



CHAPT. 01:

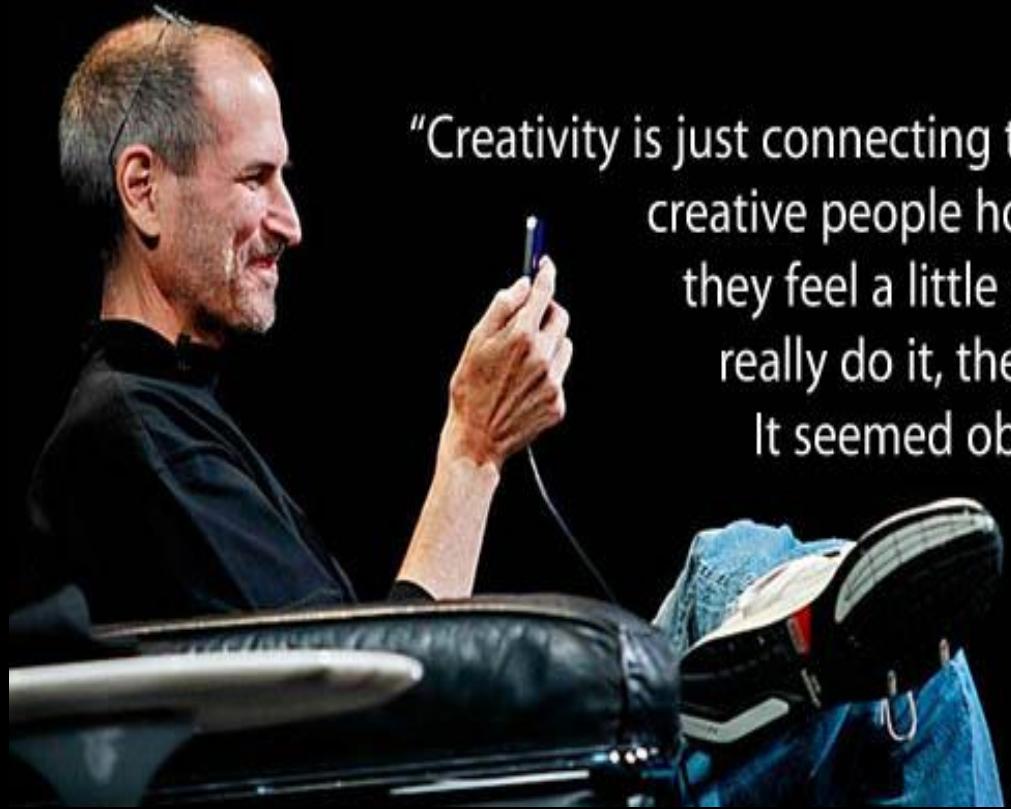
INTRODUCTION TO CREATIVITY AND INNOVATION

Activity



30 circles challenge





"Creativity is just connecting things. When you ask creative people how they did something, they feel a little guilty because they didn't really do it, they just saw something. It seemed obvious to them after a while."

Creativity Make The World Much More Interesting!



Longaberger Company
in Newark, Ohio (USA)



The Dubai Frame



Greenwich Automated
Transport Environment project
(or GATEway)



seen on
www.boredpanda.com



seen on
www.boredpanda.com





Creativity Make The World Much More Interesting!



A photograph of several colorful candles (blue, green, red, orange, pink, yellow) arranged on a rustic blue wooden surface. The candles are lit, with visible flames and melted wax. Overlaid on the image is a quote in white, hand-drawn style font.

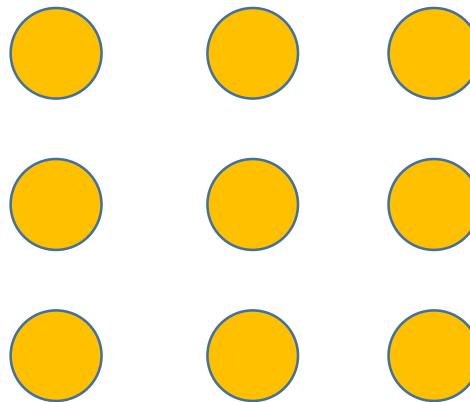
CREATIVE
isn't the way
I think.
it's the way
I like to
LIVE.

PAUL SANDIP



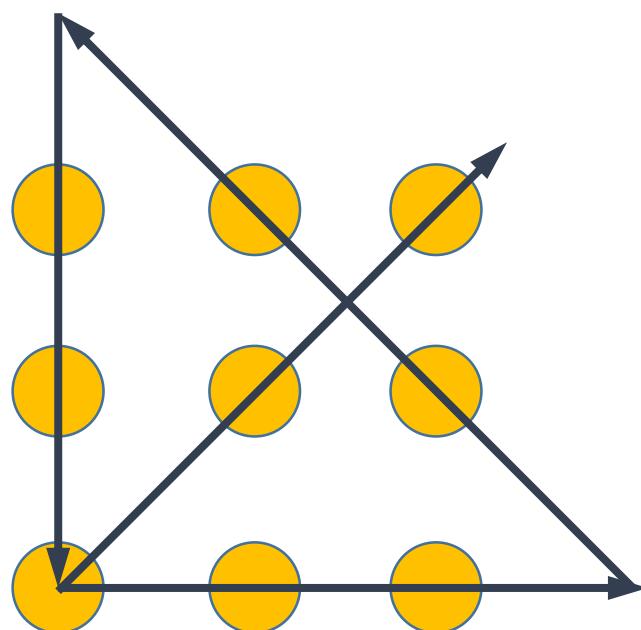
ACTIVITY

- Using only 4 strokes and without lifting your pen, connect all dots.



SOLUTION

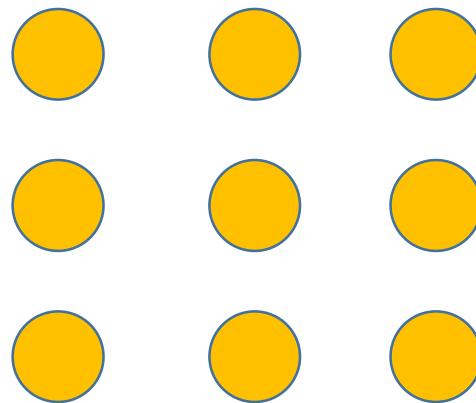
- Using only 4 strokes and without lifting your pen, connect all dots.



THINKING
OUTSIDE
THE BOX

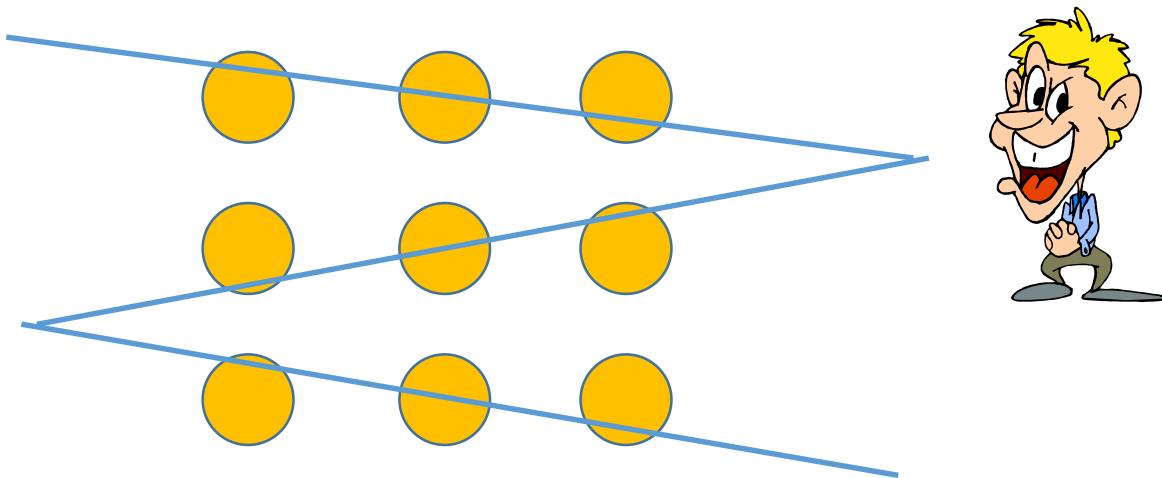
ACTIVITY

- But, can you do it with 3 strokes?



SOLUTION

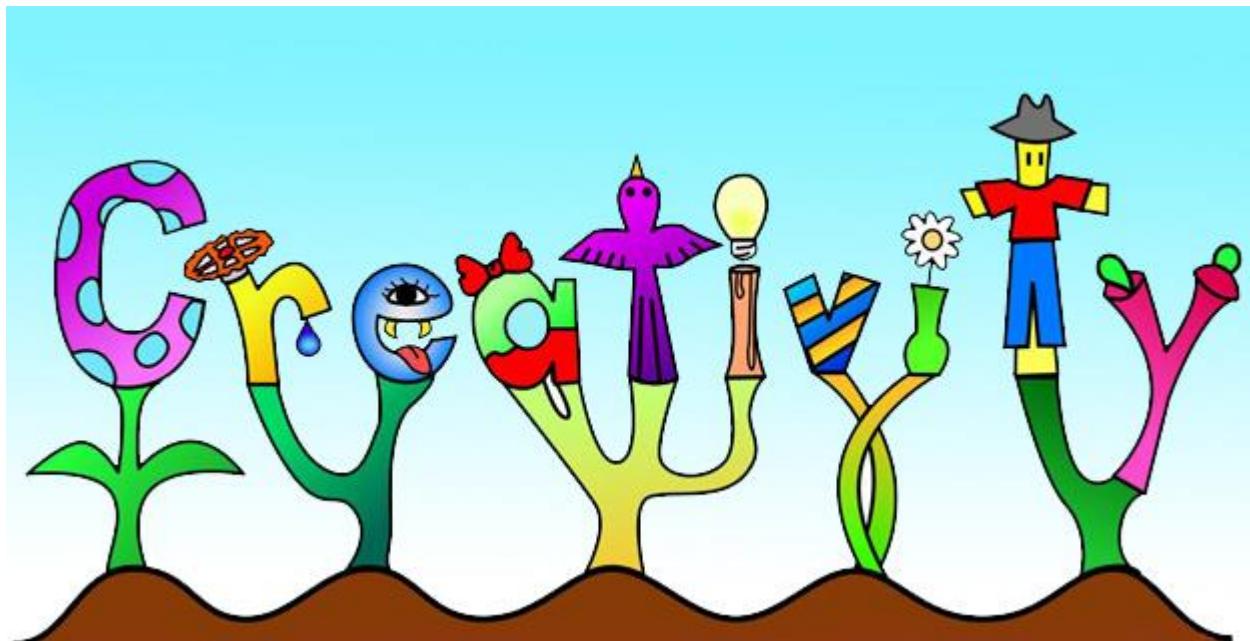
- Bet you haven't thought of this...



WHAT IS CREATIVITY?

In 5 minutes, write down what you think of...

- Creativity: _____
- Innovation: _____
- Why the need of both? _____



WORDS TO DESCRIBE CREATIVITY

creativity children
society individual alternatives
any teachers important opportunities
new become always
intelligence infants mind generate
mother outside question together
need something beyond family other
same makes
trying all problems more curious
sense anything love making objects one
only thought within feel good many
others life theory creating use able seems
work power certain ways order brain
child want children's great see world
value right find parents make idea time
process ability having way imagine
everyday never perspective object create
art different school think made music
thinking things expression being
looking interesting people ideas
imagination experiences recognize
experiences energy

WHAT IS CREATIVITY?

The creation of something that is both novel and useful.

- Teresa Amabile and Pratt (2016)

CREATIVE PEOPLE
DO NOT
SEE THINGS
FOR WHAT THEY ARE
*THEY SEE THEM *
FOR what they
CAN BE

THE “FOUR P’s APPROACH

- Described by Mel Rhodes (1961)



PERSON – how people are creative; how creative someone is; the characteristic associated with creative people



PRODUCT – the artifact of creativity; what is a creative product; what makes something creative; how can you tell if something is creative

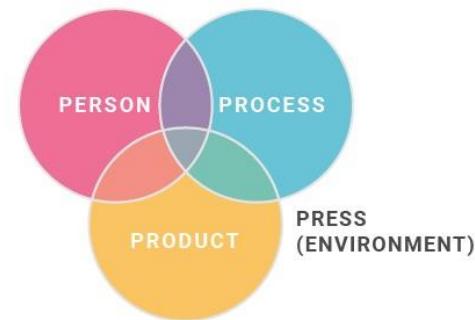


PROCESS – how people create or can use and apply their creativity (the key focus of this programmed)



PRESS – the environment in which creativity flourishes or is blooming

The “Four P’s” of Creativity:



THE “FOUR P’s APPROACH (cont..)

Person

- information about personality, intellect, temperament, physique, traits, habits, attitudes, self-concept, value systems, defense mechanisms, and behavior.
- People with higher intelligence show a higher talent for creativity, and examines whether creativity is somehow a potential.
- Creative person is sensitive to problems, has mental flexibility, thinks divergently, is able to redefine existing objects and concepts, and has a complex temperament.

Product

- what is created when an idea becomes embodied in tangible form.
- If a product were examined and traced back to the moment of inspiration, it might be possible to trace the thoughts and events leading to the idea.

THE “FOUR P’s APPROACH (cont..)

Process

- applies to motivation, perception, learning, thinking, and communicating.
- creative thinking process has 4 stages: preparation, incubation, illumination, and verification
- Rhodes stated that creative process can be taught

Press

- the relationship between human beings and their environment.
- everyone perceives the environment surrounding him/her in a unique way and this ultimately reflects on the way in which he/she forms ideas and behavior
- creative production is the result when someone demonstrates what his/her upbringing has imposed on him/her.

CREATIVE

- Everyone can be creative but some tend to use it more than others
- Generally, people tend to get less creative when they grew up....why???



You can't use
up CREATIVITY.
The more you
use, the more
you have.

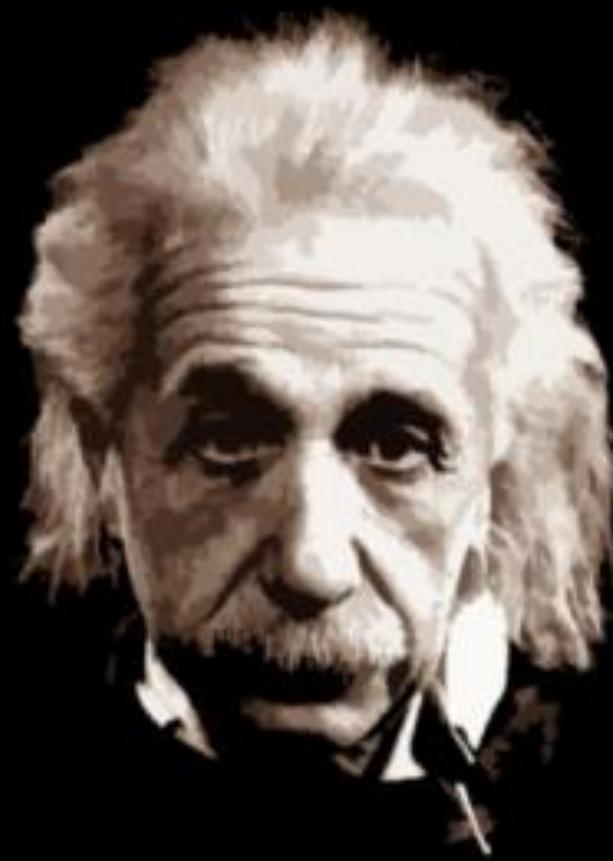
MAYA ANGELOU



“Imagination is more
important than knowledge.

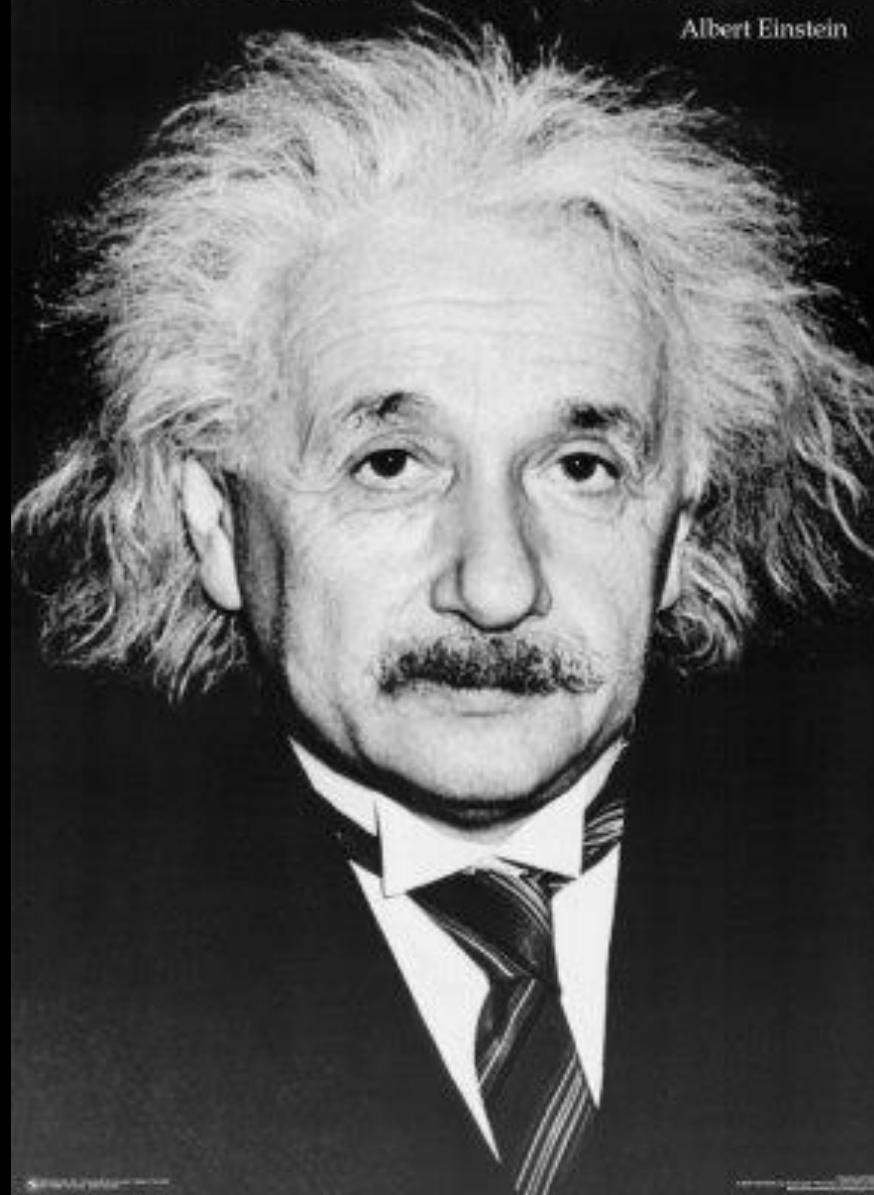
Knowledge is limited.
Imagination encircles the
world.”

-Albert Einstein



I have no special talents.
I am only passionately curious.

Albert Einstein



ACTIVITY

- In the following lines of letters, cancel out six letters so that the remaining letters without altering their sequence spell a familiar words

BSAINXLEATNTEARS

Solution

- In the following lines of letters, cancel out **six letters** so that the remaining letters without altering their sequence spell a familiar words



**B
S
A
I
N
X
L
E
A
T
N
T
E
A
R
S**

Look at the chart and say the **COLOUR** not the word

YELLOW **BLUE** **ORANGE**

BLACK **RED** **GREEN**

PURPLE **YELLOW** **RED**

ORANGE **GREEN** **BLACK**

BLUE **RED** **PURPLE**

GREEN **BLUE** **ORANGE**

Left – Right Conflict

Your right brain tries to say the colour but
your left brain insists on reading the word.

Cool and Creative Products



IT IS HALF TEN
QUARTER TWENTY
FIVE MINUTES TO
PAST ONE THREE
TWO FOUR FIVE
SIX SEVEN EIGHT
NINE TEN ELEVEN
TWELVE O'CLOCK

7 Qualities Of Highly Creative People

<https://www.businessinsider.com/7-characteristics-of-creative-people-2013-4?ir=t>

Associative orientation:

- Imaginative, playful, have a wealth of ideas, ability to be committed, sliding transitions between fact and fiction.

Need for originality:

- Resists rules and conventions. Have a rebellious attitude because of a need to do things no one else does.

Motivation:

- Have a need to perform, goal oriented, innovative attitude, stamina to tackle difficult issues.

Ambition:

- Have a need to be influential, attract attention and recognition.

Flexibility:

- Have the ability to see different aspects of issues and come up with optimal solutions.

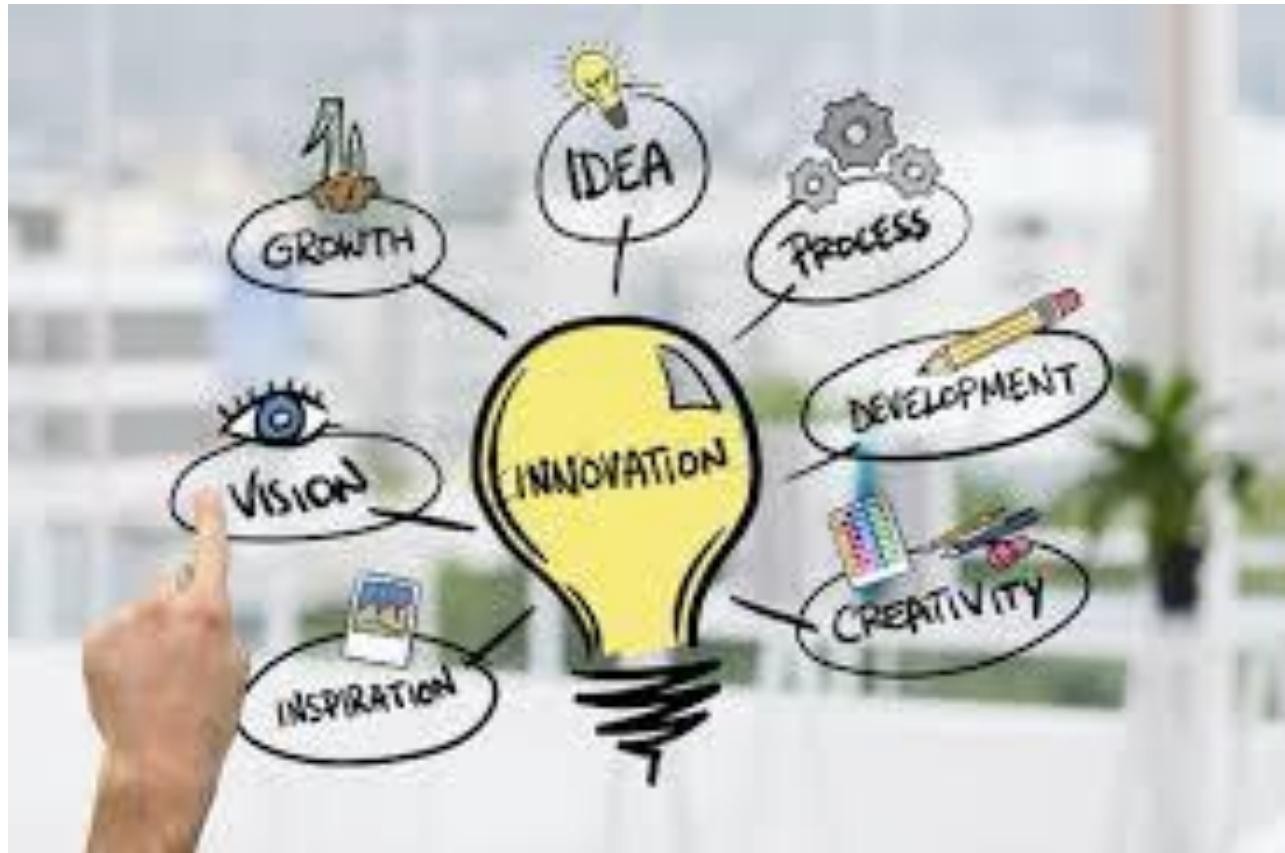
Low emotional stability:

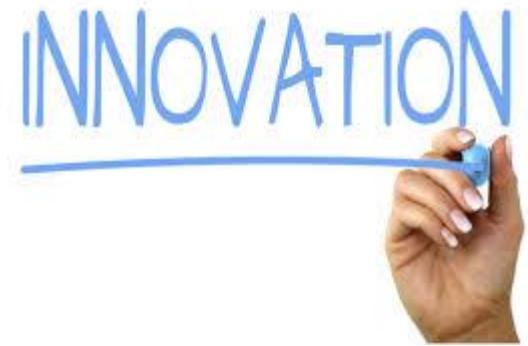
- Have a tendency to experience negative emotions, greater fluctuations in moods and emotional state, failing self-confidence.

Low sociability:

- Have a tendency not to be very considerate, are obstinate and find faults and flaws in ideas and people.

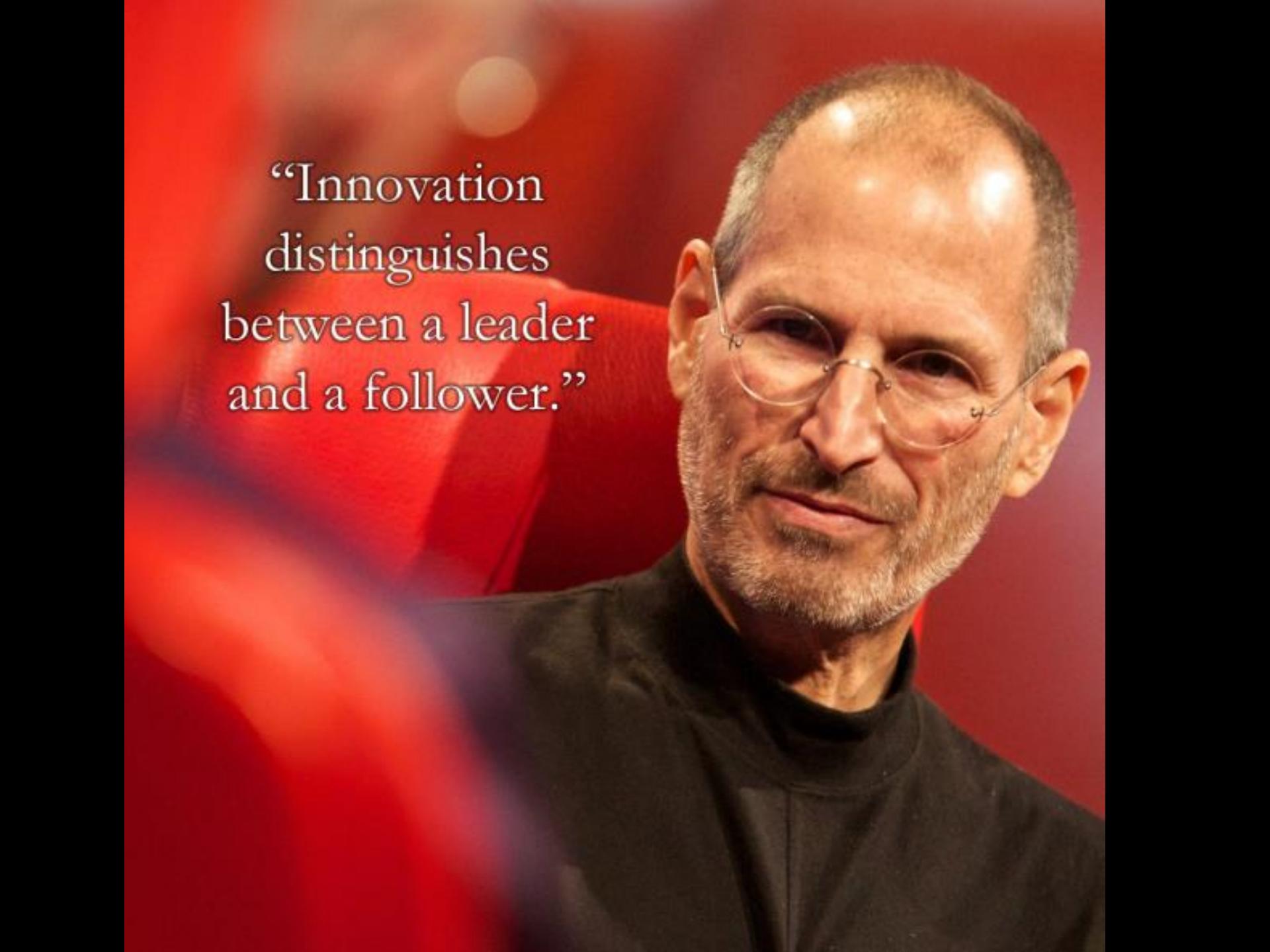
What is innovation?





What is innovation?

- the process and outcome of creating something new, which is also of value.
- involves the **whole process** from opportunity identification, ideation or invention to development, prototyping, production marketing and sales, while entrepreneurship only needs to involve commercialization

A portrait of Steve Jobs, co-founder of Apple. He is shown from the chest up, wearing his signature round-rimmed glasses and a dark grey turtleneck sweater. He has short, light-colored hair and a beard. The background is a warm, blurred red and orange gradient.

“Innovation
distinguishes
between a leader
and a follower.”

What is innovation?

Involve the **capacity to quickly adapt** by adopting new innovations (products, processes, strategies, organization, etc)

Traditionally the focus has been on new products or processes, but recently new **business models** have come into focus, i.e. the way a firm delivers value and secures profits.



What is innovation?

- Schumpeter argued that innovation comes about through new combinations made by an entrepreneur, resulting in
 - **a new product,**
 - **a new process,**
 - **opening of new market,**
 - **new way of organizing the business**
 - **new sources of supply**

Dimensions of innovation

There are several types of innovation

- Process, product/service, strategy,

which can vary in degree of newness:

- Incremental to radical,
 - **Incremental:** is an improvement in an existing thing (e.g. product, process or service).
 - **Radical:** is finding an entirely new way of doing something. Amazon is an example of a radical innovation, having entered the virtual space completely by leveraging emerging technologies to create an entirely new business model.

and impact:

- continuous to discontinuous
 - **Continuous:** existing product undergoes marginal changes, without altering customer habits. For instance, a shampoo which is different from existing products only in its brand name, fragrance, color, packaging is also a new product, though it is a continuous innovation.
 - **Discontinuous:** causes a drastic change in customers' existing habits since they comprise new-to-the-world products only. For instance, mobile phone technology and the Internet drastically changed the way people communicate.

Drivers for innovation



What is innovation?

Business people needs to conduct
radical business innovation:

- Radically reconceiving products and services, not just developing new products and services
- Redefining market space
- Redrawing industry boundaries

New conditions for innovation

Small start-up entrepreneurs increasingly depend on large firms:

- as suppliers or customers
- for venture finance,
- for exit opportunities,
- for knowledge (production, markets and R&D)
- and for opening new markets.

New conditions for innovation

Large firms increasingly depend on small start-ups

- for new product development,
- as suppliers of new knowledge (which they cannot develop themselves),
- or organizational renewal, for experimentation with business models,
- for opening new markets, etc

New developments in innovation raises new issues and problems

Greater emphasis on **commercializing scientific discoveries**, particularly in IT and the bio-sciences

Speed and potential value of scientific progress leads to emphasis on **solid and well-designed portfolios of research projects**

Universities as **active** drivers of innovation: Academic entrepreneurship and the entrepreneurial university

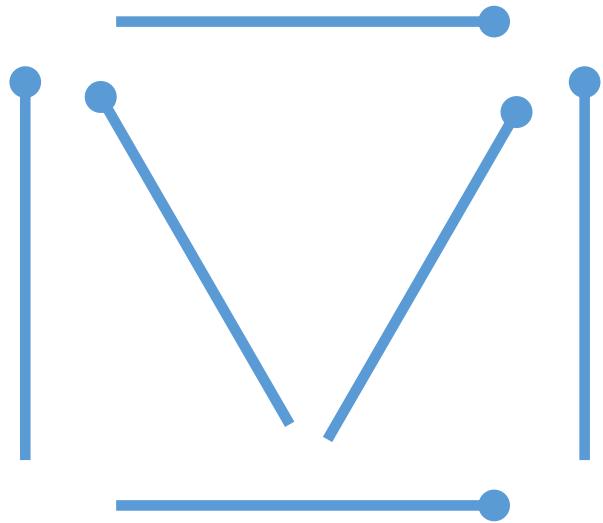
University-industry partnerships

Increased search for **radical innovation** and top-line growth.

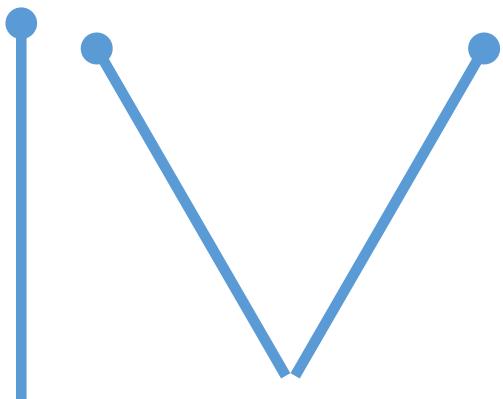
ACTIVITY

- SOLVE THIS

Remove three sticks to leave four



- SOLUTION



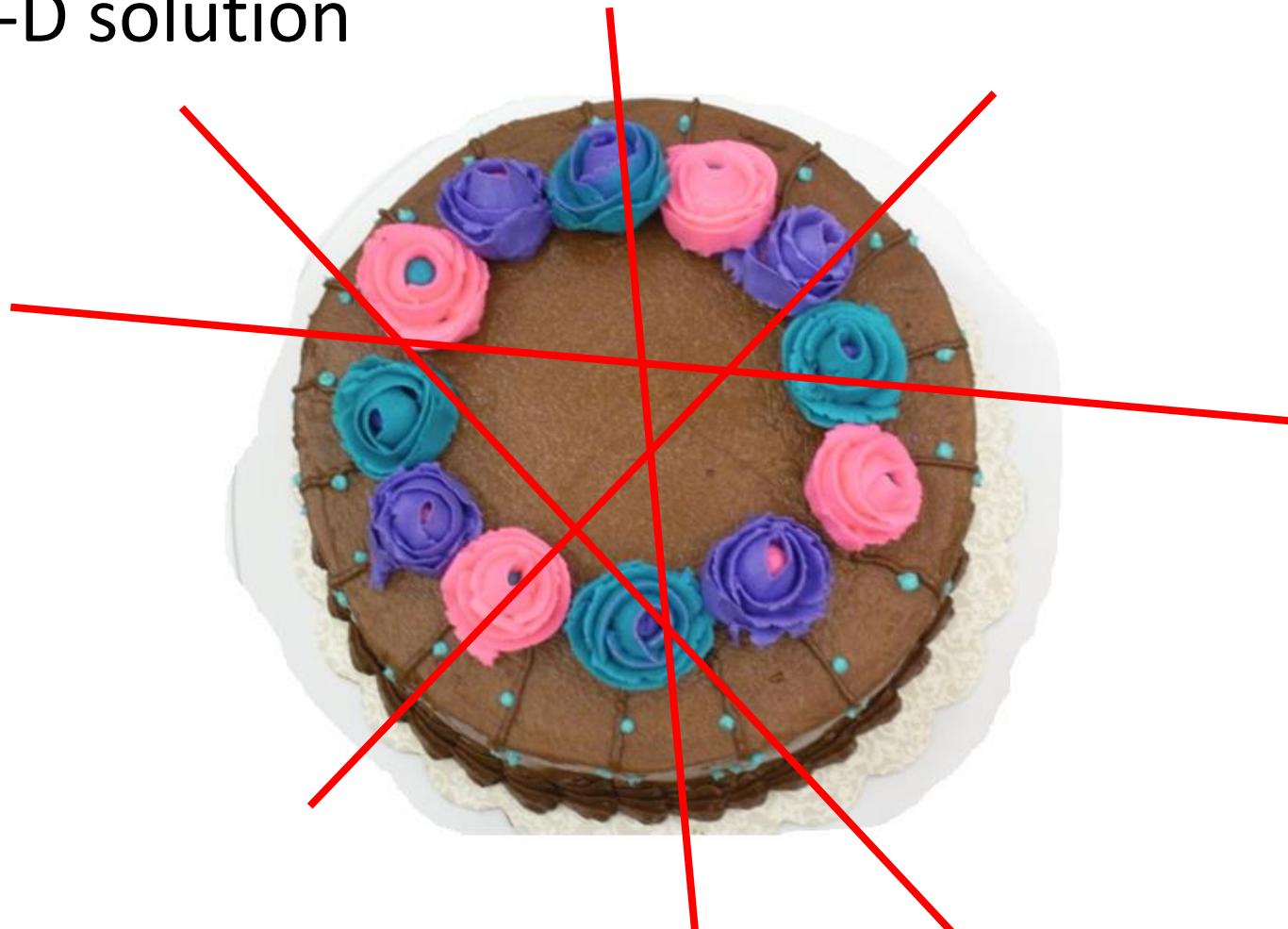
CUT THIS CAKE

- Divide the cake below into as many pieces as you can by making four straight cuts with a long knife



CUT THIS CAKE

- 2-D solution



CUT THIS CAKE

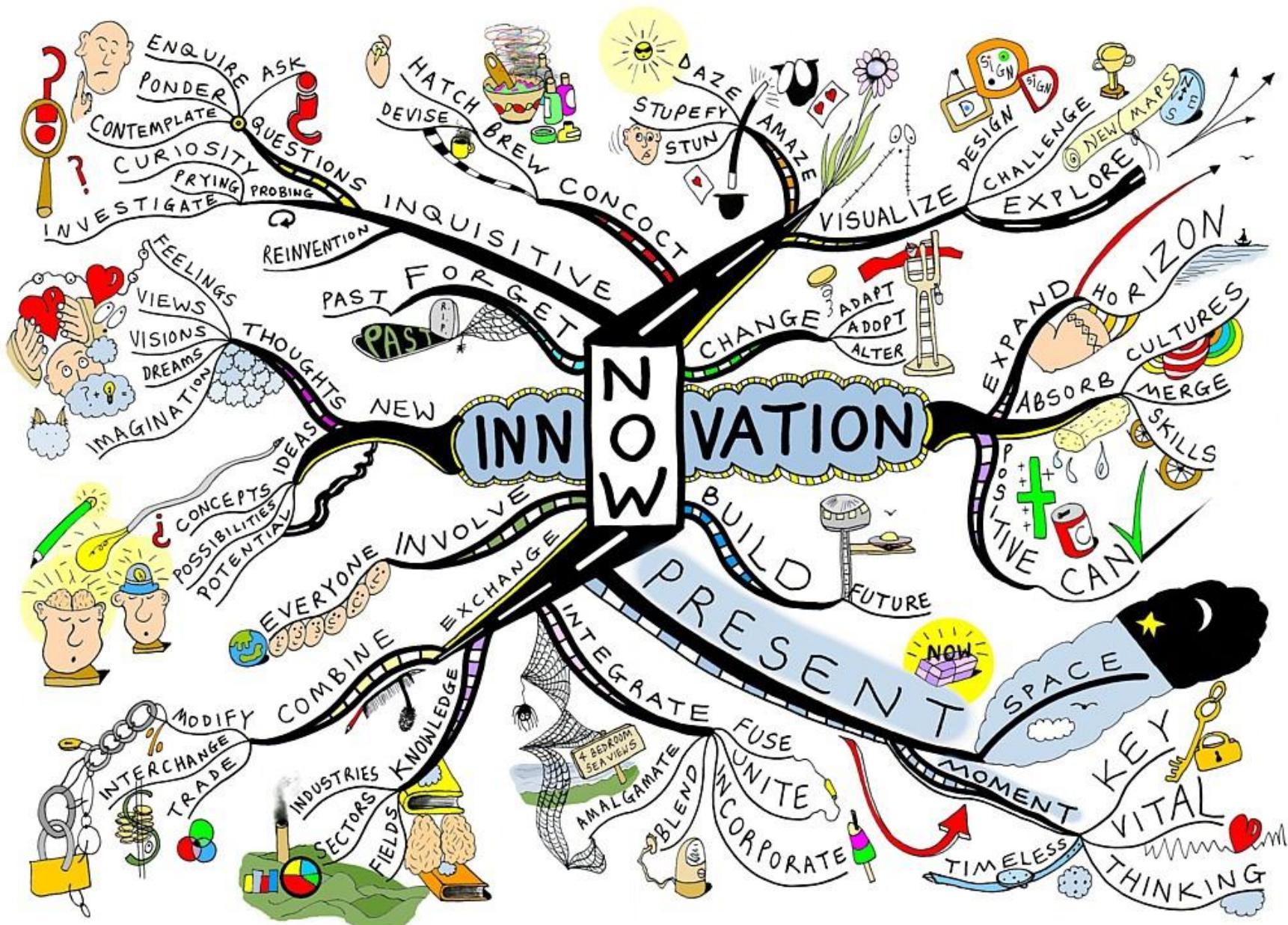
- 3-D



CUT THIS CAKE

- **But, what if you stack each cut pieces before the next cut....**





THE NEED FOR CREATIVITY AND INNOVATION



~ *Creativity is thinking up
new things. Innovation is
doing new things.* ~
Theodore Levitt (1925-2006)

Examples of Successful Ideas



Innovation	Source
Pneumatic tyre	John Dunlop – Veterinarian
Ballpoint pen	Lazlo Biro – Sculptor
Photocopying	Chestor Carlson - Lawyer
Post –It Notes	Art Fry - Failed glue at 3M
Velcro	George de Mestral - Observation in nature
Scotchguard	Patsy Sherman – Spill in the laboratory
Penicillin	Accident in the lab



CREATIVITY CLIMATE

Organizational encouragement

Supervisory encouragement

Supportive work group

Sufficient resources

Challenging work

Organizational barrier

Workload pressure

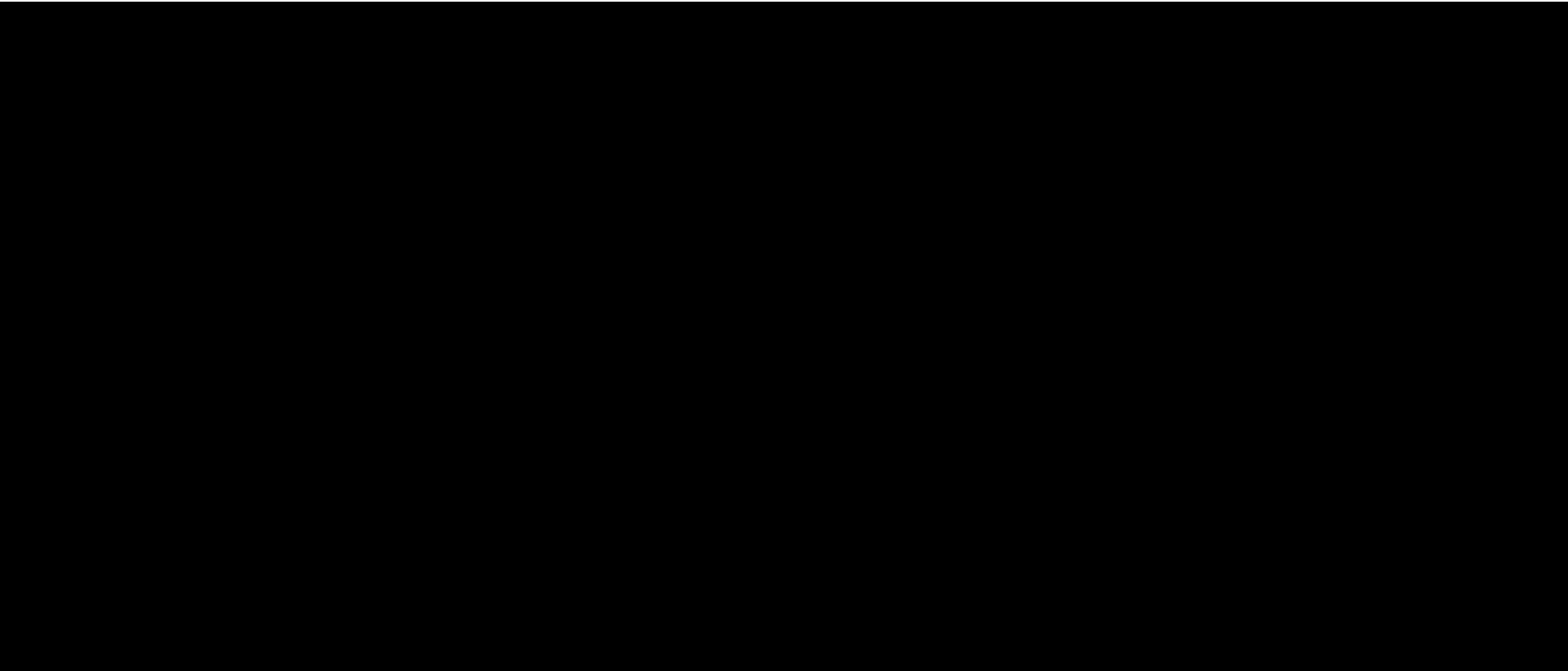


Because the
people who
are crazy enough
to think they can
change the world
are the ones
who do.

R.I.P. Steve Jobs

AppleGuider.com

Watch this!



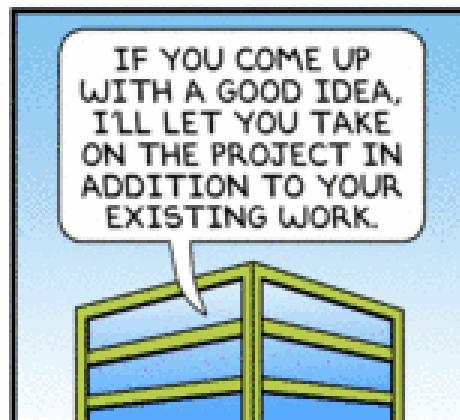
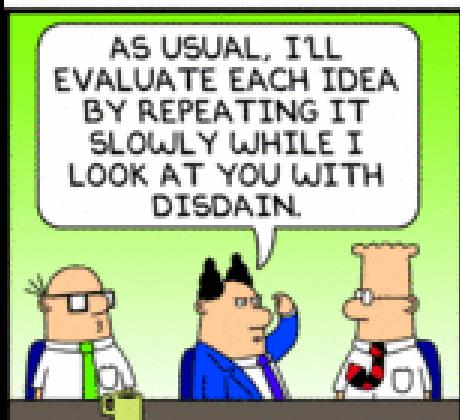
CREATIVITY KILLER

Perceptual

Emotional

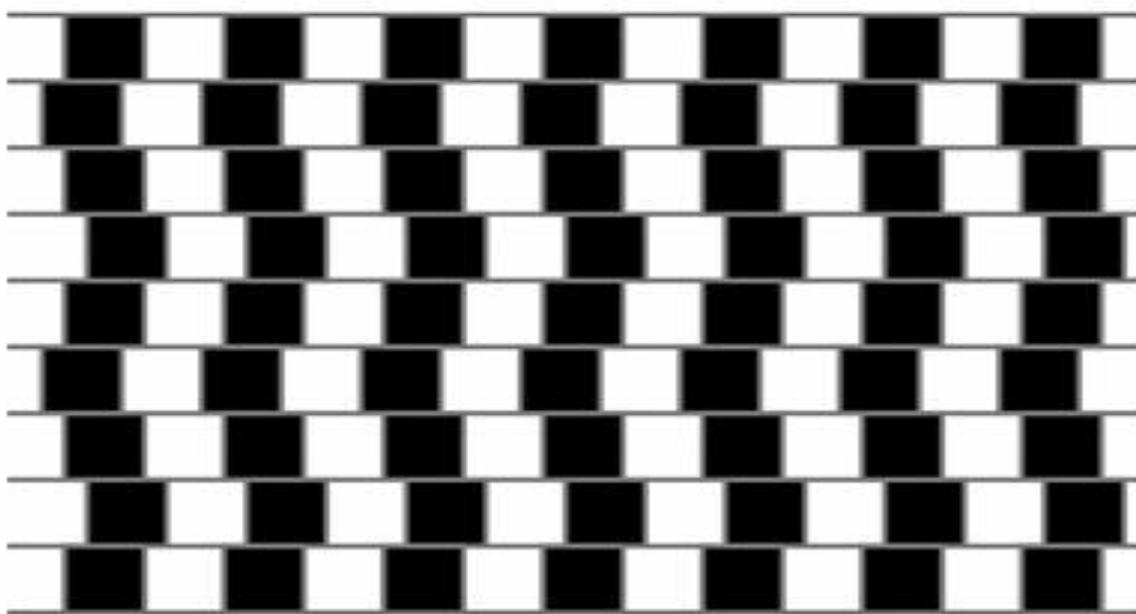
Cultural/Environmental

Intellectual/Expressive



CREATIVITY KILLER

- Perceptual – Is these lines straight?



CREATIVITY KILLER

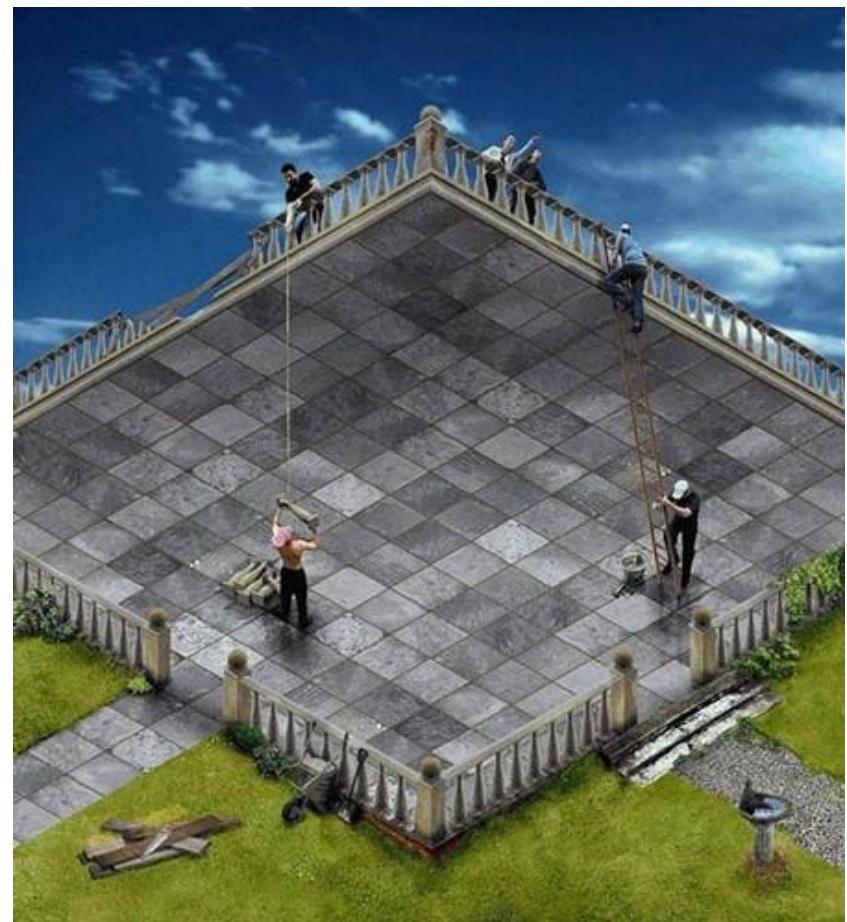
- Perceptual – What do you see?



Do you see a musician or a girl's face?

CREATIVITY KILLER

- Perceptual – ????



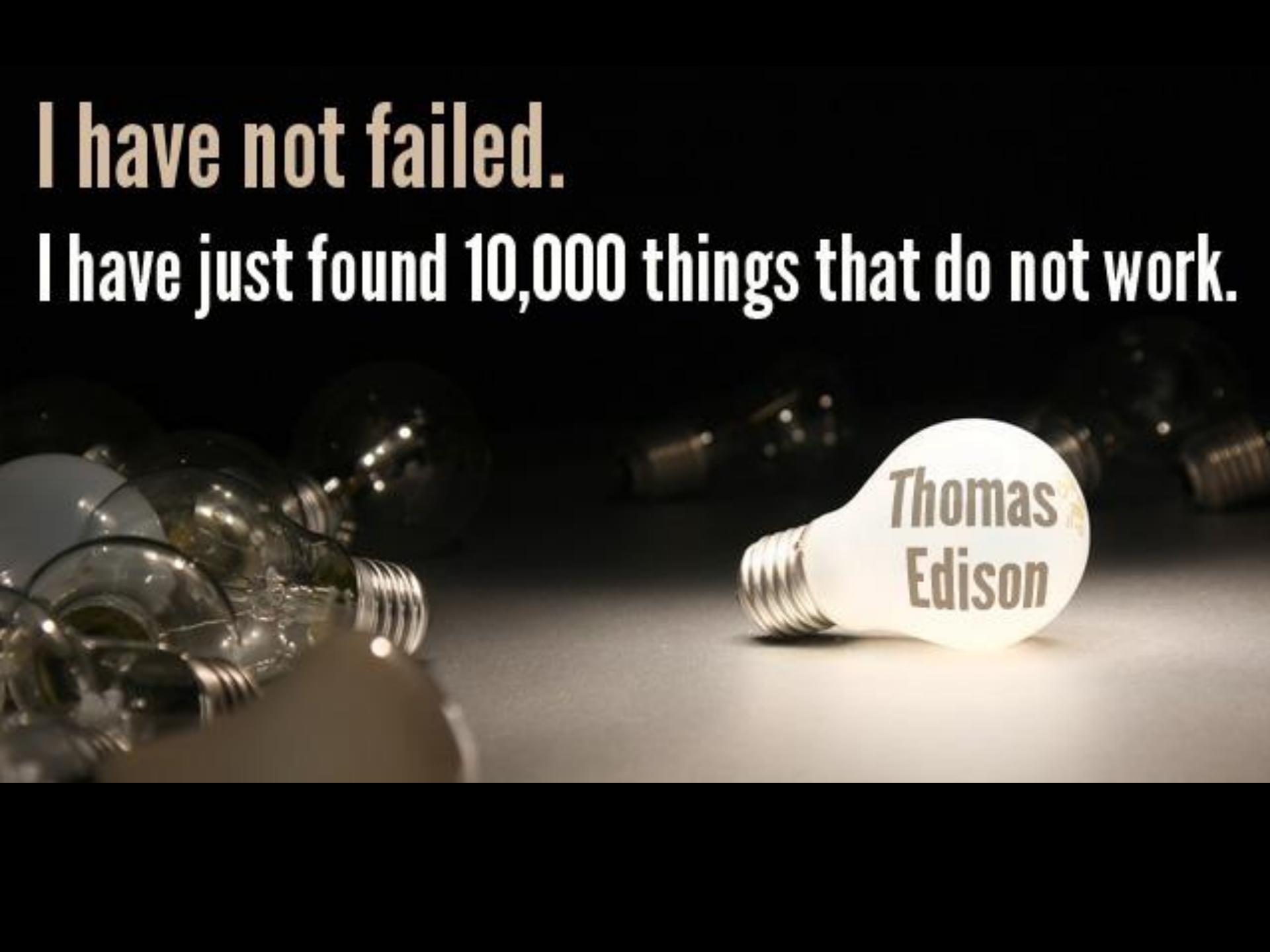
CREATIVITY KILLER

Perceptual

- we make assumptions that limit our flexibility and originality.
 - Stereotypes
 - Too focused on the problem

I have not failed.

I have just found 10,000 things that do not work.

A close-up photograph of several incandescent lightbulbs. In the foreground, one bulb is brightly lit, casting a warm glow. The quote "I have not failed. I have just found 10,000 things that do not work." is overlaid on the image, with "Thomas Edison" written inside the illuminated bulb's glass. The background is dark, making the lit bulb stand out.

Thomas
Edison

CREATIVITY KILLER

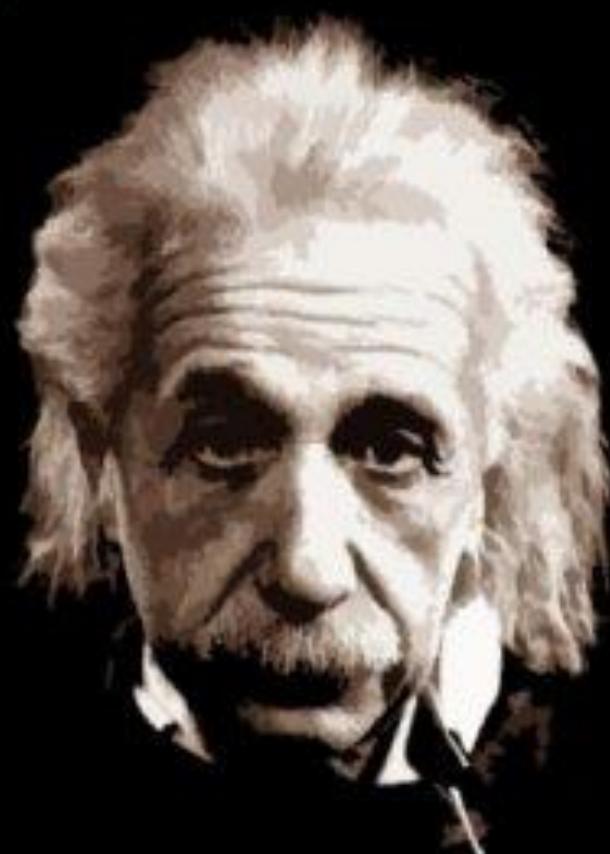
Emotional



- your own fears and self-consciousness.
- To maintain optimal brain function for creativity, mood management is key, not happiness or purposefully-generated-stress

**"A person who never
made a mistake never
tried anything new."**

-Albert Einstein



CREATIVITY KILLER

Cultural/Environmental/Religious

- Taboos
- Peer pressure
- “If it isn't broken, don't fix”
(conservative people)
- “During my days.....” ('elderly' people)
- “Is it more economical than....”
(business people)



CREATIVITY KILLER

Intellectual/Expressive

- Do you know why children are highly creative? Because they desire to know everything, question rules and standards, want to experience life fully and never stop being curious and asking questions.
- Many artists, scientists and doctors agree that **curiosity fuels creativity**. If you're not curious, you don't have enough motivation to pursue success or career.
- Fear of criticism

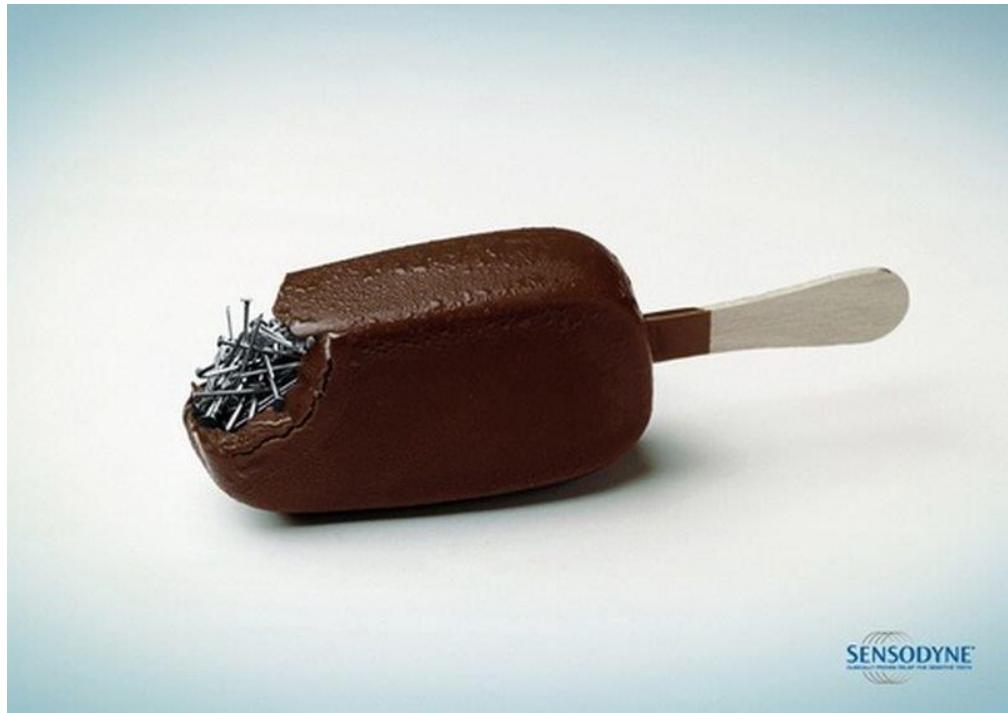
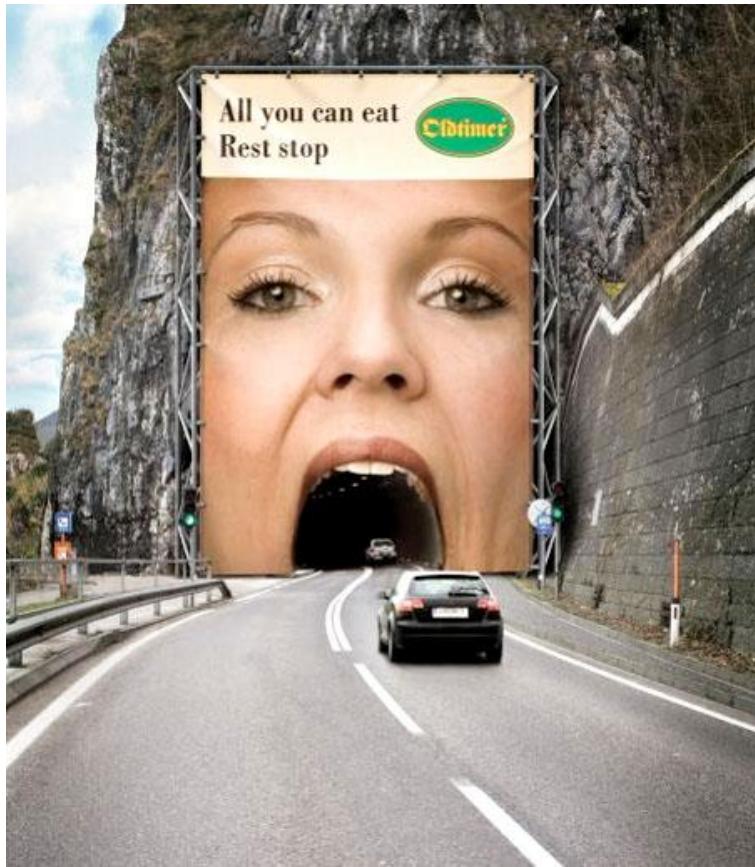
Expressing your idea??!

GROUP ASSIGNMENT:

CREATIVE ADVERTISING

(Instruction in Author)

Examples



SENSODYNE[®]
Gentle mint flavor that's sensitive teeth

Example

