

Academy of Architecture for Health On-line Professional Development

Creativity in Healthcare Design Outside-The-Box Series

November 6, 2018

2:00 pm – 3:00 pm ET

1:00 pm – 2:00 pm CT

12:00 am – 1:00 pm MT

11:00 am – 12:00 pm PT

Presenter

Frank Zilm, D. Arch. FAIA, FACHA Emeritus

Moderator

John Kreidich, AIA, CHC, LEED AP

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Outside-The-Box Series (OTB)

The Academy's multi-channel on-line approach provides emerging professionals, journeymen, and master professionals with convenient and economical opportunities to develop their chosen area of interest.

OTB Series sessions provide to a broad audience, perspectives on healthcare, community health, environmental and design issues outside the customary domain of healthcare design practice.

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- **in the Chat box** at the conclusion of the live presentation;
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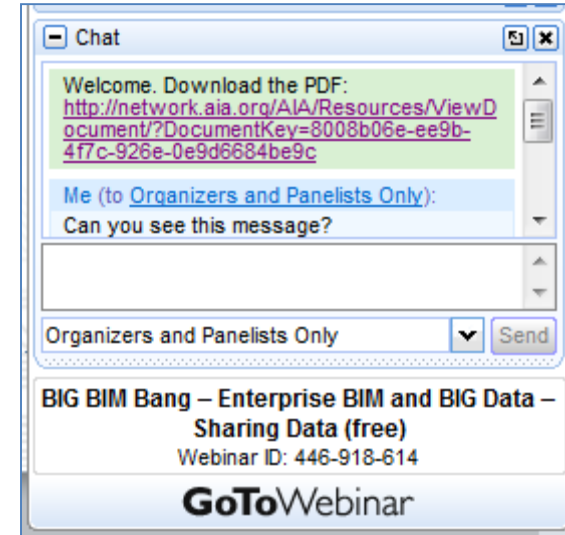
Questions?

Submit a question to the moderator via the chat box.



Content-related questions will be answered during the Q&A portion at the end as time allows.

Tech support questions will be answered by AIA staff promptly.



Creativity in Healthcare Design

Presenter



Frank Zilm, D. Arch. FAIA, FACHA Emeritus

Creativity in Healthcare Design

"If you want creative workers, give them time to play"

John Cleese

"Creativity is a wild mind and a disciplined eye."

Dorothy Parker

"The intuitive mind is a sacred gift and the rational mind a faithful servant. We have created a society that honors the servant and has forgotten the gift"

Albert Einstein

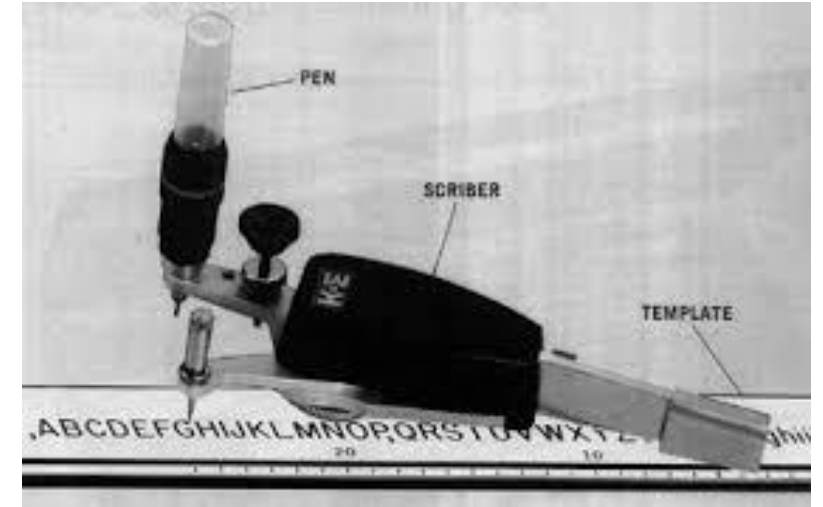
Frank Zilm, D.Arch., FAIA, FACHA Emeritus



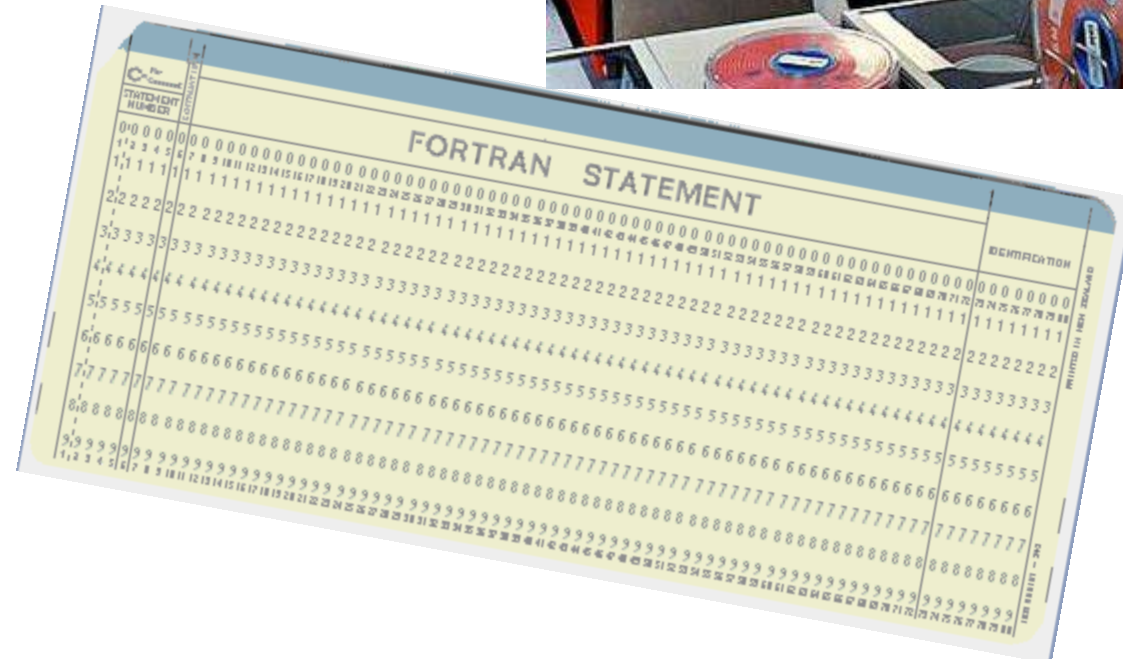
Early 60's



Mid 60's



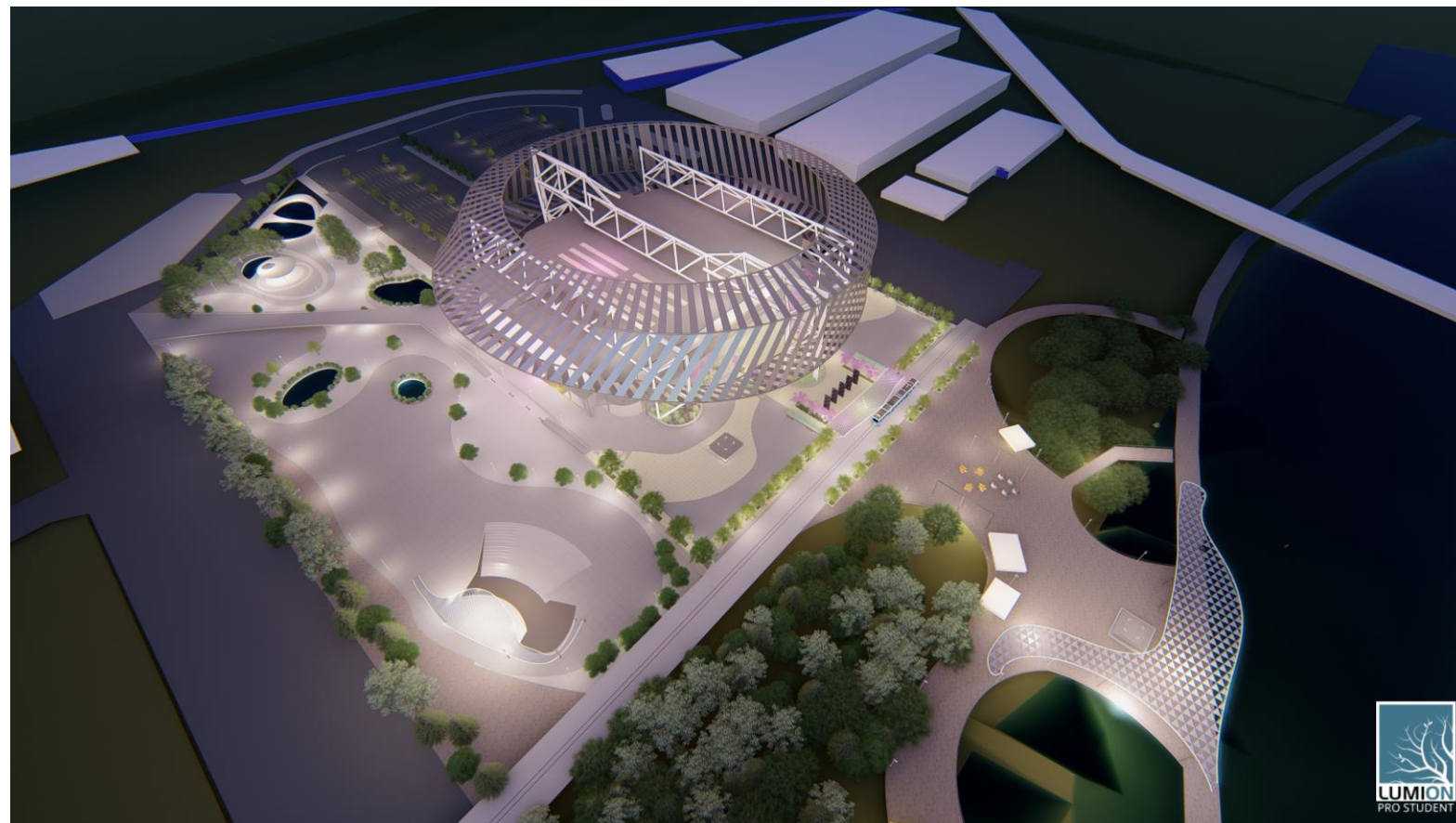
Early 70's



Early 80's



Today



Disclaimers

- I am an architect, not a neuroanatomist or psychologist.
- Many of my critiques are autobiographical.
- I do not consider myself a highly creative designer.

Key Support Individuals and Organizations



Ruth Ann Atchley, PhD
Associate Vice President
Community Engagement
University of South Florida



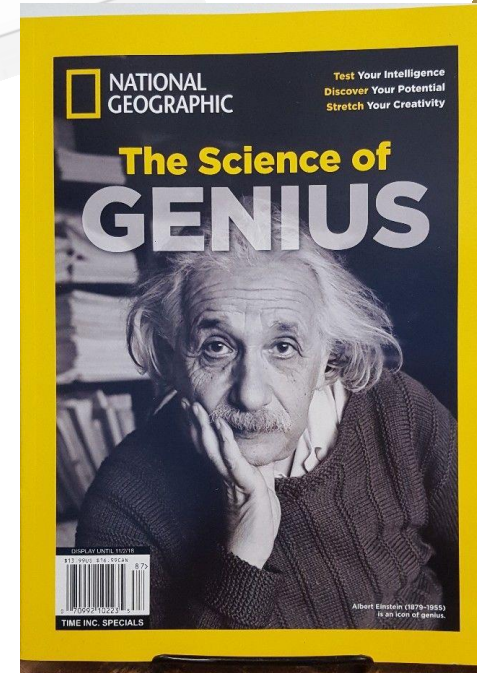
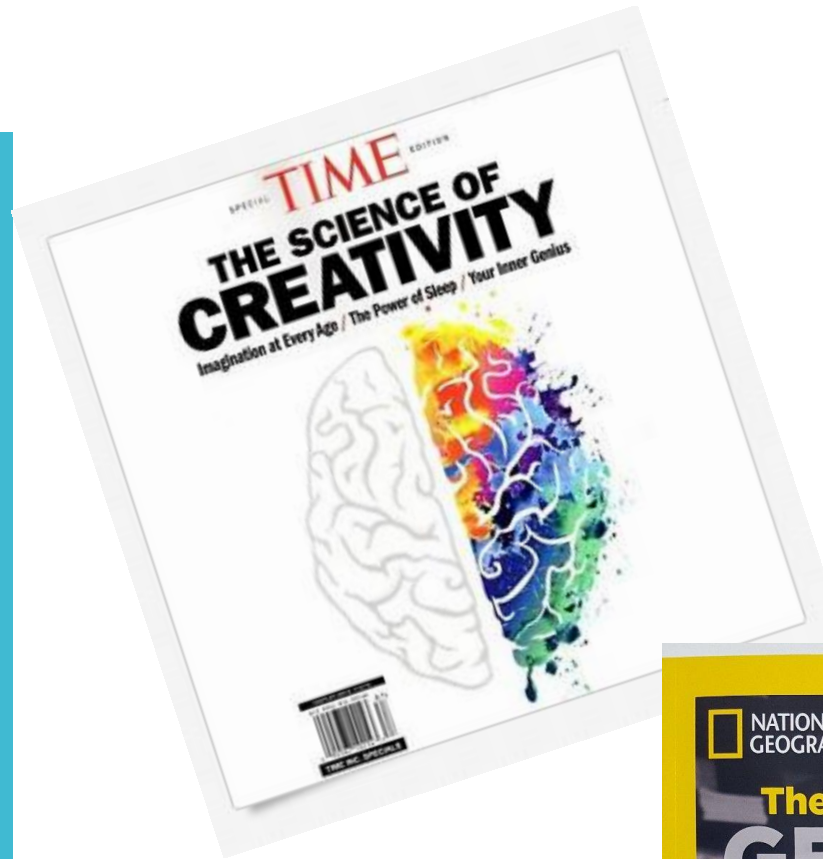
KU Health and Wellness Institute Affiliate Organizations:



Recent publications

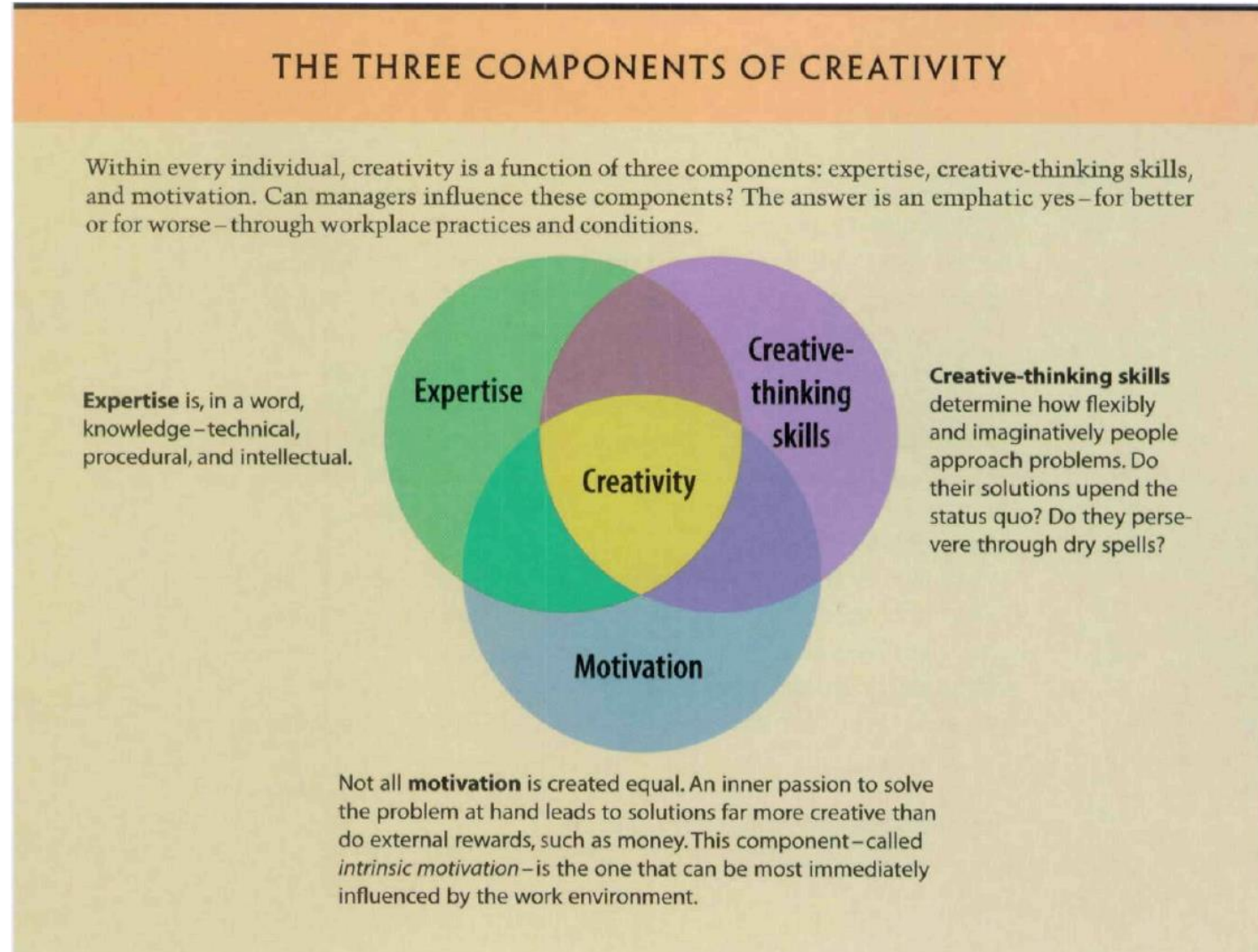
"Between the late 1960's and the early 1990s, more than nine thousand scientific papers were published...Between 1999 and 2009, another ten thousand were written about creativity.."

Wired to Create,
Kauffman and Gregoire



“In business, originality isn’t enough. To be creative, an idea must also be appropriate – useful and actionable”

“How to Kill Creativity,” Teresa Amabile, Harvard Business Review, September-October 1998



Four keys to creativity in healthcare design

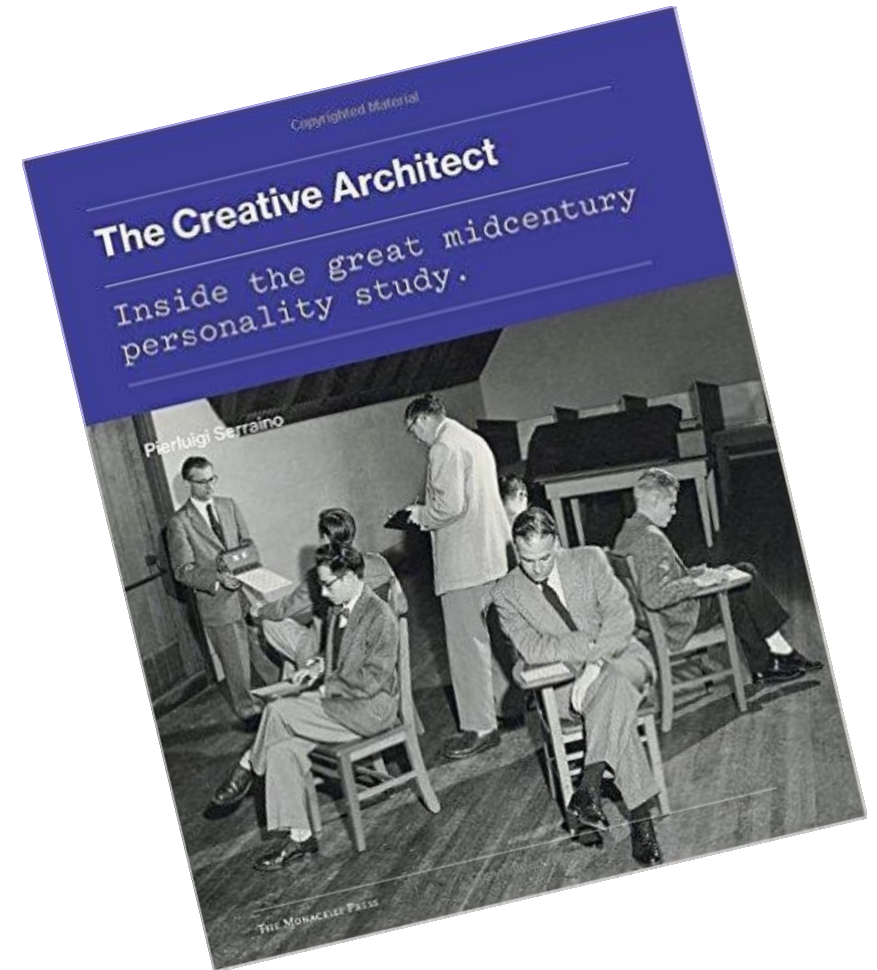
Forces that contribute to creativity include:

- The personality characteristics of the designer and client decision makers
- The social and physical work environment
- The nature of the design problem
- The process used to engage the client and to make decisions

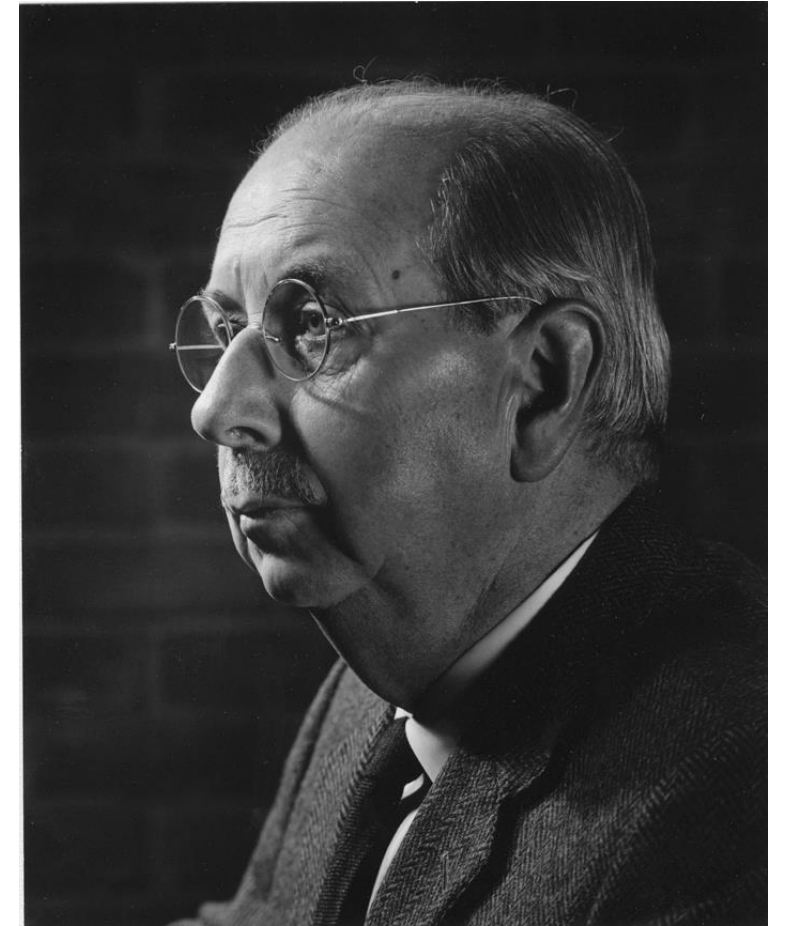
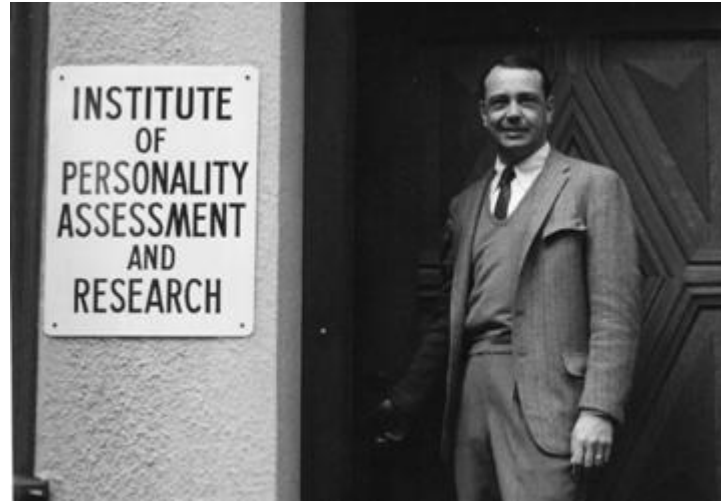
The Creative Architect

Pierluigi Serraino, AIA

2016
The Monacelli Press



Institute of Personality Assessment and Research, University of California at Berkeley





Group 1 Architects



Robert	Alexander
Gregory	Ain
Harris	Amstrong
Robert	Anshen
Edward	Barnes
Ernest	Born
Warren	Callister
Serge	Chermeyoff
Mario	Ciampi
Gardner	Dailey
Dom	Emmons
O'Neil	Ford
John	Funk
Walter	Gordon
Henry	Hill
Phillip	Johnson
Quincy	Jones
Louis	Kahn

George	Keck
Robert	Kennedy
Paul	Kirk
Ernest	Kump
Fred	Langhorst
Victor	Lundy
George	Nelson
Richard	Neutra
Elliot	Noyes
I.M.	Pei
Robert	Price
Ralph	Rapson
Eero	Saarinin
Paul	Schweikher
Raphael	Soriano
Oskar	Stonorov
John	Warneke
Harry	Weese
Worley	Wong

The Creative Architect

Pierluigi
Serraino, AIA

2016
The Monacelli Press

pages 215-216

Five stages of creative process:

1. **Preparation** – The acquisition of skills over an extended period of time through schooling and training.
2. **Concentrated effort** – It is a very intense, limited time of focused exertion to come to a diagnosis, often with great dispersion of mental energy and physical exhaustion.
3. **Incubation** - a period of frustration, tension, and discomfort ensues.
4. **Insight**- A eureka moment occurs when the promise of a solution appears credible and workable, accompanied by exhilaration.
5. **Verification** – Studiously, the subject engages in the testing of the idea, following its implications to a great degree of depth, prior to considering the problem solved.

“creativity entailed a complex set of cognitive and motivational processes, which are involved in perceiving, remembering, imagining, planning and deciding. **In this realization the role of memory arises as a predominant factor: creativity is the reassembling of the existing knowledge.**”

“Gorillas in our midst: sustained inattention blindness for dynamic events”
Daniel J Simons,
Christopher F
Chabris

Perception, 1999, volume
28, pages 1059 ^ 1074



In Praise of Wasting Time

Alan Lightman

Simon & Schuster,
, New York, 2018

Psychologists have long known that creativity thrives on unstructured time, on play, on “divergent thinking,” on unpurposed ramblings through the mission of life.

Psychologist Anthony Pellegrini and other have concluded that play, in animals as well as humans allows individuals to focus on means rather than ends.

It is possible that both unconscious and conscious thought are required in certain kinds of discovery.

“divergent thinking occurs in the incubation and illumination stages...

Alexander Graham Bell –

“I am a believer in unconscious cerebration. The brain is working all the time, though we do not know it. At night, it follows up what we think in the daytime.”

Wired to Create

Scott Barry Kauffman
and Carolyn Gregoire

Penguin Random
House, New York
2016

A study by those Harvard researchers found that mind wandering consumes an average of 47 percent of peoples' waking hours.

Scott and colleague Rebecca McMillan noted that mind wondering offers very personal rewards, including creative incubation, self-awareness, future-planning, reflection on the meaning of one's experiences, and even compassion....Research suggests that an incubation period of mind-wandering leads to improvements in creative thinking.

Mindfulness helps us truly see what's around us-a skill of paramount importance in life and art- but it must be balanced with giving the mind space to dream, fantasize, and simply roam free.

“Experience
sampling during
fMRI reveals that
default network
and executive
system
contributions to
mind wandering”
Kaline Christoff, et.al.,
PNAS, May 26, 2009,
Vol. 106, no 21 8719-
8724

“The observed parallel recruitment of the executive and default network regions- two brain systems that so far have been assumed to work in opposition- suggests that mind wandering may evoke a unique mental state that may allow otherwise opposing networks to work in cooperation.”

Wired to Create

Scott Barry Kauffman
and Carolyn Gregoire

Penguin Random
House, New York
2016

The common strands that seemed to transcend all creative fields was an openness to one's inner life, a preference for complexity and ambiguity, an unusually high tolerance for disorder and disarray, the ability to extract order from chaos, independence, unconventionality, and a willingness to take risks.

Creative people are particularly good at exercising flexibility in activating and deactivating these brain networks (executive and divergent) that in most people tend to be at odds with each other. In doing so, they're able to juggle seemingly contradictory modes of thought – cognitive and emotional, deliberate, and spontaneous.

Word Association Test

028

111

117

14

Name GEORGE NELSON

Word Association Test

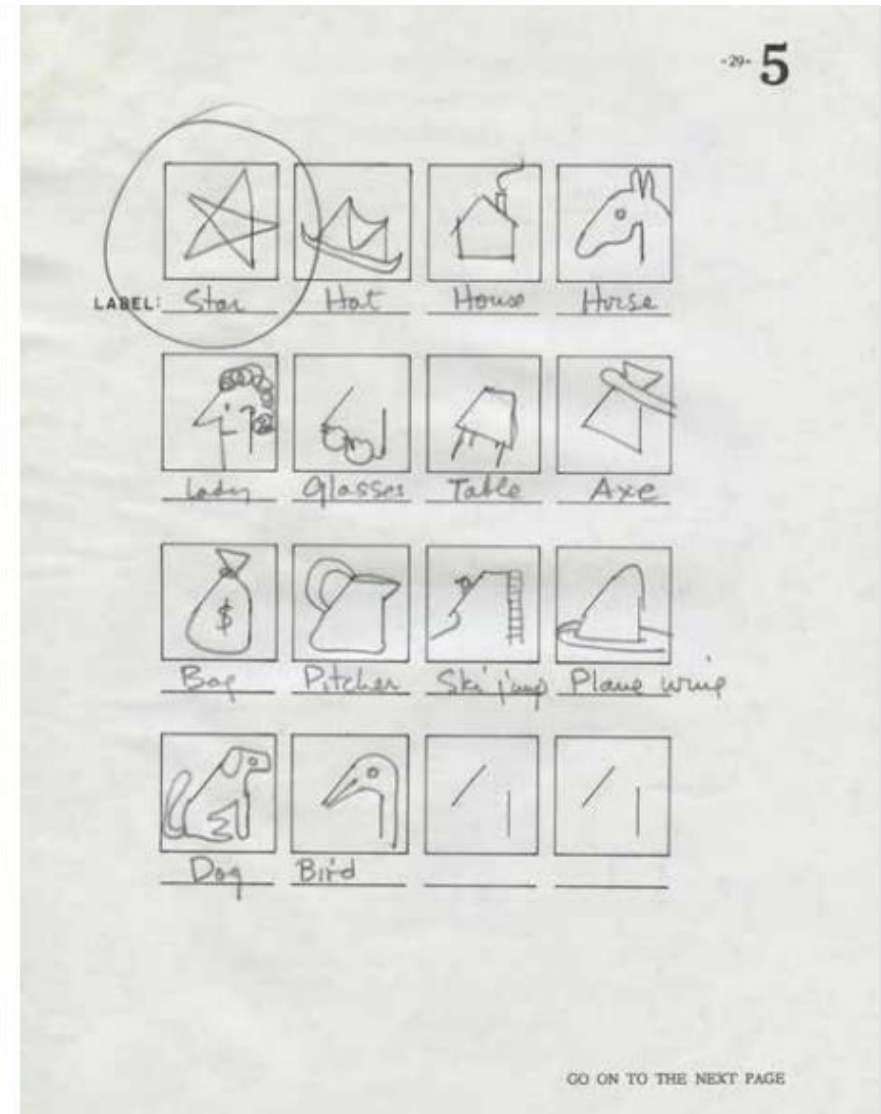
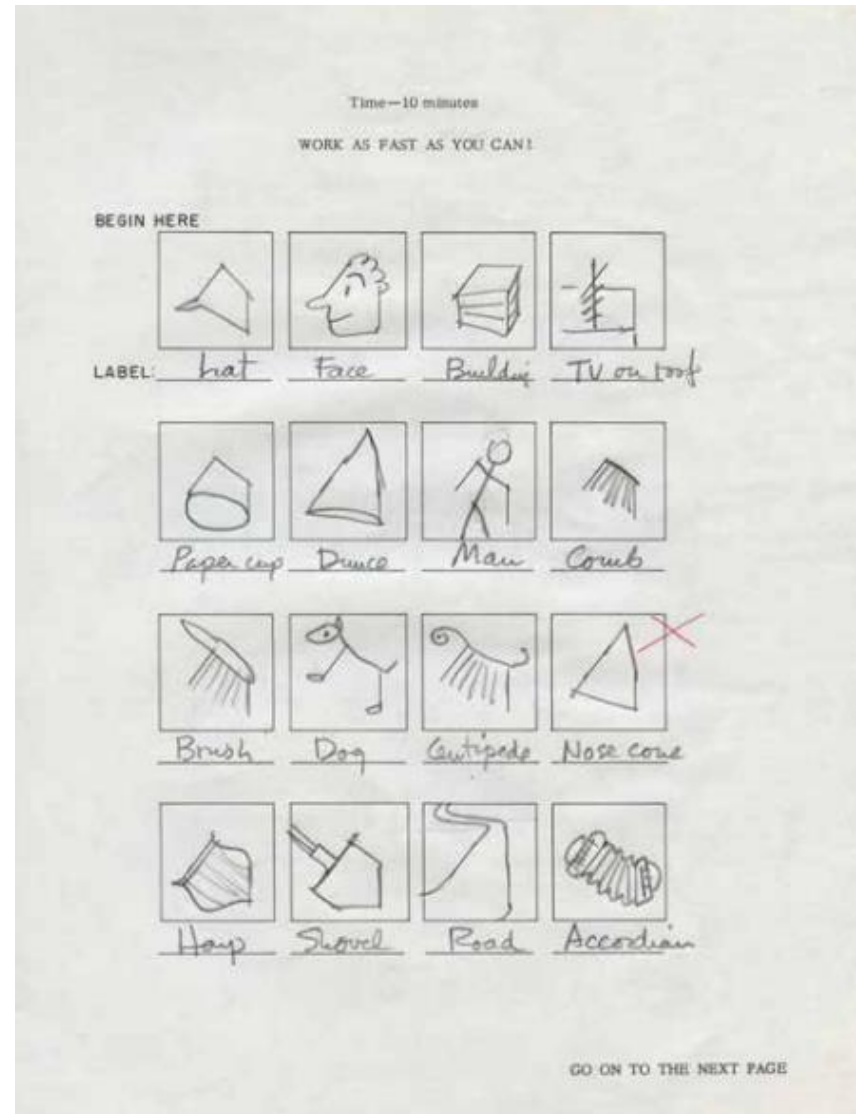
Stimulus	Response	Stimulus	Response
1. <u>E</u> Table	<u>WATER</u> ✓	43. <u>H</u> Hard	<u>SOFT</u> ✓
2. <u>A</u> Dark	<u>LIGHT</u> ✓	49. <u>D</u> Eagle	<u>HIGH</u> ✓
4. <u>B</u> Sickness	<u>HEALTH</u> ✓	51. <u>B</u> Stone	<u>FLOWER</u> ✓
5. <u>A</u> Man	<u>WOMAN</u> ✓	52. <u>E</u> Larp	<u>SWITCH</u> ✓
7. <u>B</u> Soft	<u>HARD</u> ✓	53. <u>B</u> Stream	<u>SLEEP</u> ✓
8. <u>E</u> Eating	<u>VOMIT</u> ✓	57. <u>A</u> Boy	<u>GIRL</u> ✓
9. <u>E</u> Mountain	<u>THERE</u> ✓	58. <u>A</u> Light	<u>DAIR</u> ✓
10. <u>D</u> House	<u>WINDOW</u> ✓	59. <u>E</u> Health	<u>BURN</u> ✓
11. <u>A</u> Black	<u>WHITE</u> ✓	65. <u>B</u> Swift	<u>FAST</u> ✓
12. <u>B</u> Button	<u>CHEEP</u> ✓	66. <u>B</u> Blue	<u>SKY</u> ✓
13. <u>E</u> Comfort	<u>LUXURY</u> ✓	72. <u>A</u> Long	<u>SHORT</u> ✓
20. <u>C</u> Chair	<u>IT</u> ✓	73. <u>E</u> Religion	<u>BUNK</u> ✓
22. <u>D</u> Whistle	<u>BURN</u> ✓	77. <u>D</u> Hammer	<u>SICKLE</u> ✓
23. <u>E</u> Woman	<u>BREATH</u> ✓	81. <u>D</u> Butter	<u>KNIFE</u> ✓
25. <u>A</u> Slow	<u>FAST</u> ✓	82. <u>E</u> Doctor	<u>BAK</u> ✓
26. <u>C</u> Wish	<u>DEIR</u> ✓	83. <u>C</u> Loud	<u>NOISE</u> ✓
33. <u>C</u> Foot	<u>WAVE</u> ✓	88. <u>E</u> Heavy	<u>ROLL</u> ✓
34. <u>E</u> Spider	<u>BITE</u> ✓	89. <u>A</u> Tobacco	<u>SMOKE</u> ✓
35. <u>B</u> Needle	<u>THREAD</u> ✓	92. <u>D</u> Scales	<u>CLOTH</u> ✓
37. <u>C</u> Sleep	<u>BED</u> ✓	93. <u>E</u> Quiet	<u>PLACE</u> ✓
38. <u>E</u> Angry	<u>HIT</u> ✓	94. <u>E</u> Green	<u>SWARD</u> ✓
39. <u>D</u> Carpet	<u>SOFT</u> ✓	95. <u>A</u> Salt	<u>PEPPER</u> ✓
40. <u>E</u> Girl	<u>SOFT</u> ✓	96. <u>E</u> Street	<u>LAMP</u> ✓
41. <u>A</u> Night	<u>LOW</u> ✓	97. <u>D</u> King	<u>CROWN</u> ✓
43. <u>A</u> Sour	<u>SWEET</u> ✓	99. <u>E</u> Stomach	<u>PETAL</u> ✓

SD + SE = 149
 2 123 28
 244 11

139

162

Architectural Creativity Test



Myers Briggs Type Indicator (MBTI)

Source, Schaubhut,
Thompson MBTI type
tables for occupations,
Mountain View, CA
CCP, Inc. 2008

Personality Preferences are divided into four pairs, or dichotomies:

- **Extraversion-Introversion (E-I)** – where people focus their attention and how they get their energy
- **Sensing-Intuition (S-N)** – how people take in information
- **Thinking-Feeling (T-F)** – how people make decisions
- **Judging-Perceiving (J-P)** – how people deal with the external world

Myers-Briggs Profile Overview

Source, Schaubhut,
Thompson MBTI type tables
for occupations, Mountain
View, CA CCP, Inc. 2008

Sensing		Intuition		Introversion
ISTJ Practical, realistic, efficient, quite, thorough, orderly	ISFJ Conscientious, friendly, loyal, accurate, considerate	INFJ Sensitive, organized, decisive, insightful, empathetic, creative	INTJ Original, skeptical, independent, rational, detached	
ISTP Tolerant, flexible, analytical, objective, logical, pragmatic	ISFP Kind, trusting, observant, concrete, factual, gentle	INFP Curious, caring, idealistic, flexible, adaptable, accepting	INTP Objective, ingenious, curious, detached, contemplative	
ESTP Spontaneous, active, assertive, tolerant, straightforward	ESFP Friendly, flexible, specific, persuasive, realistic, optimistic	ENFP Enthusiastic, warm, imaginative, creative, cooperative, curious	ENTP Clever, conceptual, questioning, alert, outspoken, quick	
ESTJ Decisive, matter-of- fact, systematic, clear, forceful	ESFJ Sympathetic, helpful, personable, tactful, consistent, warm	ENFJ Compassionate, loyal, responsible, trustworthy, sociable	ENTJ Frank, logical, conceptual, assertive, innovative, direct	Extraversion

US Population

ISTJ Practical, realistic, efficient, quite, thorough, organized	ISFJ Conscientious, friendly, loyal, accurate, considerate
ISTP Tolerant, flexible, analytical, objective, logical, pragmatic	ISFP Kind, trusting, observant, concrete, factual, gentle

ESFJ Sympathetic, helpful, personable, tactful, consistent, warm
--

40%

11%

Sensing		Intuition		
ISTJ 11.6	ISFJ 13.8	INFJ 1.5	INTJ 2.1	Introversion
ISTP 5.4	ISFP 8.8	INFP 4.4	INTP 3.3	
ESTP 4.3	ESFP 8.5	ENFP 8.1	ENTP 3.2	Extraversion
ESTJ 8.7	ESFJ 12.3	ENFJ 2.5	ENTJ 1.8	

Range	Color
0-3	
3-6	
6-9	
9-12	
12+	

Myer-Briggs Group I Architects

INFJ Sensitive, organized, decisive, insightful, empathetic, creative	INTJ Original, skeptical, independent, rational, detached
INFP Curious, caring, idealistic, flexible, adaptable, accepting	INTP Objective, ingenious, curious, detached, contemplative

Range	Color
0-3	
3-6	
6-9	
9-12	
12+	

Sensing		Intuition		
ISTJ <i>0</i>	ISFJ <i>0</i>	INFJ <i>8</i>	INTJ <i>18</i>	Introversion
ISTP <i>0</i>	ISFP <i>0</i>	INFP <i>18</i>	INTP <i>23</i>	
ESTP <i>0</i>	ESFP <i>0</i>	ENFP <i>15</i>	ENTP <i>5</i>	Extroversion
ESTJ <i>0</i>	ESFJ <i>0</i>	ENFJ <i>10</i>	ENTJ <i>5</i>	

67%

Source: Institute of Personality and Social Research
University of California Berkeley

The NP Temperament at Work

- Looking towards the outside world for anything new
- Seeking new challenges
- Love creative freedom and independence
- Likes exploring new solutions
- Usually clear about what they don't want to do
- Messy and chaotic
- Wait so long they may miss deadlines

CONTROLLED WIERDNESS

Mark Runko

Academic Press, Second Edition

2014

Page 275

“...with originality and appropriateness both involved in creativity, and autonomy but discretion also involved, is probably what led Frank Barrow (one of our IPAR heroes), to suggest, **“dare to be a radical, but don’t be a damn fool.”** He also wrote about controlled weirdness (Barrow 1993). That label say it all! The person has to potential to be weird but controls it. They are imaginative, but also realistic. Carlsson (2002) used the term *controlled imagination*.”

Myer Briggs - Healthcare Architects (Counts)

Sensing		Intuition		
ISTJ 3	ISFJ	INFJ 2	INTJ 2	Introversion
ISTP 1	ISFP	INFP	INTP 1	
ESTP	ESFP	ENFP	ENTP 3	Extraversion
ESTJ	ESFJ 3	ENFJ	ENTJ	

The Big Five

Zilm & Atchley

“CREATIVITY IN
HEALTHCARE
DESIGN”

2017

Another measure of personality traits that was developed in the 1980's is the Big Five factor model (FFM). This is based on factor analysis of common language descriptors of personality. The five factors have been defined as:

- **Openness** - People who like to learn new things and enjoy new experiences usually score high in openness. Openness includes traits like being insightful and imaginative and having a wide variety of interests.
- **Conscientiousness** - People that have a high degree of conscientiousness are reliable and prompt. Traits include being organized, methodic, and thorough.
- **Extraversion** - Extraverts get their energy from interacting with others, while introverts get their energy from within themselves. Extraversion includes the traits of energetic, talkative, and assertive.
- **Agreeableness** - These individuals are friendly, cooperative, and compassionate. People with low agreeableness may be more distant. Traits include being kind, affectionate, and sympathetic.
- **Neuroticism** - Neuroticism is also sometimes called Emotional Stability. This dimension relates to one's emotional stability and degree of negative emotions. People that score high on neuroticism often experience emotional instability and negative emotions. Traits include being moody and tense.

The Big Five

Zilm & Atchley

“CREATIVITY IN HEALTHCARE DESIGN”

2017

- All of the designers were “intuitors” in the Myers Briggs and **they also scored high on the Big Five measure of “Openness,” averaging 43.7 out of a possible 50.** Among the characteristics of “Openness” are “Appreciation of art, emotion, adventure, unusual ideas, and curiosity.”
- **Managers and architects also scored high in this category, averaging 39.4 out of a possible 50,** but their scores were reliably lower than the designers.
- The sample of healthcare **project architects also scored high on the Big Five measure of “Agreeableness”** which is a measure of compassion and cooperativeness rather than suspicion and antagonism toward others.
- **This group scored very low on the Big Five measure of “Neuroticism,”** which is the tendency to easily experience unpleasant emotions such as anger, anxiety, depression and vulnerability. Out of a possible score of 40, the average was 18.7. This was a welcome outcome in our study, given that in the iPAR group the most talented architects showed a tendency towards combativeness and narcissism. **Clearly the architects in our sample that were identified as successful also had a positive outlook and stronger inter-personal skills.**

Remote Association Test

Zilm & Atchley

“CREATIVITY IN
HEALTHCARE
DESIGN”

2017

Our sample of healthcare architects found that, with a few exceptions, the group scored in the **mid-range** of overall score. The average score of 4.6 for the sample group was not statistically different than the typical score of 4.2 measured in a sample of this same age range (Atchley, Strayer, & Atchley, 2012). **This would indicate that architects are not exceptional at verbal/language creativity.**

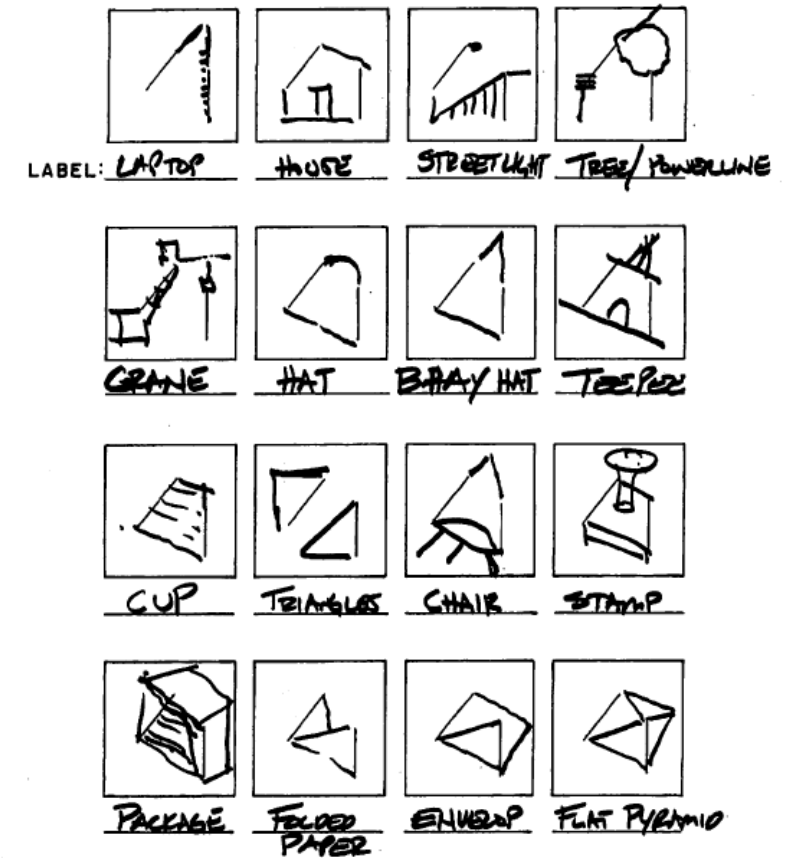
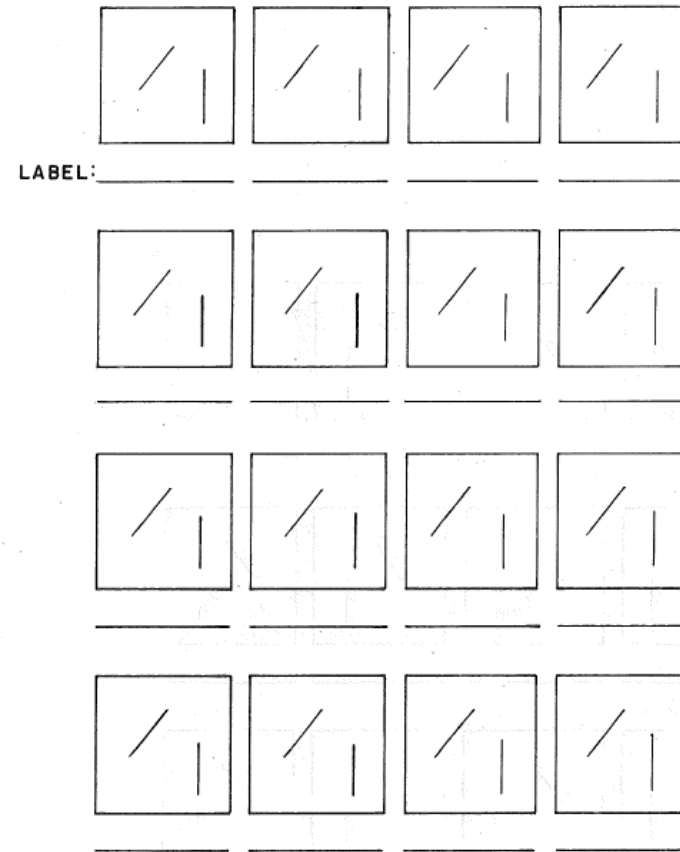
Robert Gardner would argue that verbal creativity is only one dimension of intelligence/creativity and that spatial intelligence is a different set of mental skills. Not surprisingly given peoples self-reported preferences and skills, our measure of visual-spatial creativity was a more informative measure for differentiating between our architects than was the verbal measure.

Architectural Creativity

Zilm & Atchley

"CREATIVITY IN
HEALTHCARE
DESIGN"

2017



Architectural Creativity

Zilm & Atchley

“CREATIVITY IN
HEALTHCARE
DESIGN”

2017

- In our sample group of 22 architects, the average number of items created was 21, with the unique items average 11.
- Designers and project managers created significantly more items, and unique items, than project architects. However, covariance statistical analyses suggest that this group difference may be a reflection of the age difference of project architects. The average years in practice for project architects was 5.5. The average age for project managers and designers was 22. ***This reinforces the argument that design is an eclectic skill requiring an experiential knowledge base.***

Creativity Crisis

Kyung Hee Kim (2011): The Creativity Crisis: The Decrease in Creative Thinking Scores on the Torrance Tests of Creative Thinking, *Creativity Research Journal*, 23:4, 285-295

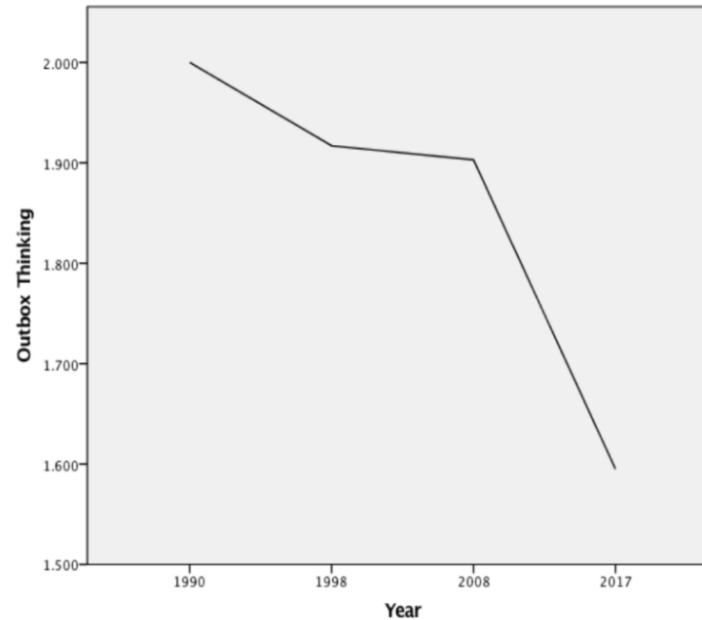


Figure 1. Changes in Outbox Thinking

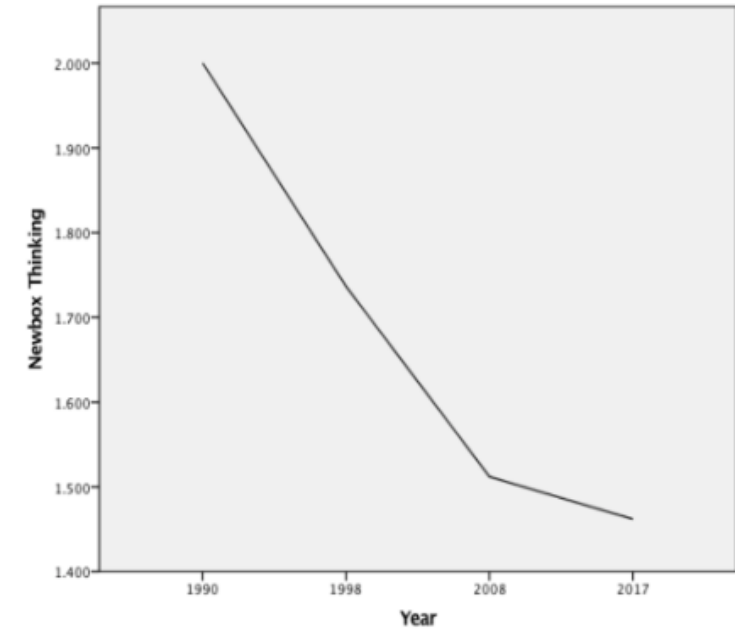


Figure 2. Changes in Newbox Thinking

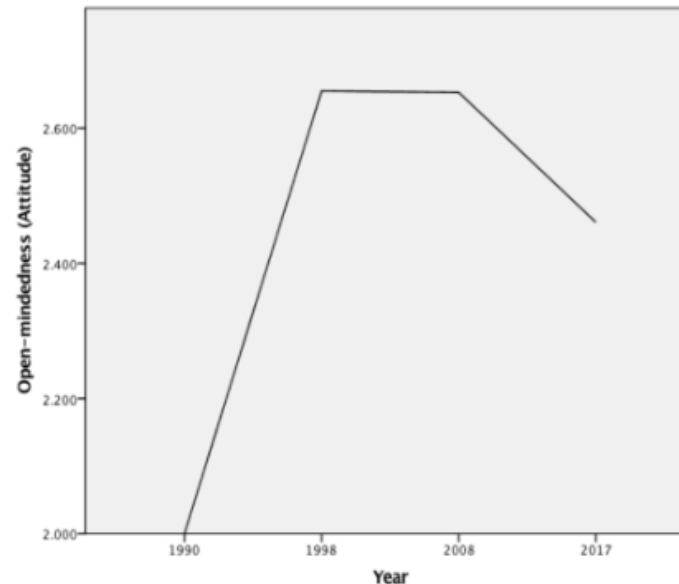
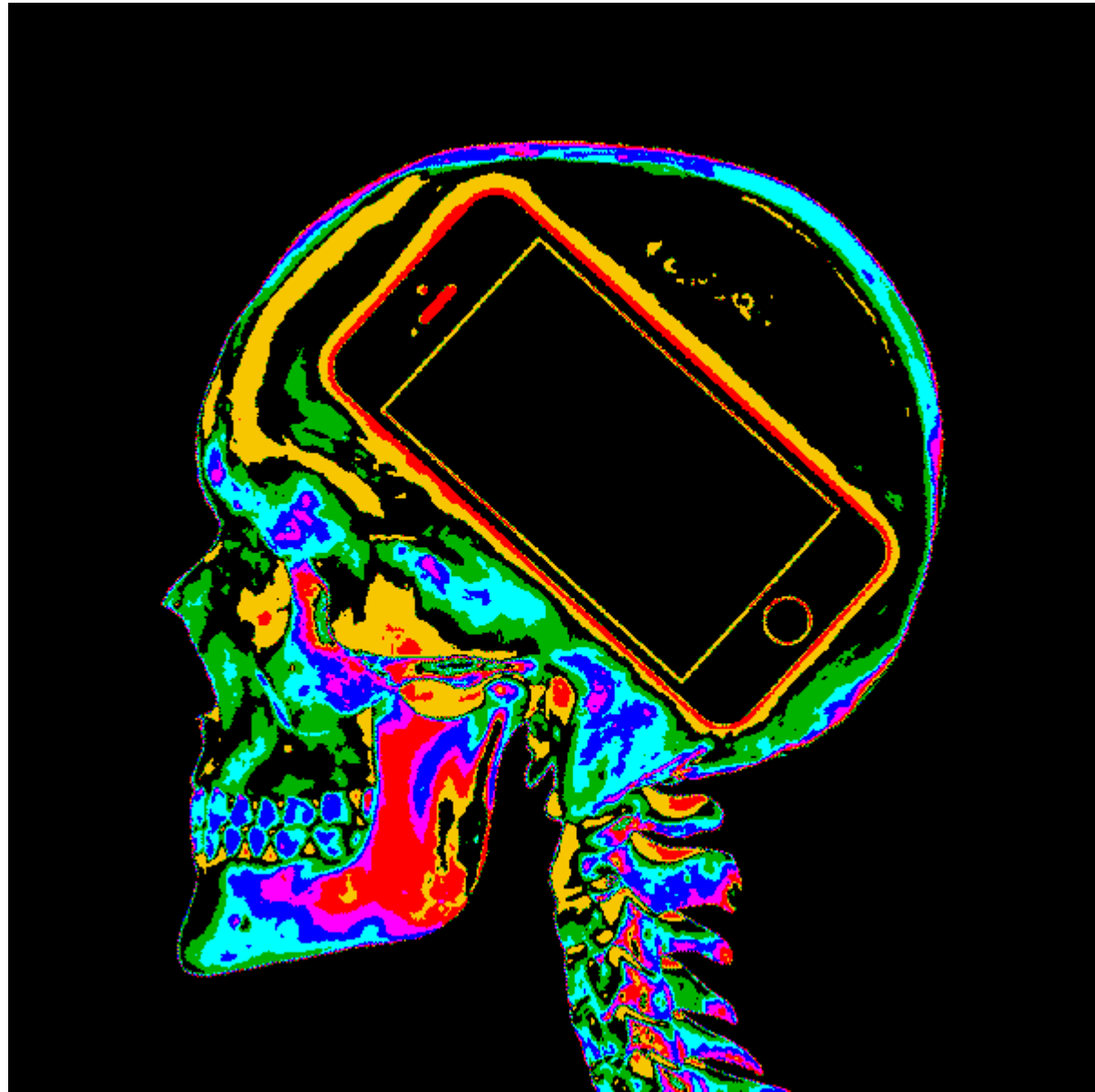


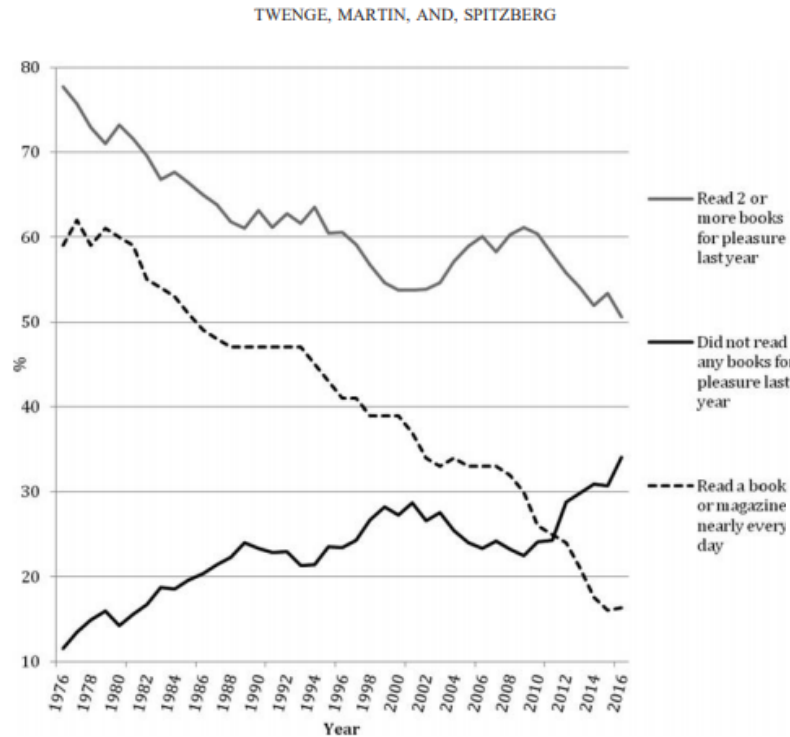
Figure 3. Changes in Creative Attitude

“The significant declines in outbox thinking skills (fluid and original thinking) indicate that Americans generate not only fewer ideas or solutions to open-ended questions or challenges, but also fewer unusual or unique ideas than those in preceding decades (Figure 1).”
Web post April, 2017

Technological Distractors



iGen
Jean M.
Twenge, PhD
Atria Books
2017



SAT scores have slid since the mod-2000's, especially in writing (a 13 point decline since 2006) a critical reading (a 13 point decline since 2005)

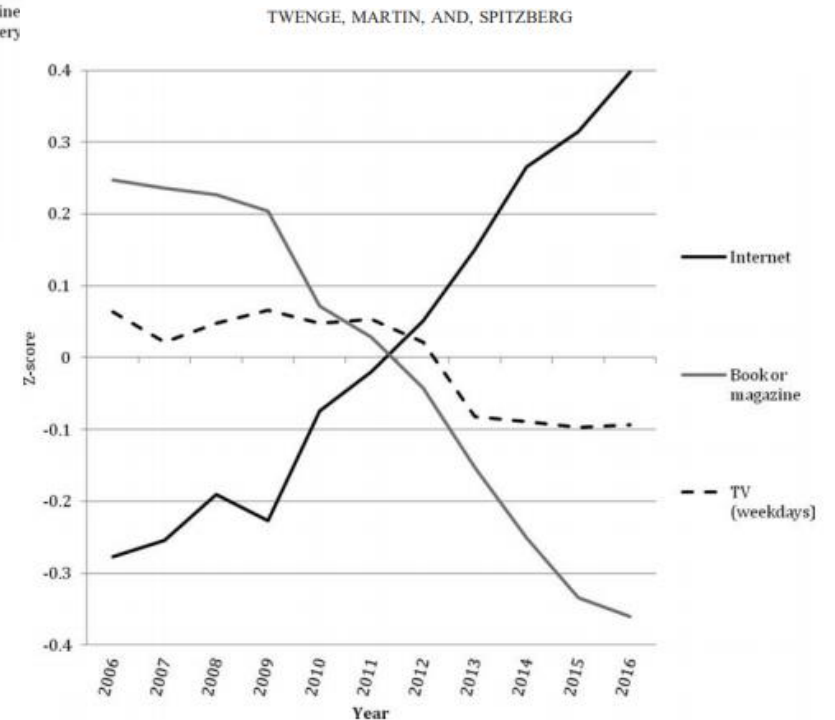
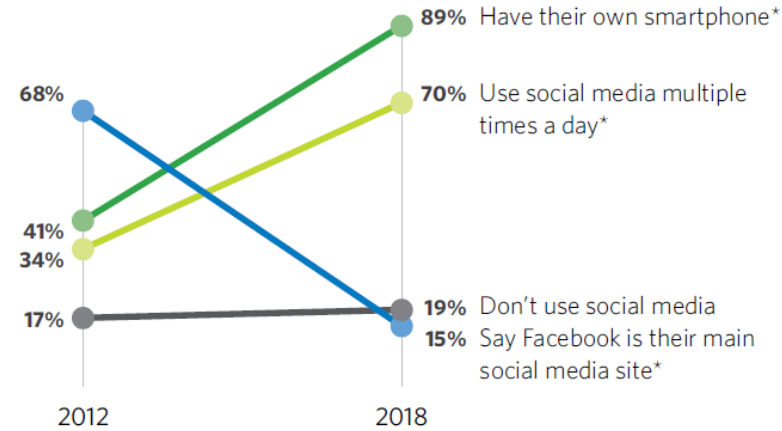


Figure 11. Internet use, book or magazine reading, and TV viewing on weekdays (Z-scored), 12th graders, 2006–2016.

2018 Social Media, Social Life: Teens Reveal Their Experiences Common Sense Media, Inc.

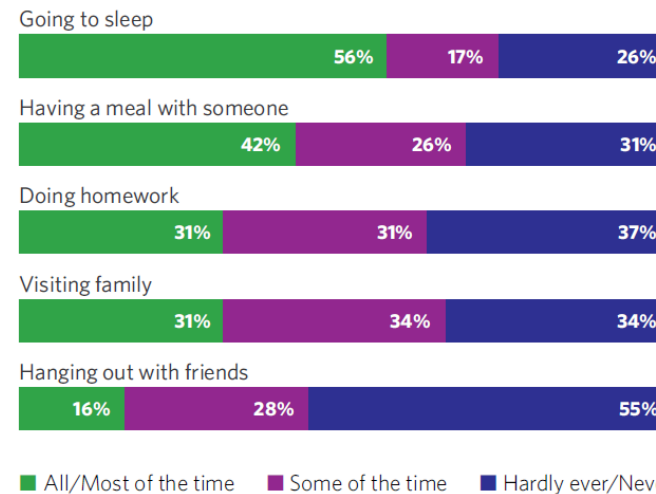
Percent of 13- to 17-year-olds who:



*Differences over time are statistically significant at $p < .05$.

FIGURE G. Silencing Digital Devices, 2018

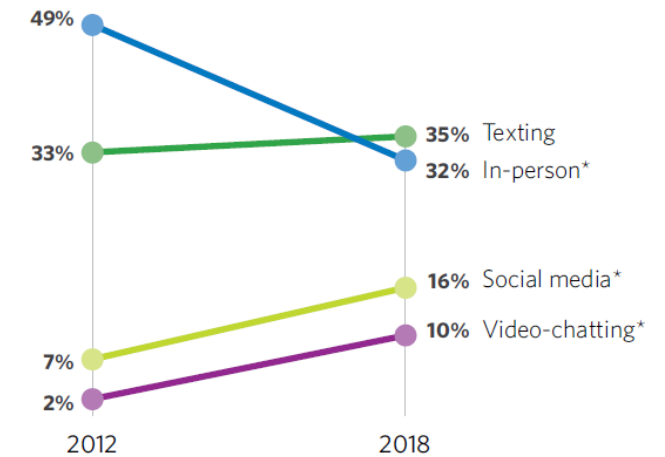
Among 13- to 17-year-olds with a cellphone, percent who say they turn off, silence, or put away their phones when:



Note: Segments may not add to 100 percent due to rounding.

FIGURE F. Preferred Method of Communication, 2012 vs. 2018

Among 13- to 17-year-olds, percent who say the following is their favorite way to communicate with friends:



*Differences over time are statistically significant at $p < .05$.



57%

of all teens agree that using social media often distracts them when they should be doing homework.



54%

of teen social media users agree that it often distracts them when they should be paying attention to the people they're with, compared to 44% in 2012.

Reclaiming Conversation

Sherry Turkle

Penguin Books,
2016

“Studies show that the mere presence of a phone on the table (even a phone turned off) changes what people talk about...And conversations with phone on the landscape block empathetic connections.

So it is not surprising that in the past twenty years we've seen a 40 percent decline in the markers for empathy among college students, most of it within the past ten years.

Research shows that those who use social media the most have difficulty reading human emotions, including their own.

We have convinced ourselves that surfing the web is the same as daydreaming. That it provides the same space for self-reflection. It doesn't.

Scientific
American,
Sept. 11, 2018
By Elena Pasquinelli

When individuals try to do two or more things at once that require their attention, their performance suffers. **Moreover, in 2013 Stéphane Amato, then at Aix-Marseille University in France, and his colleagues showed that surfing Web pages makes people susceptible to a form of cognitive bias known as the primacy effect: they weight the first few pieces of information they see more heavily than the rest.**

Training does not improve the ability to multitask. In 2009 Eyal Ophir, then at Stanford University, and his colleagues discovered that **multitasking on the Internet paradoxically makes users less effective at switching from one task to another.** They are less able to allocate their attention and are too vulnerable to distractions.

The Guardian
Saturday,
August 25,
2018

Skim reading is the new normal. The effect on society is profound

Maryanne Wolf

When the reading brain skims texts, we don't have time to grasp complexity, to understand another's feelings or to perceive beauty. We need a new literacy for the digital age

Sat 25 Aug 2018 09:41 EDT



Skim Reading is the New Norm.. Maryanne Wolf

“My research depicts now the present reading brain enables the development of some of our most important intellectual and affective processes: internalized knowledge, analogical reasoning, and inference; perspective-taking and empathy; critical analysis and the generation of insight. **Research surfacing in many parts of the world now cautions that each of these essential “deep reading” processes may be under threat as we move into digital-based modes of reading.”**

“If the dominant medium advantages processes that are fast, multi-task oriented and well-suited for large volumes of information, like the current digital medium, so will the reading circuits. As UCLA psychologist Patricia Greenfield writes, the result is that less attention and time will be allocated to slower, time-demanding deep reading processes, like inference, critical analysis and empathy, all of which are indispensable to learn at any age.”

Skim Reading is the New Norm.. Maryanne Wolf

“Multiple studies show that digital screen use may be causing a variety of troubling downstream effects in reading comprehension in older high school and college students...

Ziming Liu from San Jose State University has conducted a series of studies which indicate that the “new norm” in reading is *skimming*, with word-spotting and browsing through the text... **When the reading brain skims like this, it reduces time allocated to deep reading processes. In other words, we don't have time to grasp complexity, to understand another's feelings, to perceive beauty, and to create thoughts of the readers own.**

Wired to Create

Scott Barry Kauffman
and Carolyn Gregoire

Penguin Random
House, New York
2016

While expertise is an important aspect of excellence in any creative discipline. One risk of being a seasoned pro is that we become so entrenched in our own point of view that we have trouble seeing other solutions. Experts may have trouble being flexible and adapting to change because they are so highly accustomed to seeing things in a particular way. For this reason, the newcomers to a field are sometimes the ones who come up with the ideas that truly innovate and shift paradigms.

MRI studies have shown similar brain changes in the compulsive Internet users and drug addicts, and a 2011 study showed similar withdrawal effects among students who could not use technology for twenty-four hours and smokers and drug addicts quitting cold turkey.

Homo Prospectus

Martin Seligman
Peter Railton
Roy Baumeister
Chandra Sripada

2016
Oxford Press

Page 197

“Finding creative solutions required brute force, iterative generation, and testing of innumerable combinations of ideas until a suitable solution is found.”

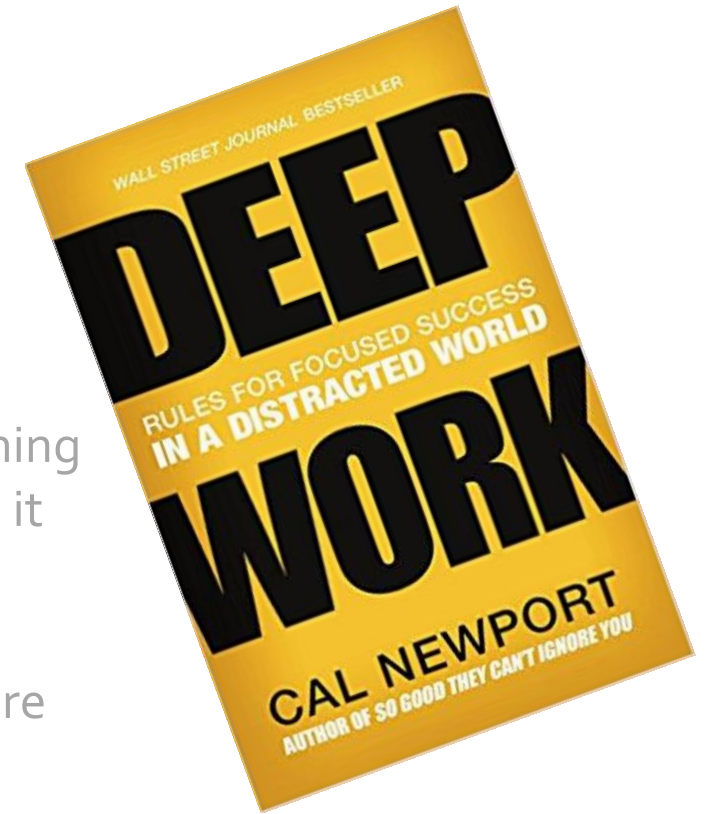
Deep Work

Cal Newport

Grand Central
Publishing, New
York

Deep Work – Professional activities performed in a state of distraction-free concentration that push your cognitive capabilities to their limit.

The Deep Work Hypothesis –
The ability to perform deep work is becoming increasingly rare at exactly the same time it is becoming increasingly valuable in our economy. As a consequence, the few who cultivate this skill, and then make it the core of their working life, will thrive.



The reason knowledge workers are losing their familiarity with deep work is well established: network tools.

A 2012 McKinsey study found that the average knowledge worker now spends more than 60 percent of the workweek engaged in electronic communications and Internet searching, with close to 30 percent of a worker's time dedicated to reading and answering e-mail alone.

Wired to Create

Scott Barry Kauffman
and Carolyn Gregoire

Penguin Random
House, New York
2016

Research has shown that creative people frequently require solitude in order to generate interesting new ideas, and then turn to collaboration to spin those ideas into a coherent concept or product....

It is during these moments of inner reflection that the executive attention network pulls away from the dorsal attention network and communicates with the imagination network. According to Kounios and Beeman, the brain area in the right hemisphere “facilitates integration of information across distant lexical or semantic relations, allowing solvers to see connections that had previously eluded them.”...the left anterior temporal lobe can sometimes get in the way of insight.

Openness to experience, one of the “Big Five” personality traits, is absolutely essential to creativity. Those who are high in openness tend to be imaginative, curious, perceptive, creative, artistic, thoughtful, and intellectual.

Scientific
American,
Sept. 11, 2018
By Elena Pasquinelli

The good news is that you do not need to rewire your brain to preserve your attention span. **You can help yourself by thinking about what distracts you most and by developing strategies to immunize yourself against those distractions. And you will need to exercise some self-control.** Can't resist Facebook notifications? Turn them off while you're working. Tempted to play a little video game? Don't leave your device where you can see it or within easy reach. Exercising our cognitive capacities is important to combating another modern hazard: the proliferation of fake news on social networks. In the same way that digital devices accentuate our tendency to become distracted, fake news exploits our natural inclination to believe what suits us.

The Lean “Methodists”



Wired to Create

Scott Barry Kauffman
and Carolyn Gregoire

Penguin Random
House, New York
2016

Asch's experiment showed that it's not uncommon for most people to follow the majority even if it means abandoning what they know to be true and even changing their judgments to fit with the group....Gregory Berns have found that the human brain is willing to disregard his own visual input in favor of the opinions of others.

“How to Kill
Creativity,” Teresa
Amabile, Harvard
Business Review,
September-
October 1998

“Organizations routinely kill creativity with fake deadlines or impossibly tight ones.

Managers who do not allow time for exploration or do not schedule in incubation periods are unwittingly standing in the way of the creative process.”

Elastic – Flexible Thinking in a Time of Change

Leonard Mlodinow

Pantheon Book,
New York, 2018

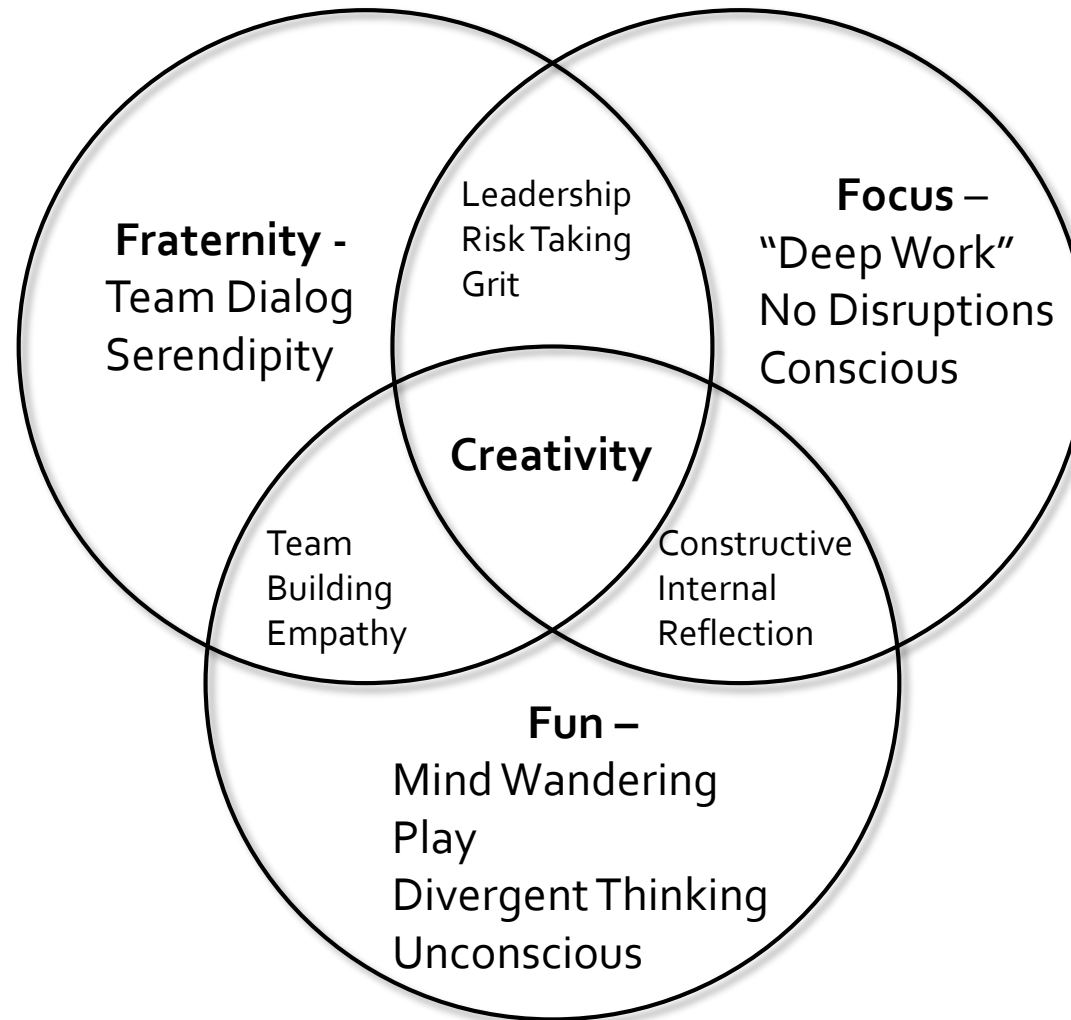
When attacking a tough problem, impatience to make progress can lead one to a suboptimal solution while blocking your ability to find a better one. (146)

Being able to think without any kind of time pressure is also beneficial for generating insight, because if you have to start on something else soon, your awareness of that can pull your mind back to the external world and block an unconscious idea from popping into your consciousness. Perhaps most important, if you are striving for insight, interruptions are deadly. A short phone call, email, or text message can redirect your attention and thoughts, and once you are there, it can take a long while to get back. (149)

Frozen thinking occurs when you have a fixed orientation that determines the way you frame or approach a problem.

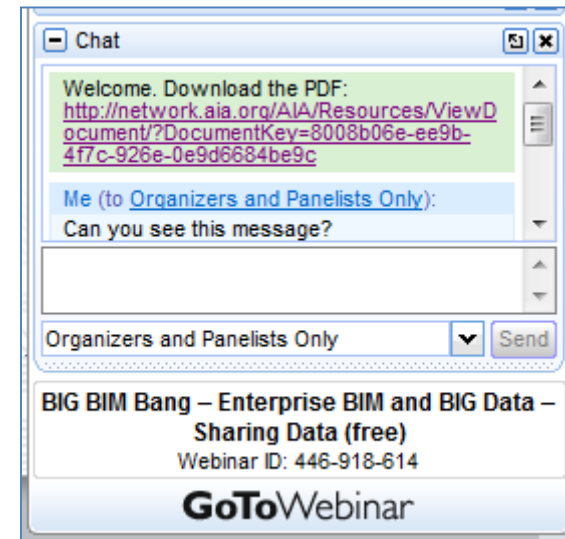
Creative Thinking

Frank's theory



Upcoming Break for Questions and Comments

Submit a question to the moderator via the chat box.



Implications for Healthcare Architects

- We have strong creative capabilities for designing complex healthcare projects. We are good team players.
- Innovation and creativity require exploring outside the industry norms and a willingness to take risks.
- “Evidence base” research can serve as a springboard for exploring innovation and for communications with clients.
- We must either protect the project process for time to reflect on new ideas or we must independently undertake research which encourages reflective/lateral thinking.
- We need to take control of the technological distractors that can block creative, divergent, thinking

“What are the Characteristics of a Creative Personality”

Donald W.
MacKinnon

- Creative persons are intelligent and often highly so, yet within a given field of creative endeavor, it is not true that the more intelligent person is necessarily the more creative one.
- Both convergent and divergent thinking are involved in all creative thought ...convergent (analysis and reasoning) thinking playing a greater role in science, divergent(richness and novelty) thinking being more crucial in the arts.
- Although independent in thought and action, the creative person does not make a show of his independence
- He set his own goals.
- The creative person is curious about life and zestfully committed to it.
- **Central to these traits of personality that are so crucial is courage.**

The Creative Architect

Pierluigi
Serraino, AIA

2016
The Monacelli Press

pages 239

- personal courage to question what is generally accepted;
- the courage to be destructive in order that something better can be constructed,
- the courage to think thoughts unlike any one else's,
- the courage to be open to experience both from within and from without,
- the courage to follow one's intuition rather than logic,
- the courage to imagine the impossible and try to achieve it,
- the courage to stand aside from the collectivity and in conflict with it if necessary,
- the courage to be and to be oneself.

M.D. Anderson Cancer Center

“MAKE NO LITTLE PLANS;
they have no magic to stir men's blood
and probably themselves will not be realized.

Make big plans;
aim high in hope and work,
remembering that a noble, logical diagram
once recorded will never die,
but long after we are gone will be a living thing
asserting itself with ever-growing intensity.”

Daniel H. Burnham
Distinguished Architect, 1846 - 1912

Time for Questions and Comments



Moderator
John Kreidich
AIA, CHC, LEED AP

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Upcoming Webinars*

Date	Series	Topic
12/04	HC 101Series	Design and Implementation of Secure Exam Rooms in Emergency Departments
02/12	Beyond the Basics Series	Holding Ourselves to Higher Standards: Healthy Materials Every Time
03/12	HC 101Series	From Ancillary to Essential: "Technology's New Role In Healthcare Design, Operations".

*Dates and topics are subject to change

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