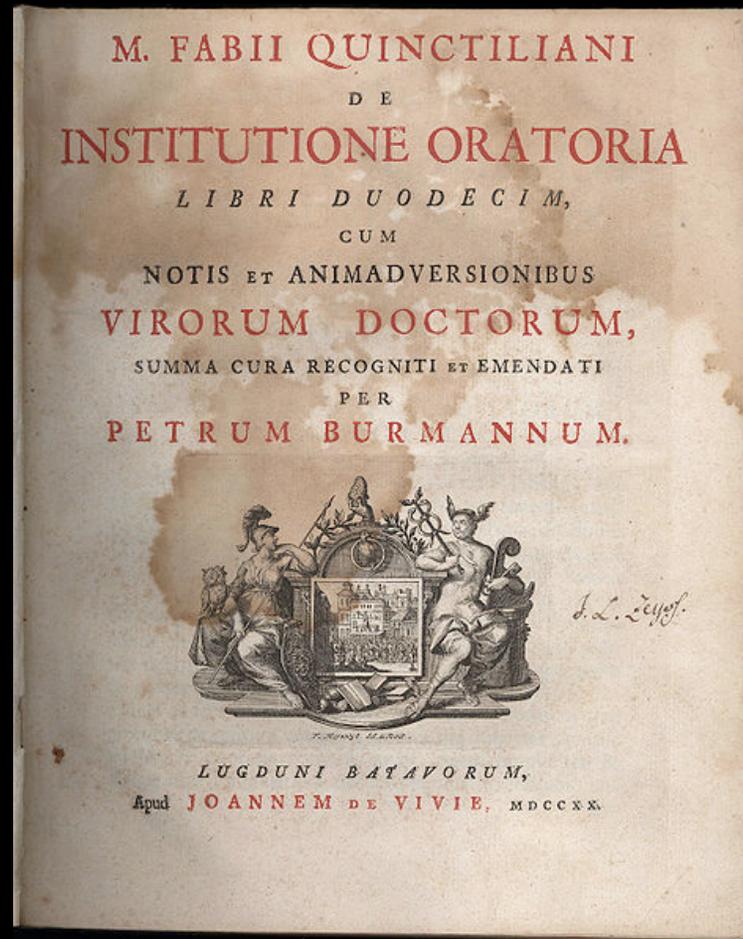


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Quintilian

Institutes of Oratory (95 AD)



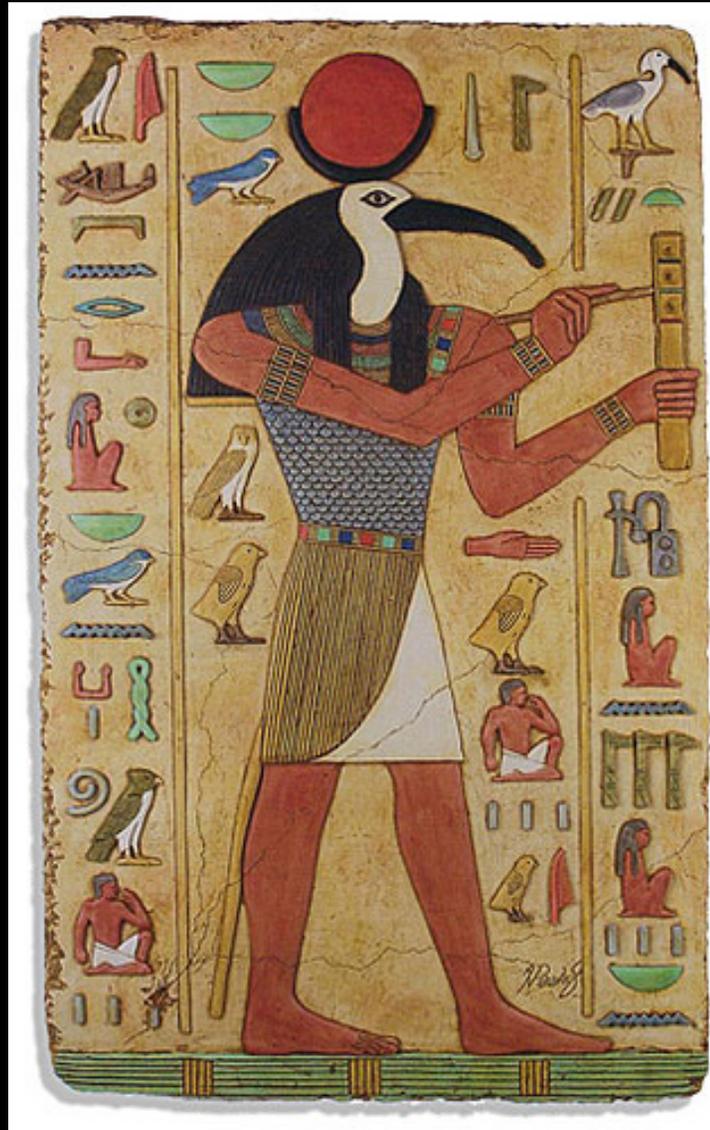
To be prompted, therefore, and to refer to one's writing is pernicious, as it grants indulgence to carelessness, nor will a speaker feel that he retains with sufficient security that which he is in no fear of losing.

- Quintilian, *Institutio Oratoria*, Book 1, Chapter 2



PERNICIOUS: *per-* "completely" + *necis* "violent death, murder"





Theuth “grant[ing] indulgence to carelessness”?

“The specific (*pharmakon*) which you have discovered is an aid not to memory, but to reminiscence, and you give your disciples not truth, but only the semblance of truth; they will be hearers of many things and will have learned nothing; they will appear to be omniscient and will generally know nothing; they will be tiresome company, having the show of wisdom without the reality.”

- Plato, *Phaedrus* (~370 BC)



“Technology-Induced Memory Atrophy”

2007 study at Trinity College, Dublin .

25% of survey participants under 30 years old couldn't remember their own home phone number without consulting their handheld device.

40% of those under 30 could remember family birthdays, compared to 87% of participants over the age of 50.



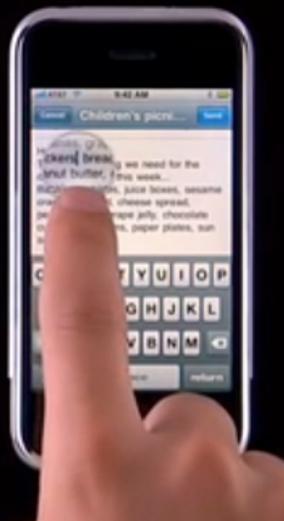
“Technology-Induced Memory Atrophy”

Study by Embrain for job portal Incruit.

Survey questioned salaried men about forgetfulness.

More than 60 % of the workers aged between 20 and 30 said they are forgetful.

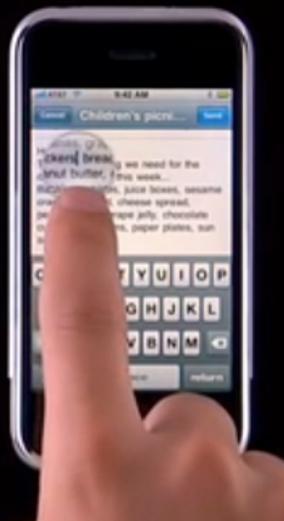
20.4 % answered that “an environment overwhelmed by digital devices lessens the need for them to remember things.”



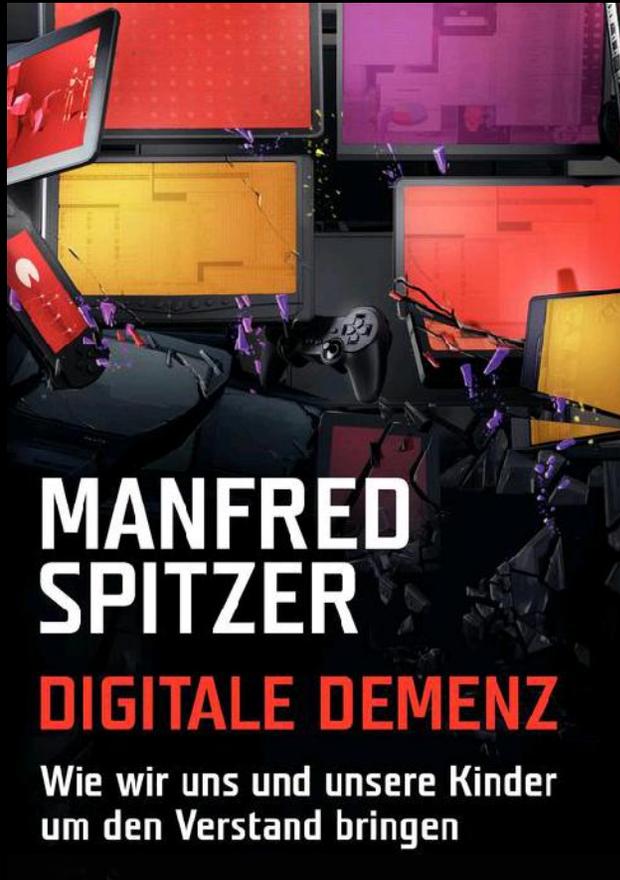
“Digital Dementia” in South Korea

Unlike before, people these days are not required to make much effort to remember things as they are just a button away from all the necessary information which is stored in cell phones, PDAs or navigators. All they have to do is just search through them. Easy access to the Internet also weakens memory capacity. Whenever people ask others about something, you will very likely hear: “Check the Internet.”

- *Korean Times*



Digitale Demenz (the book)



Digitale Demenz

“They will neither have the basic ability to think, nor to interact face to face with the people around them. Instead, they will depend on the Internet and on mobile devices in a very unhealthy way.”

- Manfred Spitzer, *Digitale Demenz*



WHAT IS DEMENTIA?

n. a chronic or persistent disorder of the mental processes caused by brain disease or injury and marked by memory disorders, personality changes, and impaired reasoning.

SCIENCE PROBLEMS

“Does the Internet Make you Dumb? Top German Neuroscientist Says Yes – And Forever.” (Spitzer)

1. There is no evidence that so-called “digital dementia” is an irreversible condition.

“Heavy [technology] users are likely to develop the left side of their brains, leaving the right side untapped or underdeveloped.” (Gi-won)

2. Brain lateralization is a pop psychology concept that is not supported by scientific research.

SOCIOCULTURAL CRITIQUE

“by labeling cognitive effects wrought by technology as a disability, techno-naysayers are a **once trivializing real dementias, engaging in an ableist and possibly ageist mode of rhetoric**, and discounting the possibility that new media might actually enhance attention, memory, and affect, especially as our **brains continue to adapt to new technologies.**”

- Marcel O’Gorman, “Taking Care of Digital Dementia”

DIGITAL DEMENTA:

A fine-grained thought experiment

Types of memory:

Episodic

Semantic

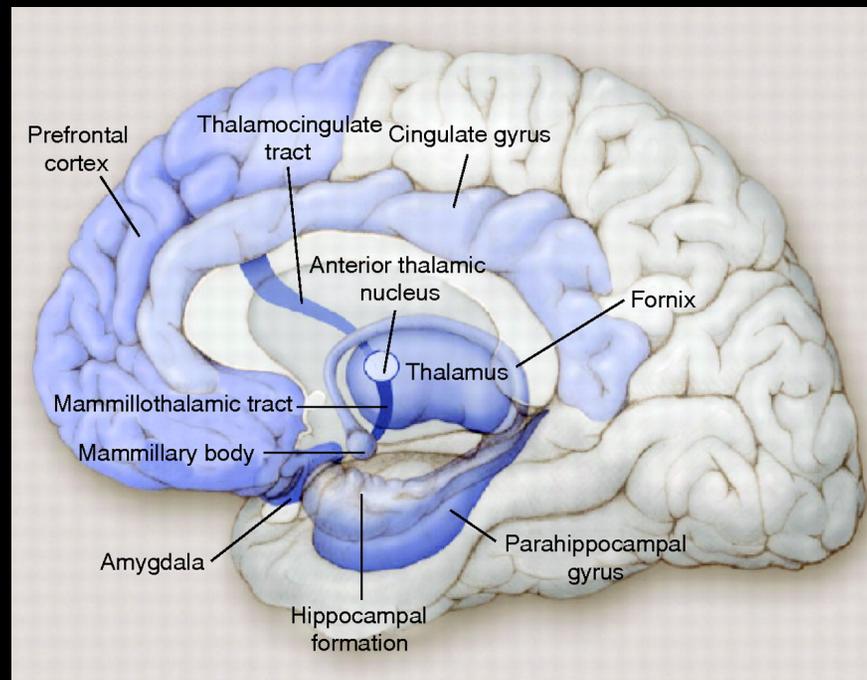
Procedural

Working

Episodic Memory

Enables us to learn new information and remember recent events.

In early Alzheimer's: difficulty remembering recent events, without any trouble remembering events from long ago.



Episodic Memory



Episodic Memory

1. Excess of Memory (Hypermnesia)

“comprehensive digital memory represents an even more pernicious version of the digital panopticon. As much of what we say and do is stored and accessible through digital memory, our words and deeds may be judged not only by our present peers, but also by all our future ones.”

- Viktor Mayer-Schonberger, *Delete: The Virtue of Forgetting in the Digital Age*

Episodic Memory

2. Vulnerability of Memory

“Even digital memories can fade – their fate determined by their *in silico* conception – as the durability of hard drives, compact disks, and memory sticks has yet to be proven.”

- Jose Van Dijk, *Mediated Memories in the Digital Age*

Episodic Memory

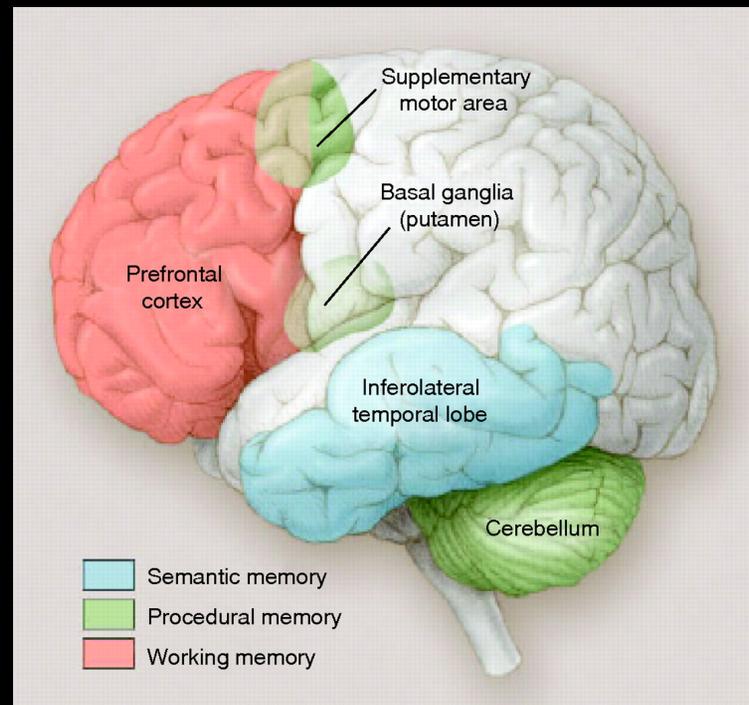
3. Attunement to Reality

“The prosthesis has become confused with the organ, and in the process we run the risk of experiencing events not as participants, but as recording devices.”

- Marcel O’Gorman, “Taking Care of Digital Dementia”

Semantic Memory

Governs general knowledge and facts, including the ability to recognize, name, and categorize objects. People with Alzheimer's disease may be unable to name a common object or to list objects in a category, such as farm animals or types of birds.



Semantic Memory

1. General Instability/Changeability of Meaning

“In the late age of print, however, we seem more impressed by the impermanence and changeability of text.”

- Jay David Bolter, *Writing Space: Computers, Hypertext, and the Remediation of Print*

Semantic Memory

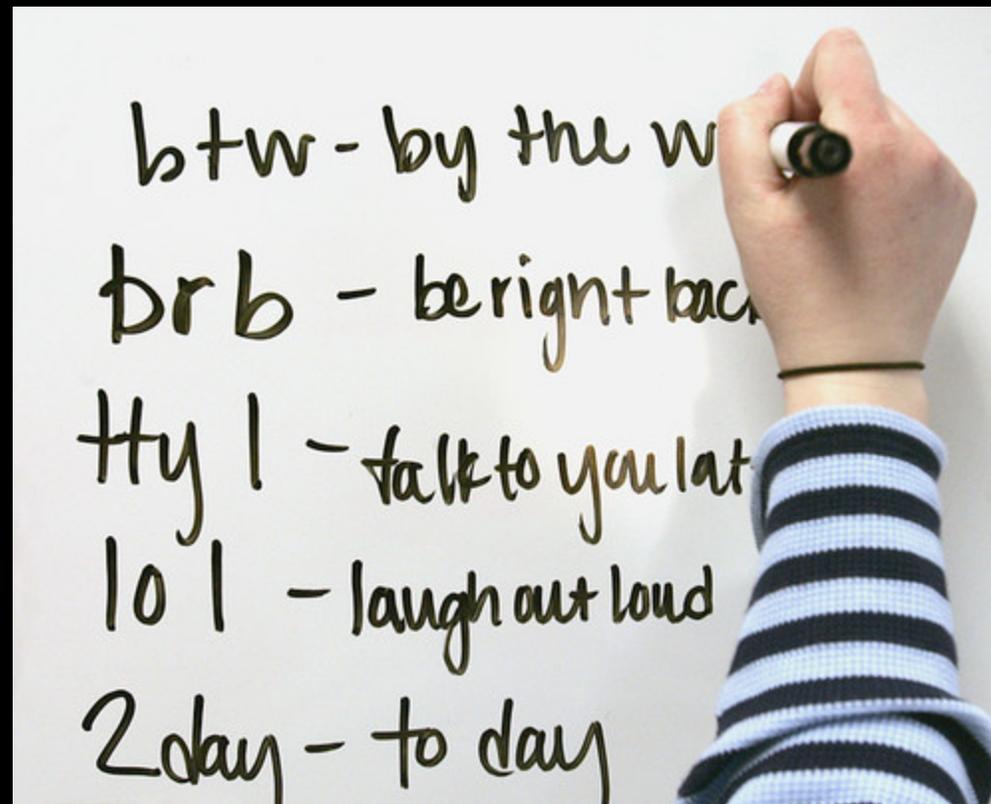
2. Categorization and Recall Problems

“When I ask him to locate a phone call from one of his colleagues, he hits a bug: He can locate the name of the file, but when he clicks on it the data are AWOL. ‘Where the hell is this friggin’ phone call?’ he mutters to himself, pecking at the keyboard. ‘I either get nothing or I get too much!’

- Clive Thompson, “A Head for Detail”

Semantic Memory

3. Speed and Efficiency



Semantic Memory

3. Speed and Efficiency

“Just as we are rapidly forgetting penmanship, we can easily imagine future generations that will not need to learn how to spell, form plurals, conjugate verbs, obey the sequence of tenses, and so on. And of course, a literacy that relies on digital technologies is trained by icons and a mechanized language production may well not want to or know how to read a Joyce, a Proust, a *Beowulf*, and so on.”

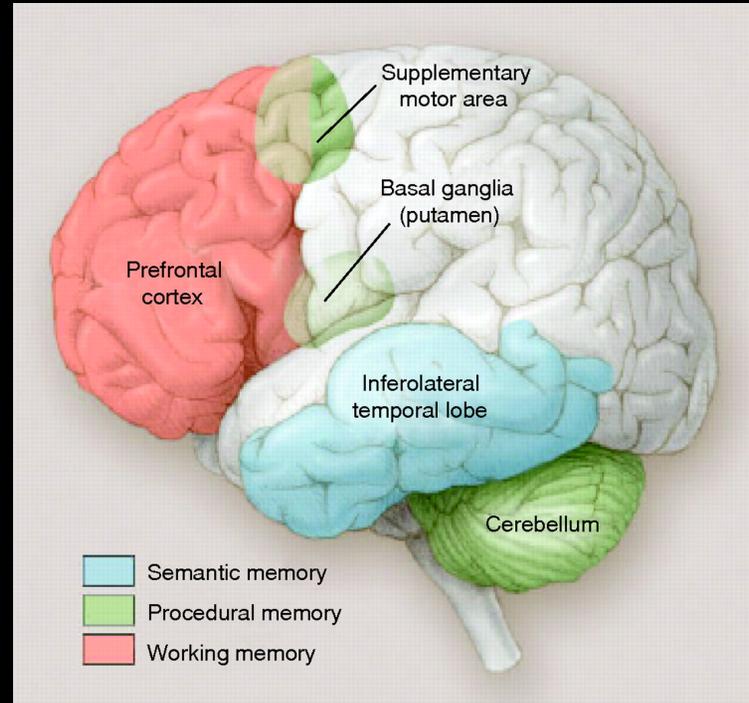
-David Wills, " *Technology or the Discourse of Speed* "

Procedural Memory

Enables people to learn skills that will then become automatic (unconscious), such as typing or skiing.

Typically not damaged in Alzheimer's disease or is one of the last cognitive domains to deteriorate.

Ability to learn NEW procedures deteriorates over time.



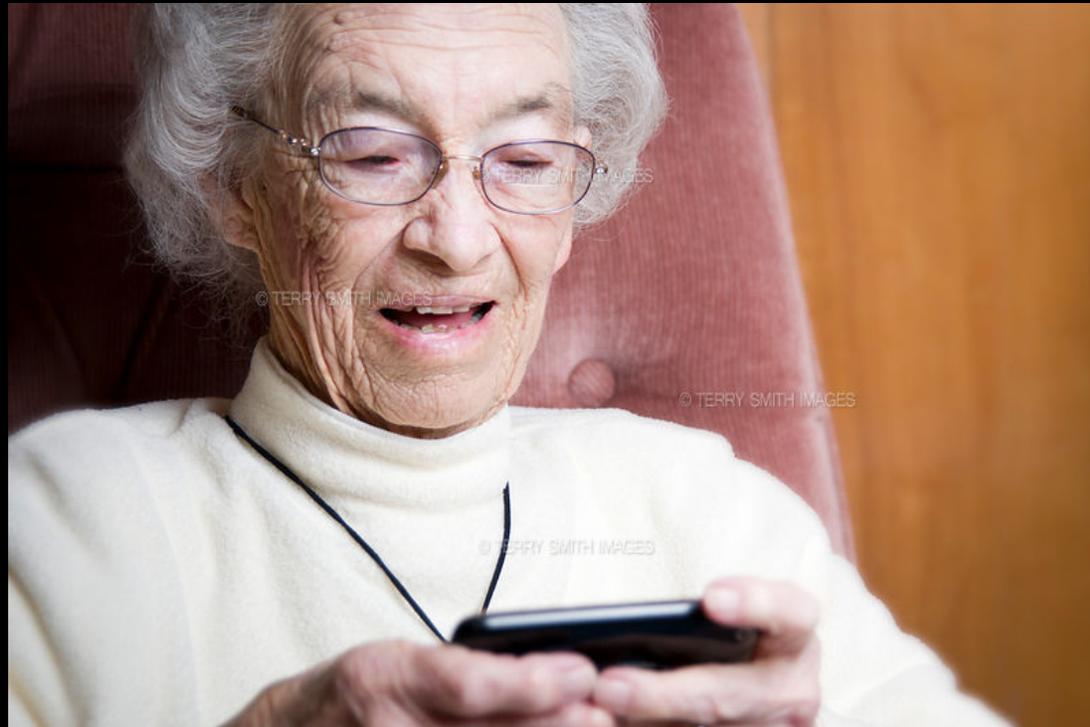
Procedural Memory

1. Phantom Vibration and CTRL-Z Syndromes



Procedural Memory

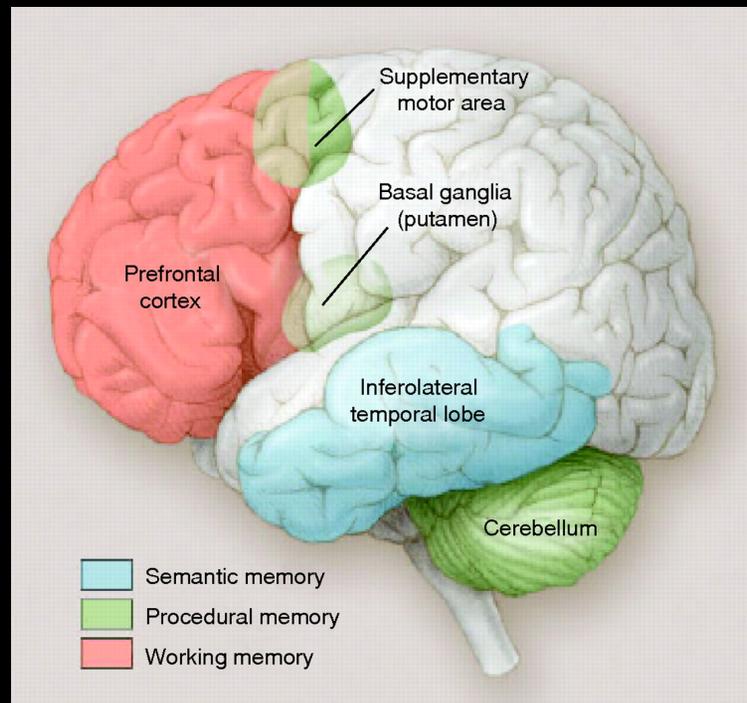
3. Recall Capability and Device Obsolescence



Working Memory

Governs attention, concentration, and the short-term retention of needed information, such as a street address or phone number.

Problems with working memory can impair a person's ability to pay attention or to accomplish multi-step tasks.



Working Memory

1. Digital Media and Attention

“We ask the Internet to keep interrupting us, in ever more and different ways. We willingly accept the loss of concentration and focus, the division of our attention and the fragmentation of our thoughts, in return for the wealth of compelling or at least diverting information we receive.”

- Nicholas Carr, *The Shallows: What the Internet is Doing to Our Brains*

Working Memory

2. Digital Media and Hyper-Attention

In 2011-2012, an estimated 6.4 million children aged 4 through 17 had received an Attention Deficit Hyperactivity Disorder (ADHD) diagnosis at some point in their lives (Swarz and Cohen). This is a 16 per cent increase since 2007 and a 41 percent increase in the past decade.

-US Center for Disease Control and Prevention

Working Memory

3. Digital Media and Retention

“The results of this study indicate that reading linear narrative and expository texts on a computer screen leads to poorer reading comprehension than reading the same texts on paper.”

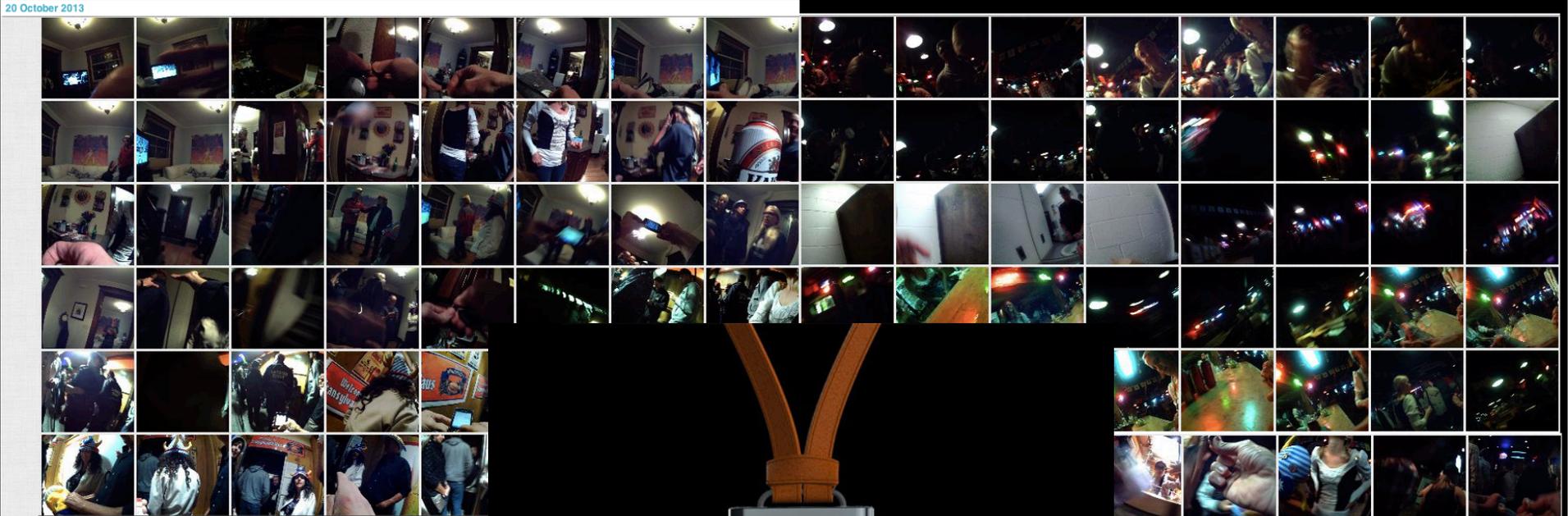
-Mangen et al. “Reading linear texts on paper versus computer screen: Effects on reading comprehension.”

The Politics of Hypomnesia

“the question of hypomnesia is a political question, and the stakes of a combat: a combat for the politics of memory, and more precisely, for the question of a *sustainable hypomnesic milieux*.”

- Bernard Stiegler, “Anamnesis and Hypomnesia”

The Politics of Lifelogging?



“I would rather a technique of forgetting, for I remember what I would rather not remember and cannot forget what I would rather forget.”

- Themistocles