

M U N I

M E D

**18**

# **The Highest Functions of Nervous System - Psychological and Social Aspects of Brain Activity II**

# The conflict between the limbic system and the neocortex



✓The problem with effective control of the neocortex



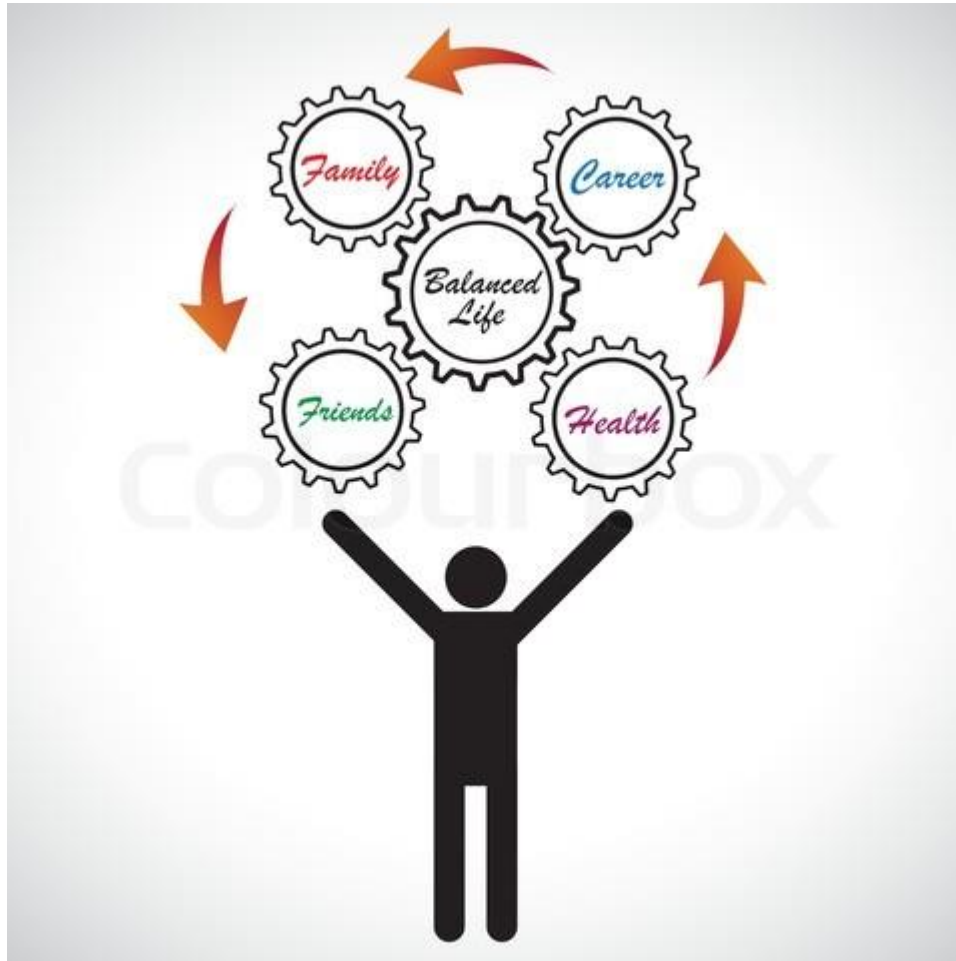
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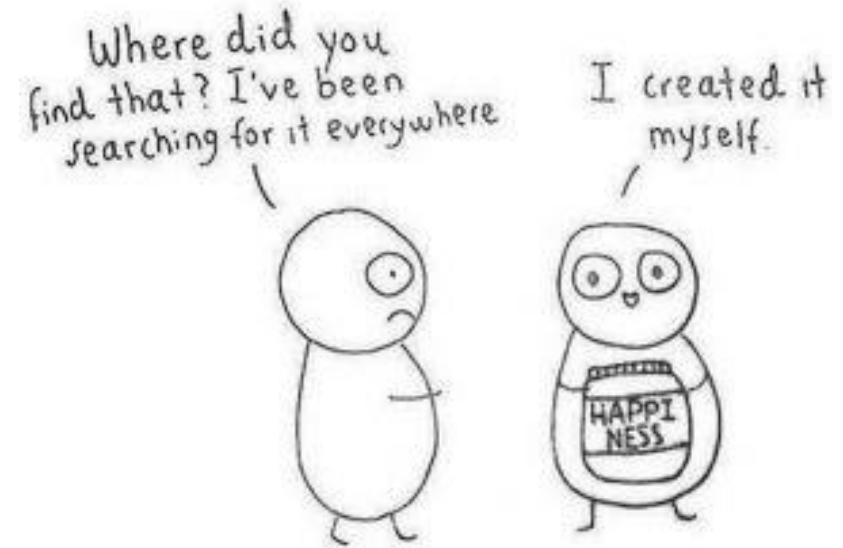


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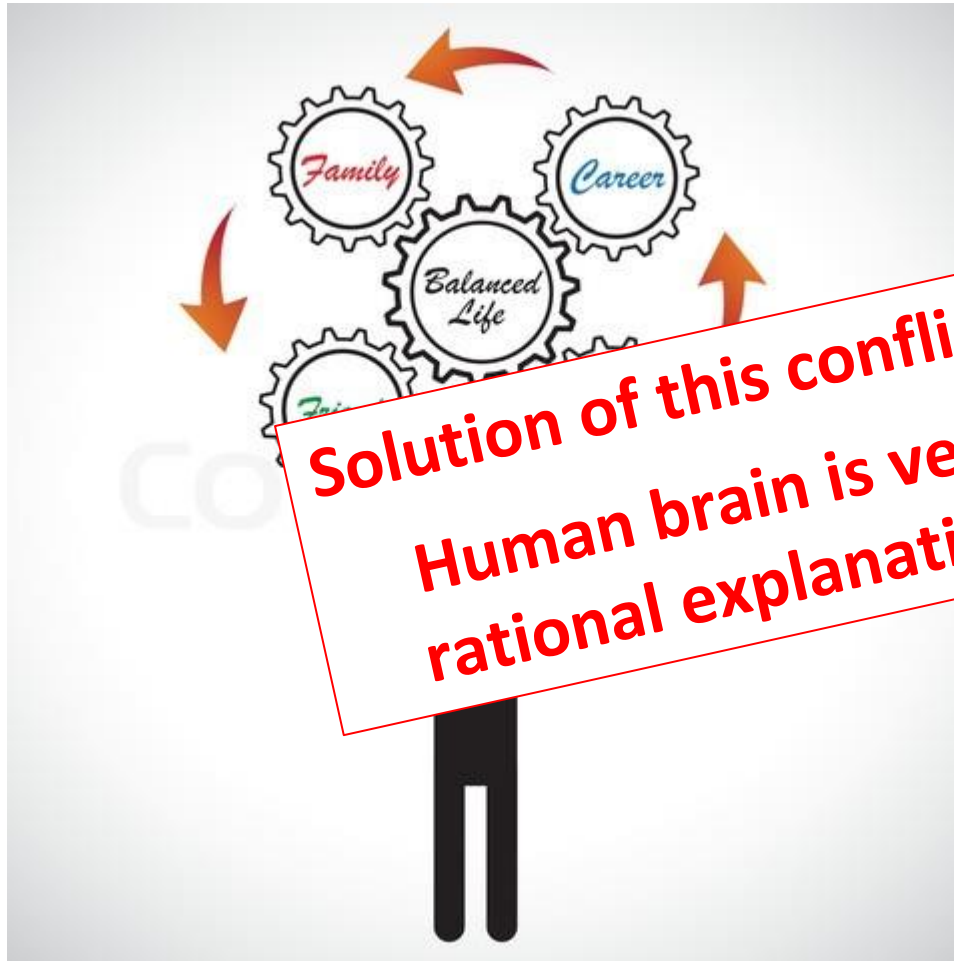
<http://www.terryherring2013.com/wp-content/uploads/2014/03/life-balance.jpg>

**WHY?**



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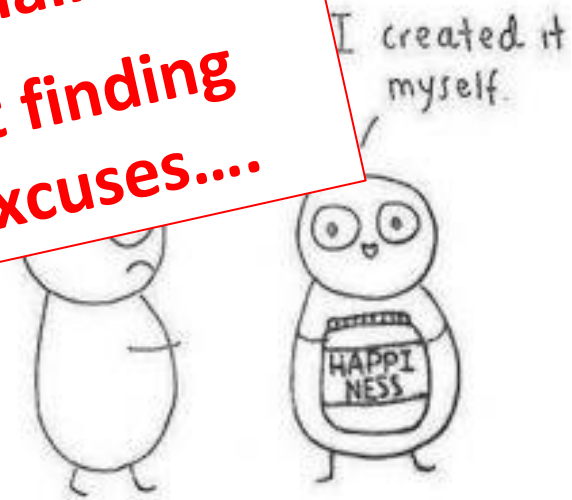
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**Solution of this conflict is rationalization.  
Human brain is very good at finding  
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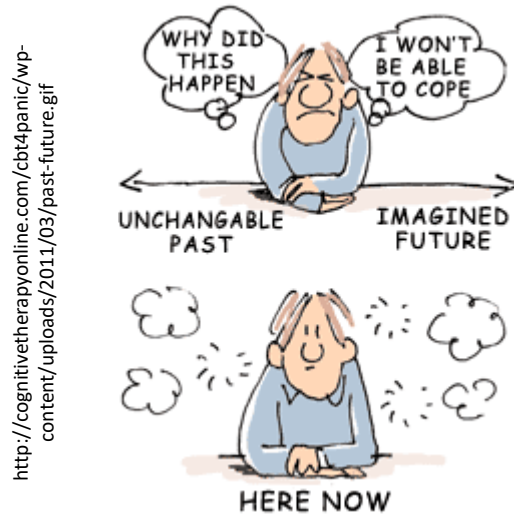
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# Awareness / Mindfulness

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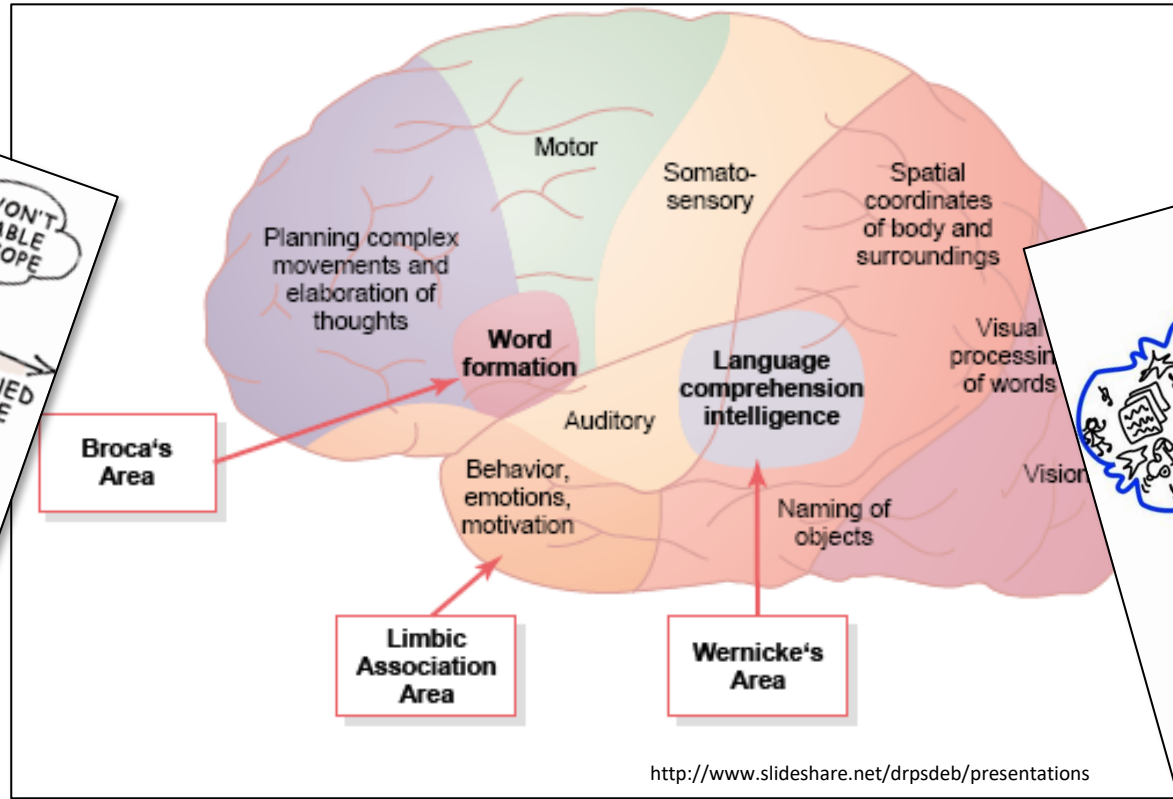


„When you are hungry, eat; when you are tired, sleep“

Zen Buddhist quote

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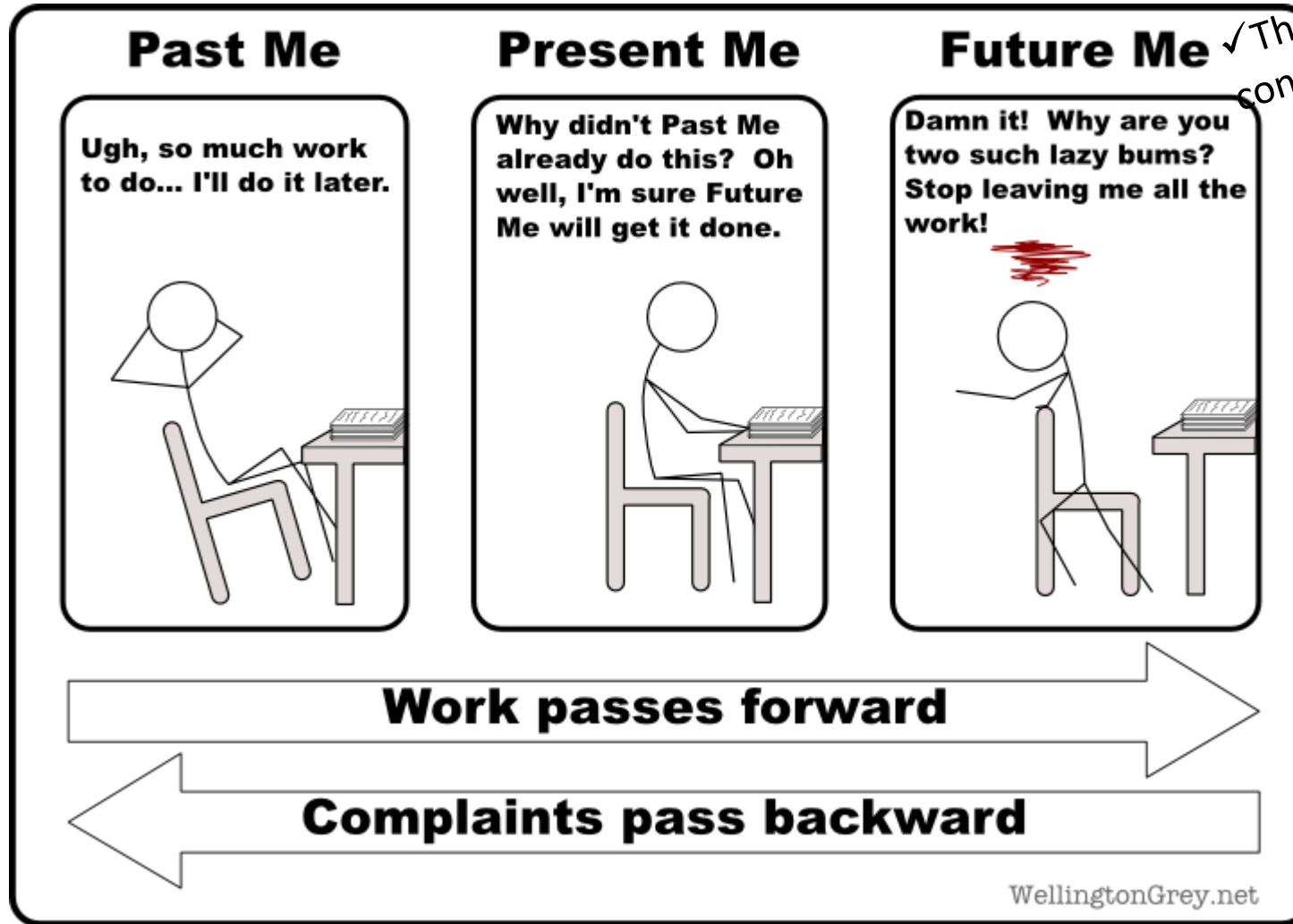
UNLESS THE MOMENT IS UNPLEASANT, IN WHICH CASE I WILL EAT A COOKIE



15 MINUTES OF CARDIO, 15 MINUTES OF WEIGHTS, AND AN HOUR OF TALKING MYSELF INTO IT.

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# Procrastination

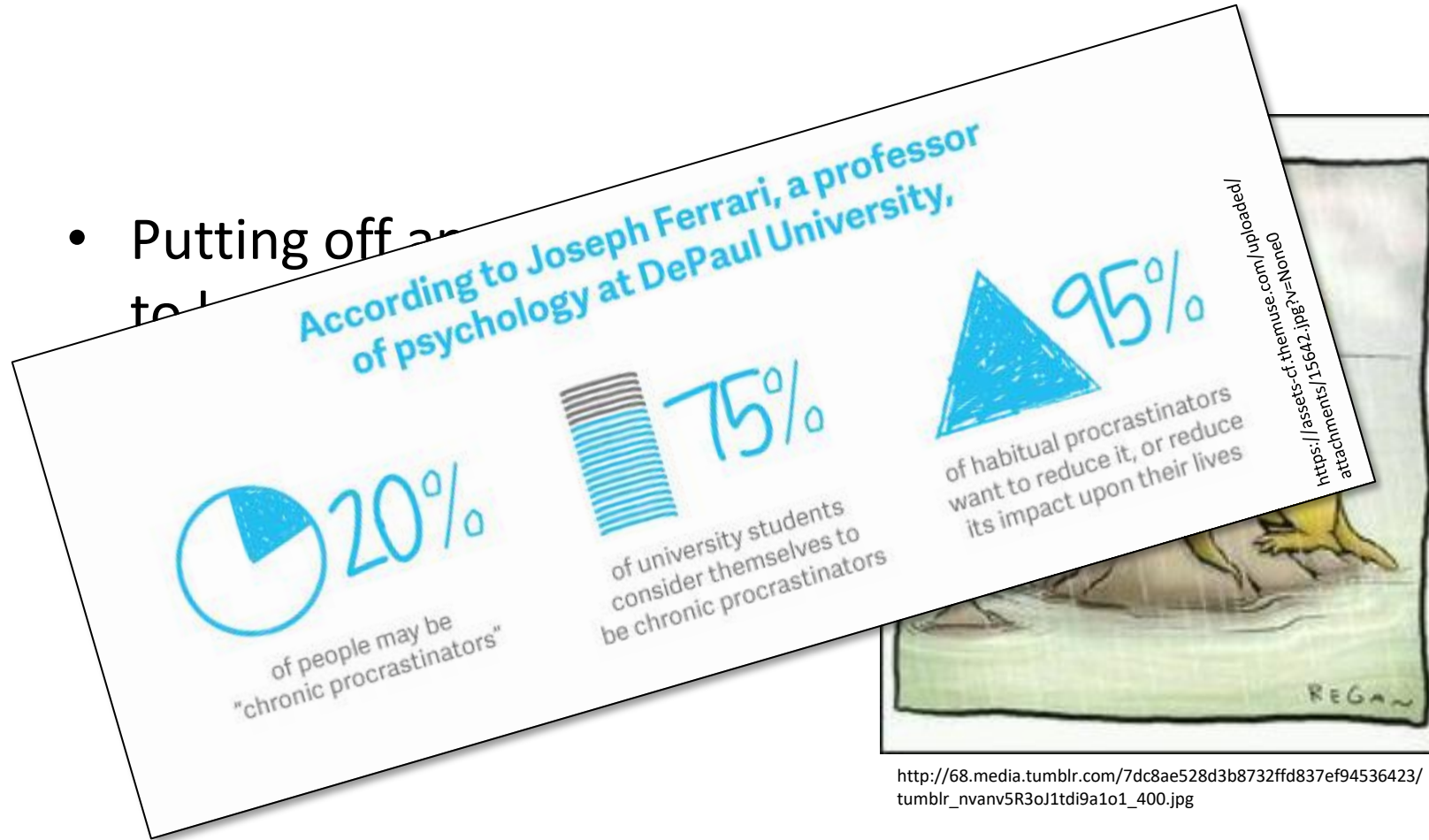
- Putting off an action to later time
- It is not a laziness!



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# Procrastination

- Putting off an action until a later time






# Procrastination

**A critical role of the limbic system**

Physiologically, it's a struggle between two parts of the brain:

- Prefrontal cortex:** controls problem solving and planning
- Limbic system:** craves immediate gratification



**Why is procrastination such a bad idea?**  
*It can ...*

- ... hurt your health:** Chronic procrastinators suffer more illnesses, get less exercise, sleep less and drink more alcohol than non-procrastinators.
- ... stress you out:** The resulting deadline crunch (or a missed deadline) takes a toll on both you and those around you.
- ... lead to lower salaries and a higher risk of unemployment:** No one gets ahead by dropping deadlines.

**Why do people procrastinate?**


- ✓ Fear of failure:** You won't settle for anything less than perfection.
- ?** **Skill deficit:** You don't know how to complete the task.
- 👎 Lack of interest or motivation:** The task is simply too boring.

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# Risk factors

- Intelligence
  - A higher intelligence is associated with a better skill of rationalization

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✓ Fatigue  
✓ Hunger  
✓ Other stressors

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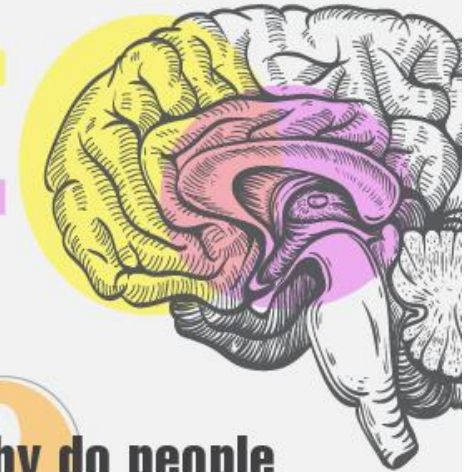
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  - How to start?
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  - I cannot move on...

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  - I have to do it in a different way
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**Motivation**  
✓ Outer  
✓ Inner

**Decision paralysis**  
**Distraction**

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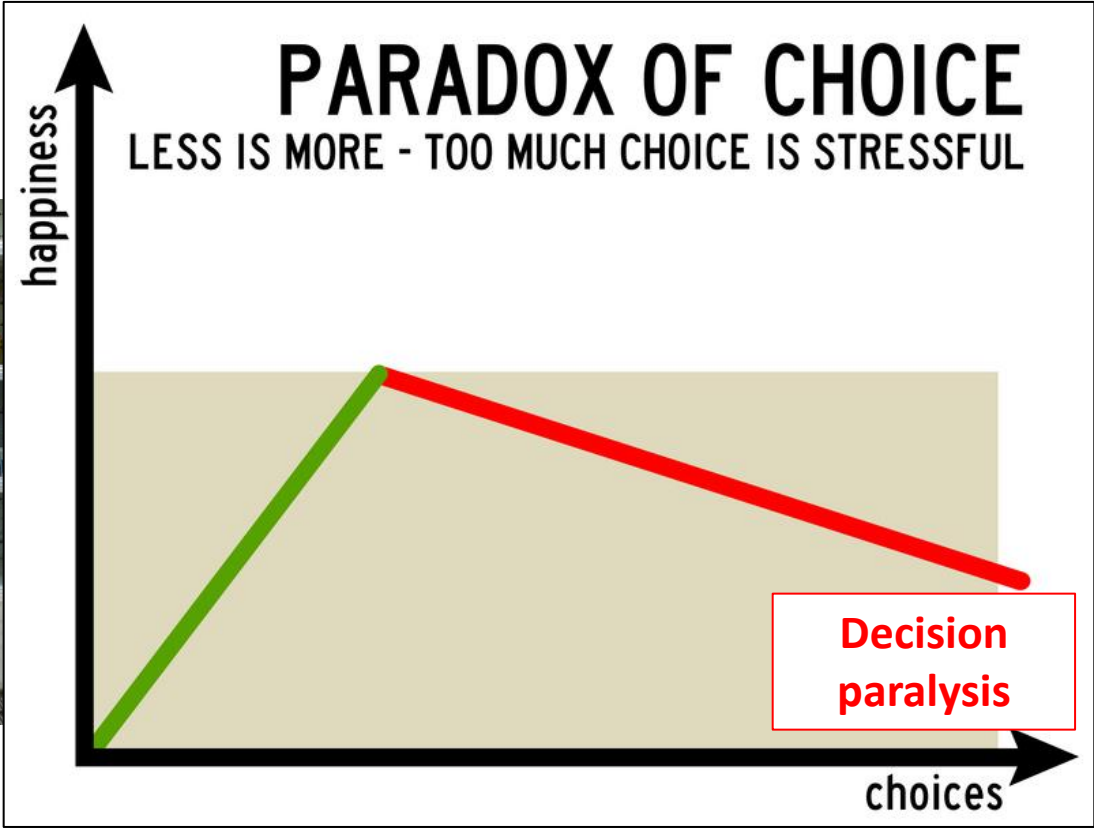
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# More choice does not make us more happy



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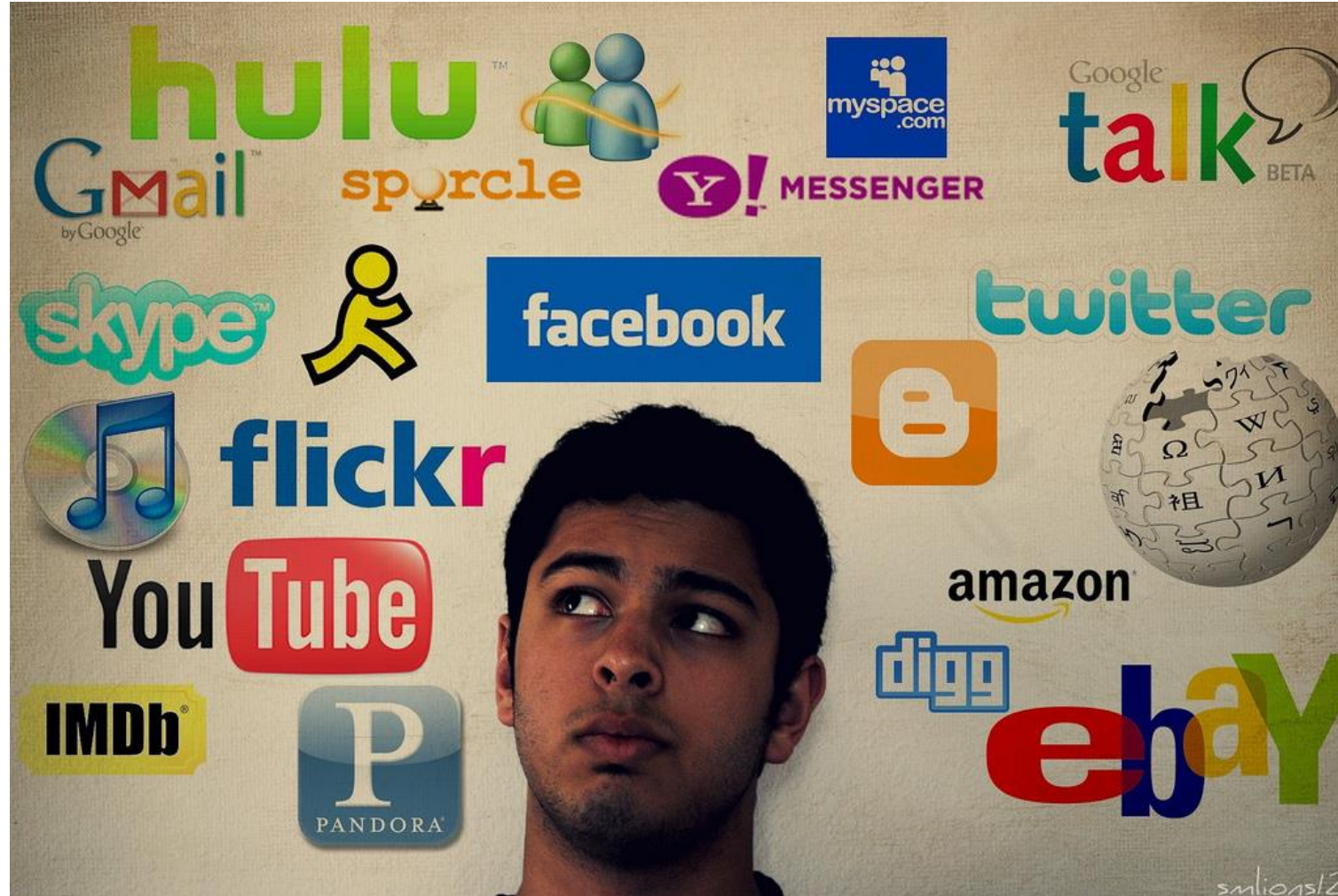
<https://11tx7b411ycc3zja3v2vhqz9-wpengine.netdna-ssl.com/wp-content/uploads/2015/07/paradox-of-choice.jpg>



<https://kristenleoneblog.wordpress.com/2016/04/03/decision-paralysis/>



# Distraction





# Procrastination

**DAREDEVIL**  
You like to live dangerously, only starting work when the deadline is looming.  
You think you show grace under pressure, but the end result is rushed work that's full of errors.  
**TIPS**  
**Get organised**  
Set yourself tighter deadlines and use the adrenaline rush productively while managing your team - self-regulate with penalties for not meeting these targets.

**OSTRICH**  
You like to stick your head in the sand and ignore the tasks at hand - avoiding having to make decisions.  
If you don't make a decision, then you don't risk failing or being judged.  
**TIPS**  
**Self-talk confidently**  
Notice how you are talking to yourself when procrastinating. Think positively - instead of "I can't", say "I will".

**CHICKEN**  
With so many choices, how are you supposed to decide? By the time you've made up your mind, it's too late.  
You feel like you may as well put it off and let someone else choose.  
**TIPS**  
**Swiss-cheese the big tasks**  
Handle the biggest tasks first by breaking them down into smaller manageable ones. Devote small amounts of time and achieve as much as you can in each to boost your momentum.

**SELF-SABOTEUR**  
You're your own worst enemy, putting obstacles in your path to stop yourself working.  
That way, you can say it's not your fault - rewarding yourself for a job left undone.  
**TIPS**  
**Plan for obstacles**  
List potential obstacles to getting things done ahead of time, and plan countermeasures, e.g., "Whenever I check Facebook, I take a short break."

**PERFECTIONIST**  
You'll settle for nothing less than perfection - which is essentially impossible.  
You're ruled by what others think of you, delaying work until you can be sure other people won't criticise it.  
**TIPS**  
**Keep it real**  
Set yourself reasonable targets that you know you can manage and do your best to meet them. Perfection is impossible, but you can learn from mistakes.



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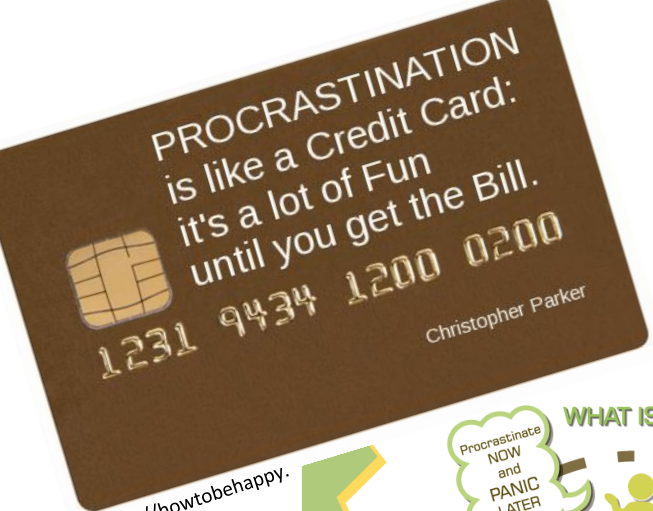
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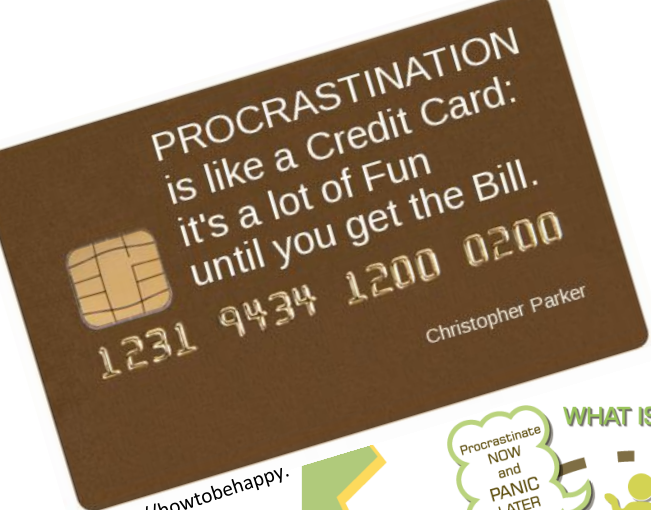
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SOURCES: <http://serendip.brynmawr.edu/bb/neuro/neuro02/web1/jmarysis.html>  
[http://www.mindtools.com/pages/article/newHTE\\_91.htm](http://www.mindtools.com/pages/article/newHTE_91.htm)  
<http://www.marcdangel.com/2010/11/22/7-common-causes-and-proven-cures-for-procrastination/>





# Procrastination

**A critical role of the limbic system**

## WHAT IS PROCRASTINATION?



You procrastinate when you put off things that you should be focusing on right now, usually in favor of doing something that you're more comfortable doing.

Are you a procrastinator?

- ✗ Filling your day with low priority tasks?
- ✗ Waiting for the "right mood"?
- ✗ Reading e-mails several times without starting to work on them?

ENACTED BEHAVIOR

INTENDED BEHAVIOR

## EFFECTS OF PROCRASTINATION

- Tension
- Headaches
- Sleep
- Fatigue
- Anxiety
- Self-criticism
- Helplessness
- Low self-esteem
- Isolation
- Tense
- Less aware

## BEHAVIORAL PROCRASTINATION



## CAUSES OF PROCRASTINATION



**We often speak about time management, but we cannot manage the time at all, because the time is running independently of us. The problem is with self-management and task-management...**

REWARD yourself

Ask **SOMEONE ELSE** to check up on you

Identify the **UNPLEASANT** consequences of NOT doing the task

GET ORGANIZED!

Keep a TO-DO LIST

Use an Urgent / Important Matrix

Set yourself TIME-BOUND GOALS

THINK ALTERNATIVELY!

Break the project into MANAGEABLE TASKS

Start with some QUICK, SMALL tasks

The basic principle is REFRAMING

SOURCES: <http://serendip.brynmawr.edu/bb/neuro/neuro02/web1/jmarysis.html>  
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# 11 THINGS BY DR. TRAVIS BRADBERRY **ULTRA-PRODUCTIVE PEOPLE DO DIFFERENTLY**

**01** THEY NEVER TOUCH THINGS TWICE

**02** THEY GET READY FOR TOMORROW BEFORE THEY LEAVE THE OFFICE

**03** THEY EAT FROGS

**04** THEY FIGHT THE TYRANNY OF THE URGENT

**05** THEY STICK TO THE SCHEDULE DURING MEETINGS

**06** THEY SAY NO

**07** THEY ONLY CHECK E-MAIL AT DESIGNATED TIMES

**08** THEY DON'T MULTITASK

**09** THEY GO OFF THE GRID

**10** THEY DELEGATE

**11** THEY PUT TECHNOLOGY TO WORK FOR THEM

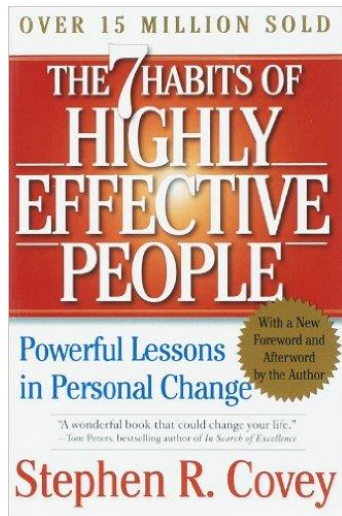
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# Stephen Covey – Quadrant system



	Urgent	Not Urgent								
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# Pomodoro technique



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#3
Brain Hacks for beating procrastination

1. Focus on the **PROCESS** not the Product.  
 Tips: When studying, avoid thinking about how many pages you have to write or problems to solve as that brings on the pain that leads to procrastination. Rather, calmly put the effort into doing the work. No need to grasp or finish everything in one session.
2. Distractions will happen, so accept them and train yourself to move past them quickly.  
 Tips: Find a quiet space, use noise-cancelling headphones.
3. Plan: Write down 3-6 tasks you want to accomplish.  
 Tips: Do it the night before, so your mind starts working on them while you sleep. Plan your breaks and quitting time too. It's okay if you did not finish all tasks if you gave it your best.
4. Trust in your new system and yourself.  
 Tips: Get support when you get stressed out or overwhelmed. Seek out friends who are successful, teachers, school counselors and ask for help.

## 5. Use The POMODORO Technique

I

**START**

SET A TIMER TO 25 MINUTES. Let everyone (Fam, BF, GF etc.) know what you are doing, so they don't interrupt or get upset if you don't respond to them.

▶

**CONTINUE**

**FOCUS ON ONE TASK.** Study. Write. Do math. Whatever. **NO INTERRUPTIONS.** No social media, gaming, texting etc.

▬

**STOP**

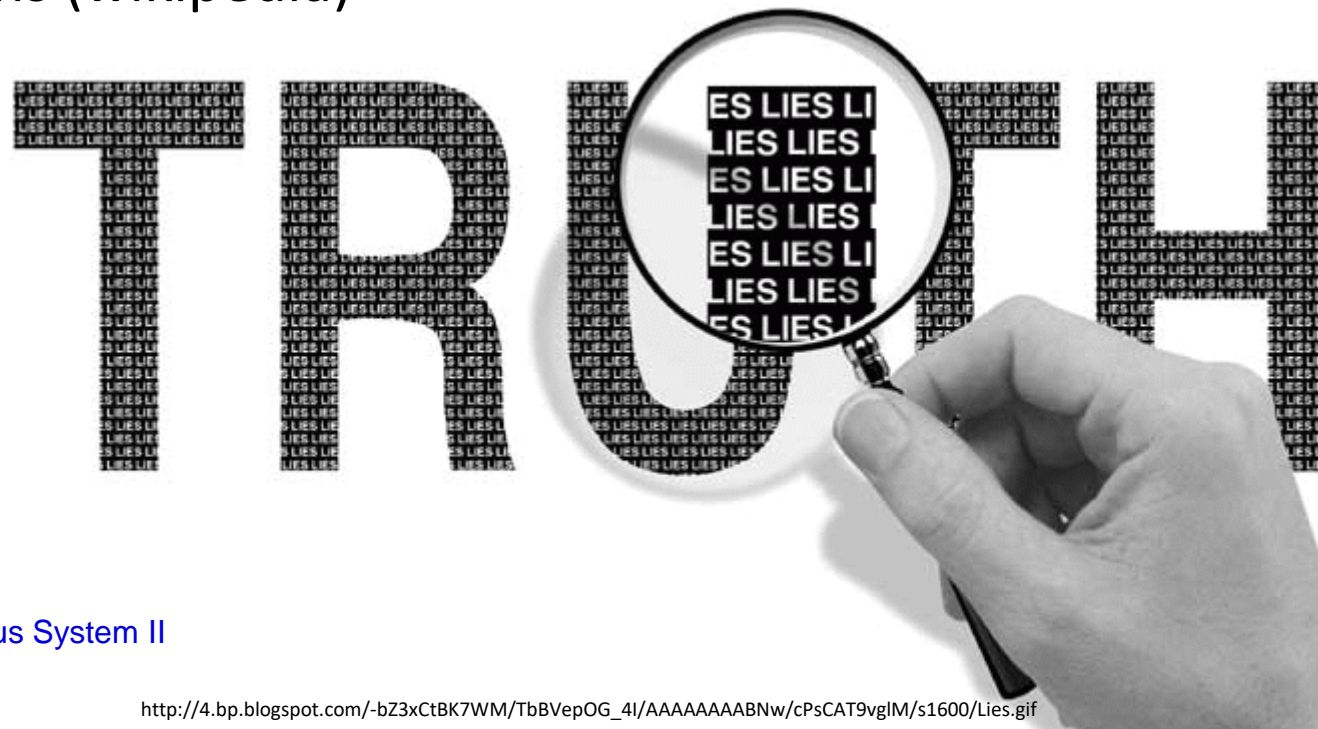
**REWARD YOURSELF.** After successfully completing 25 minutes of hardcore awesomeness (studying, working etc.) do something you enjoy for 5 minutes and repeat the process.

YOU CAN BEAT PROCRASTINATION!

# Rationalization

✓ The conflict between the limbic system and the neocortex

- defense mechanism in which controversial behaviors or feelings are justified and explained in a seemingly rational or logical manner to avoid the true explanation, and are made consciously tolerable—or even admirable and superior—by plausible means (wikipedia)





# Rationalization

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- defense mechanism in which controversial behaviors or feelings are justified and explained in a seemingly rational or logical manner to avoid the true explanation, and are made consciously tolerable—or even admirable and superior—by plausible means (wikipedia)





# Manipulation

- Selfmanipulation vs manipulation of others
- Intentional vs unintentional

„ Why do you look at the speck of sawdust in your brother's eye and pay no attention to the plank in your own eye? „

Matthew 7:4

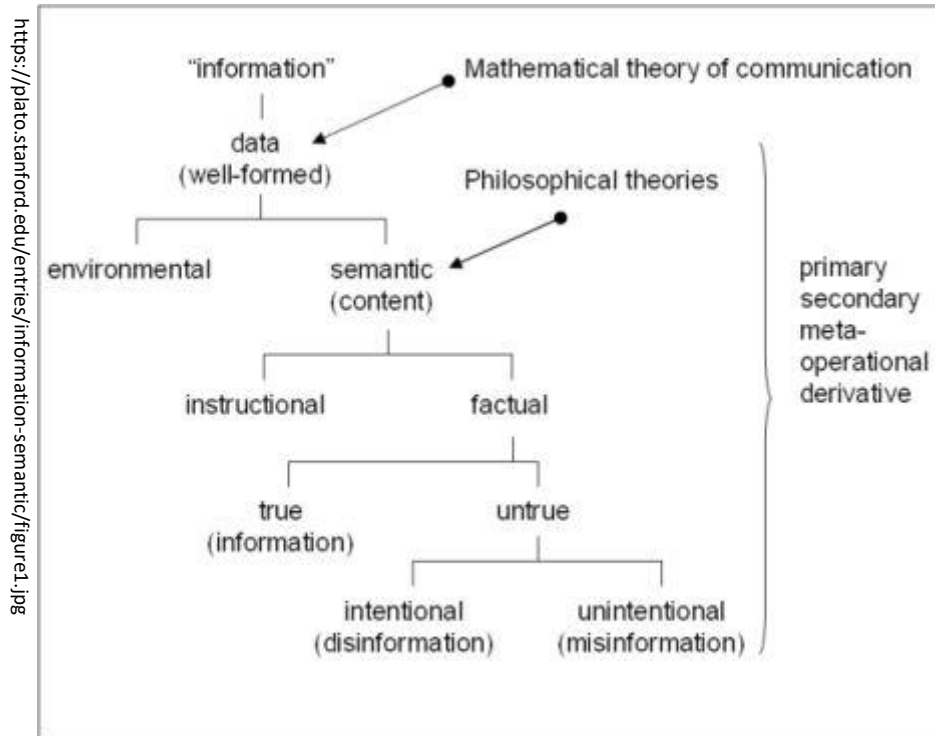


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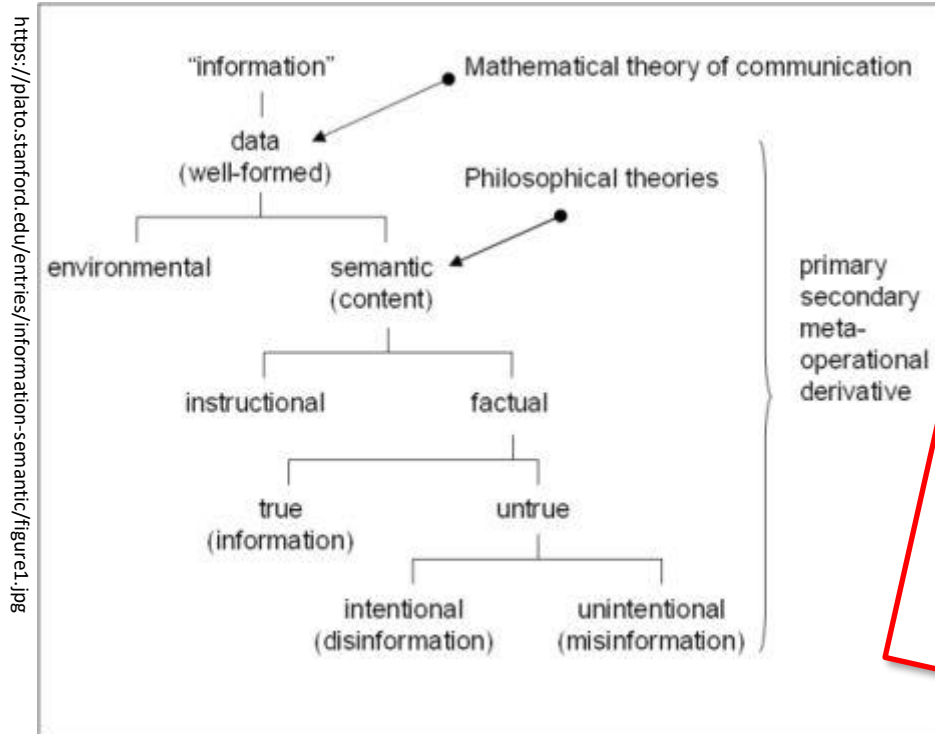


# Manipulation

- Selfmanipulation vs manipulation of others
- Intentional vs unintentional

„ Why do you look at the speck of sawdust in your brother's eye and pay no attention to the plank in your own eye? „

Matthew 7:4



- **Selfmanipulation**
  - Mostly unintentional
  - Defensive mechanism
- **Manipulation of others**
  - Mostly intentional
  - Offensive mechanism
    - ✓ To defense myself
    - ✓ To obtain some advantage

# Manipulation

... limbic system...



<http://dailynewsdig.com/advertising/>



# Manipulation



# Manipulation

Playing on emotions / feelings of unhappiness - the limbic system

**Weight Loss @ Home Food**  
Hi i Loss 30Kg Weight & 4 Inches Still maintain  
You can Also Join Diet4india Weight Loss Prgm  
No Cruch Diet,Exercise, Eat & Lose , Call Now  
09225225161, 9890222689 \*



**Before** **After**

<http://www.diet4india.com/images/image4.gif>

**NEW WEIGHT LOSS SOLUTION**



**DR. OZ** "This miracle pill can Burn Fat FAST!"

**LEARN MORE**

<http://blogs-images.forbes.com/jeffbercovici/files/2012/08/dr.-oz-weight-loss-pills.jpg>

Pseudorational (it is believable) - neocortex

**LESS WRINKLES IN ONLY 60 MINUTES**



**DERMITAGE**  
dermitage.com | \*S&P applies

Simulated imagery. Results not typical.

**TRY IT FREE\***

<http://mannmedia.pbworks.com/f/weasel%20wrods.jpg>

**LESS WRINKLES IN ONLY MINUTES**



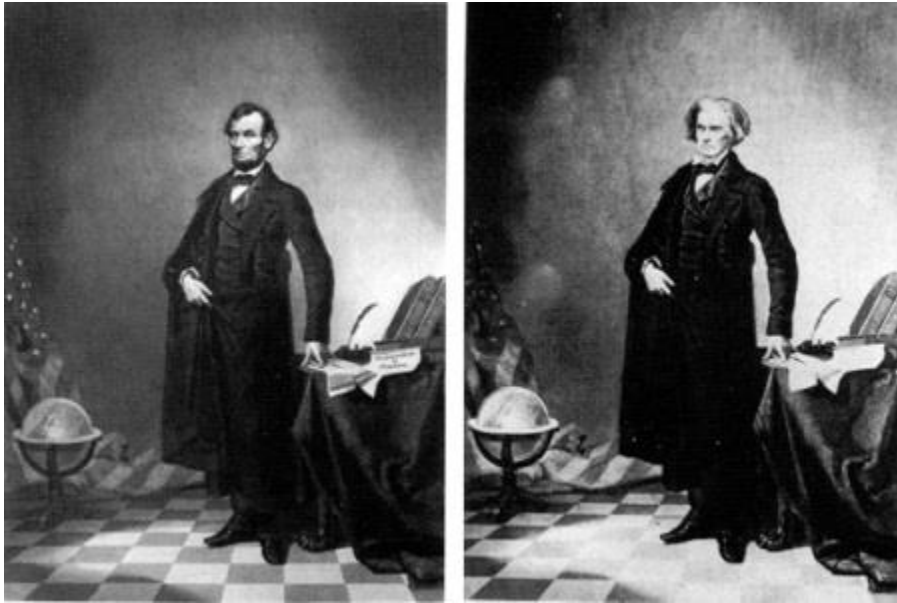
**TRY IT TODAY!**

simulated imagery  
www.dermitage.com

<https://s3.amazonaws.com/user-media.venngage.com/9e35bdc2748090dcf73c204acd1f6996.jpg>



# Manipulation and propaganda



<https://kristinczermanski.wordpress.com/2013/12/10/photo-manipulation-the-impact-on-society-the-advertising-industry/>

# Propaganda

- Manipulation / propaganda is as old as mankind itself, and sometimes it may seem absurd



[https://2.bp.blogspot.com/-FXZvktB5BuM/V4r9YwAO9VI/AAAAAAAAAk8/PtIGz94QGXYtA\\_KpphdeS0aQGzts8vurgClcB/s1600/The%2BSoviet%2Bflag%2Bover%2Bthe%2BReichstag%252C%2B1945.jpg](https://2.bp.blogspot.com/-FXZvktB5BuM/V4r9YwAO9VI/AAAAAAAAAk8/PtIGz94QGXYtA_KpphdeS0aQGzts8vurgClcB/s1600/The%2BSoviet%2Bflag%2Bover%2Bthe%2BReichstag%252C%2B1945.jpg)

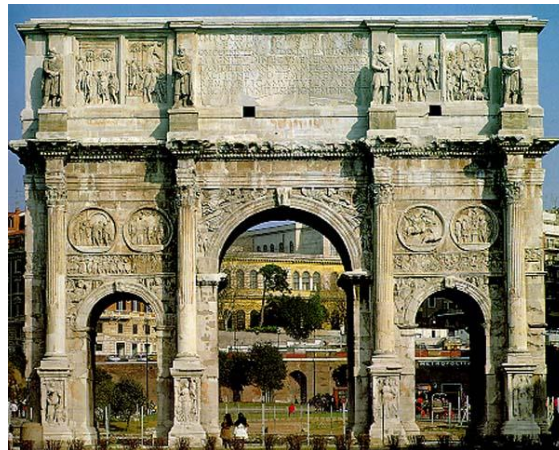


# Propaganda

- Historical resources have propagandistic character
- History is written by winners
- Subjective / engaged view vs. pure propaganda



<http://soren.faculty.arizona.edu/sites/soren.faculty.arizona.edu/files/newpage10.jpg>



<http://www.colorado.edu/Classics/clas4091/Graphics/Constarch.jpg>



<http://www.colorado.edu/Classics/clas4091/Graphics/nstarch.jpg>

Athe power of media in the past...

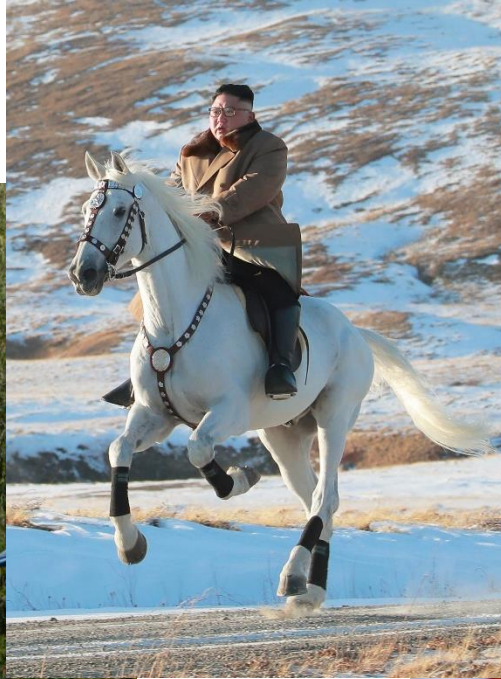


<http://www.colorado.edu/Classics/clas4091/Graphics/Constarch.jpg>



# The power of media in the present

Media in the past had at least artistic value...



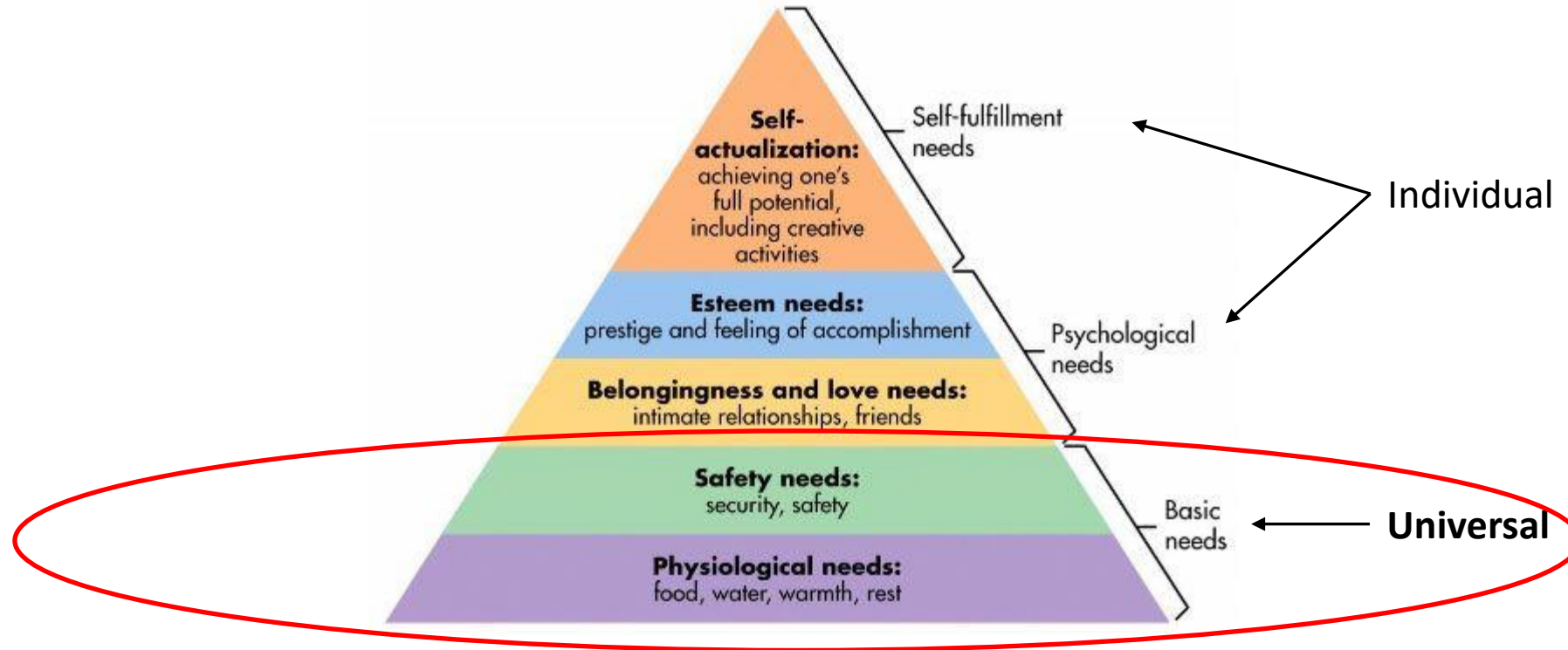
<https://www.thesun.co.uk/news/10144977/kim-jong-un-horse-photos-vladimir-putin/>



<https://faceswaponline.com/trump-travels-overseas>

<https://thetravellingsquid.com/2013/12/18/vladimir-putin-russias-macho-leader/>

# Propaganda targets basic needs



<http://www.simplypsychology.org/maslow-pyramid.jpg>



# Propaganda



<https://s-media-cache-ak0.pinimg.com/564x/dd/09/1f/dd091fe34d2a70d7f1b022b49b08d8b1.jpg>

# Propaganda



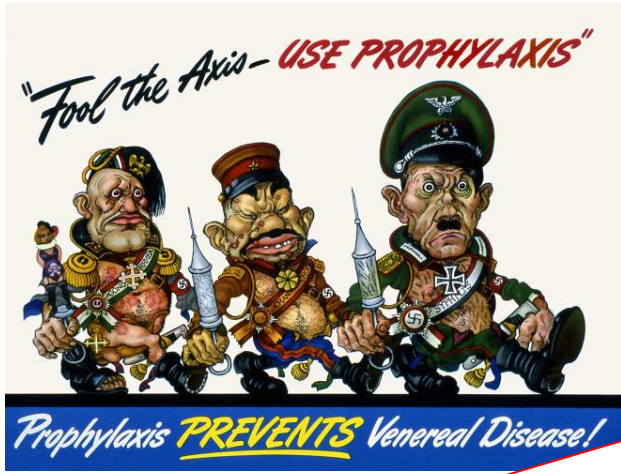
<https://s-media-cache-ak0.pinimg.com/564x/dd/09/1f/dd091fe34d2a70d7f1b022b49b08d8b1.jpg>







# Propaganda and propaganda



[https://d.fastcompany.net/multisite\\_files/any/imagecache/slideshow\\_large/7/3033287-slide-py3.in](https://d.fastcompany.net/multisite_files/any/imagecache/slideshow_large/7/3033287-slide-py3.in)

**Dehonestation**



[https://www.google.cz/imgres?imgurl=https%3A%2F%2Fsecure.stat.tumblr.com%2Ffd1367a696b356dfe6a9dee6a634da56e%2Fujp7%2Fro1nwrvh4%2Ftumblr\\_static\\_filename\\_640\\_v2.jpg&imgrefurl=https%3A%2F%2Fwww.tumblr.com%2Ftagged%2Fnazi-propaganda-poster&docid=WzpFjAHd6Gn2AM&tbnid=29m5HiOvOat5wM%3A&imgrefurl=https%3A%2F%2Fwww.tumblr.com%2Ftagged%2Fnazi-propaganda&ved=0ahUKEwiNINWay8HSAHUGsBQKHwyCwCQMwiEAShIMGI&iact=mrc&uact=8#h=407&imgrc=29m5HiOvOat5wM:&ve t=1&w=640](https://www.google.cz/imgres?imgurl=https%3A%2F%2Fsecure.stat.tumblr.com%2Ffd1367a696b356dfe6a9dee6a634da56e%2Fujp7%2Fro1nwrvh4%2Ftumblr_static_filename_640_v2.jpg&imgrefurl=https%3A%2F%2Fwww.tumblr.com%2Ftagged%2Fnazi-propaganda-poster&docid=WzpFjAHd6Gn2AM&tbnid=29m5HiOvOat5wM%3A&imgrefurl=https%3A%2F%2Fwww.tumblr.com%2Ftagged%2Fnazi-propaganda&ved=0ahUKEwiNINWay8HSAHUGsBQKHwyCwCQMwiEAShIMGI&iact=mrc&uact=8#h=407&imgrc=29m5HiOvOat5wM:&ve t=1&w=640)



[http://lh4-ggph.com/\\_fps7jxvrEbw/SVjZHsm/AAAAAAAADYE/Y0J75Yxlp8/s160/Post%20%2E2%680%90%20Nordmen%20Kjemp%20Norge.jpg](http://lh4-ggph.com/_fps7jxvrEbw/SVjZHsm/AAAAAAAADYE/Y0J75Yxlp8/s160/Post%20%2E2%680%90%20Nordmen%20Kjemp%20Norge.jpg)

**Glorification**



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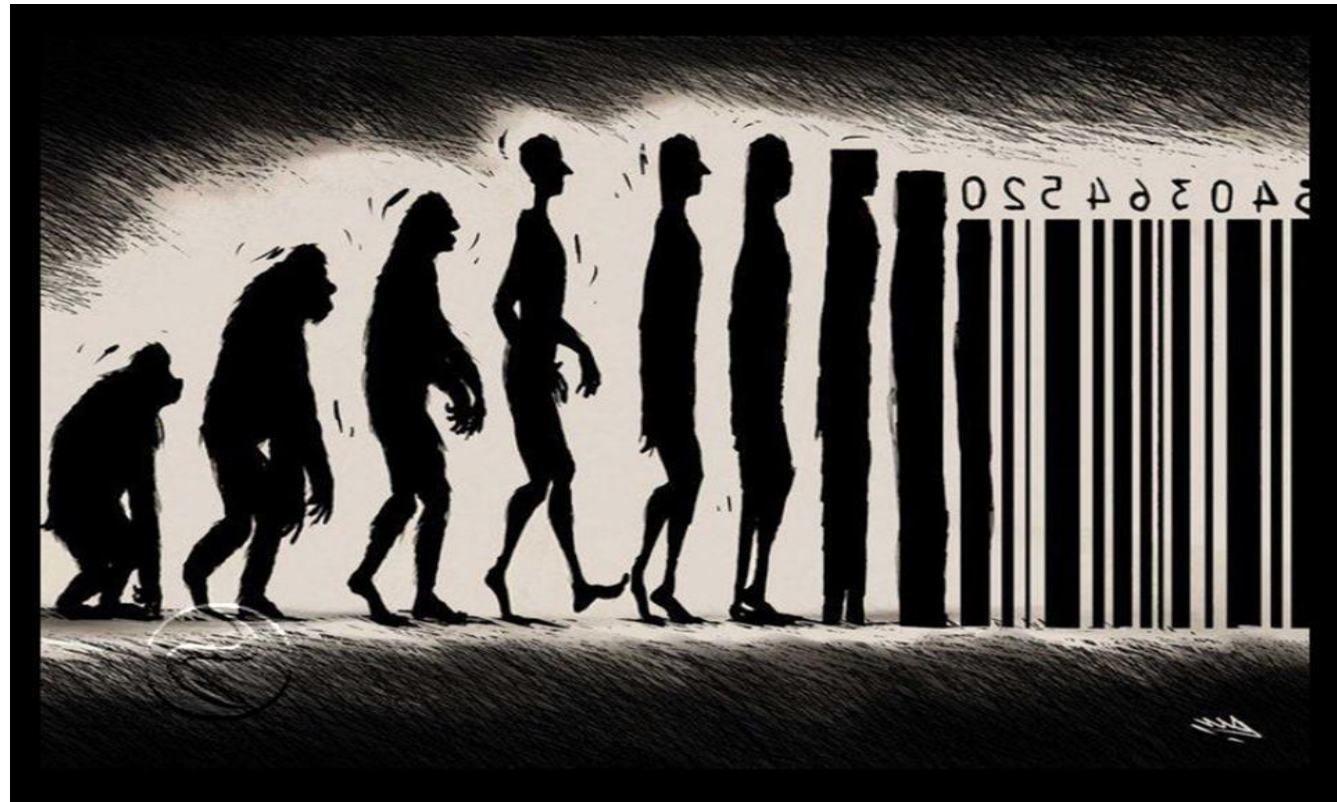
<https://s3.amazonaws.com/WCB.com/us-propaganda-during-world-war-ii/us-wwii-poster-united-we-are-strong.jpg>



[http://4.bp.blogspot.com/-9SUR-aibBwO/VpSWAnjnrQI/AAAAAAABUJ/BJin6bQ7axM/s1600/Ge man\\_recruiting\\_worldwartwo.filminspector.com\\_3.jpg](http://4.bp.blogspot.com/-9SUR-aibBwO/VpSWAnjnrQI/AAAAAAABUJ/BJin6bQ7axM/s1600/Ge man_recruiting_worldwartwo.filminspector.com_3.jpg)

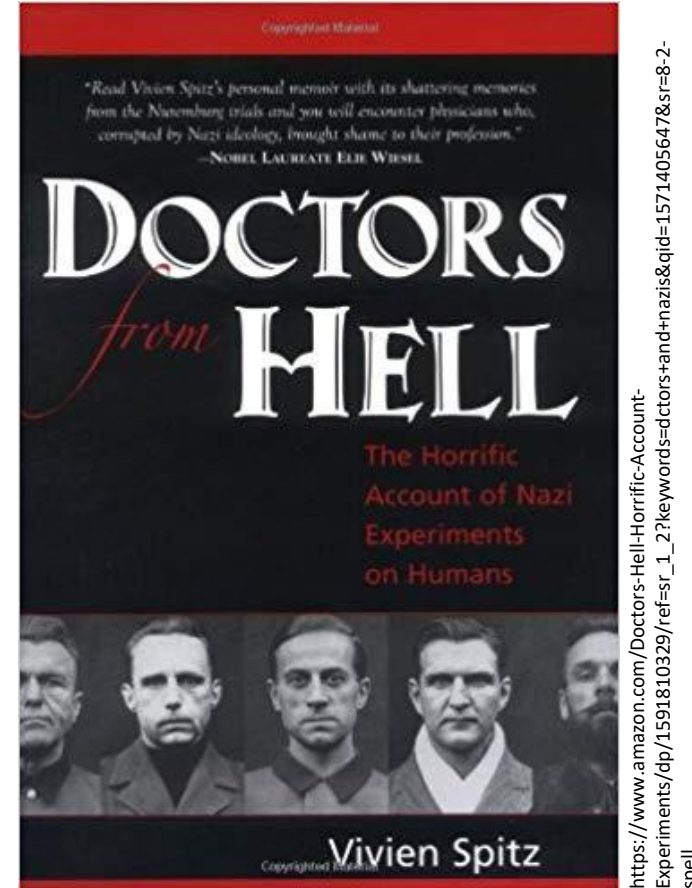
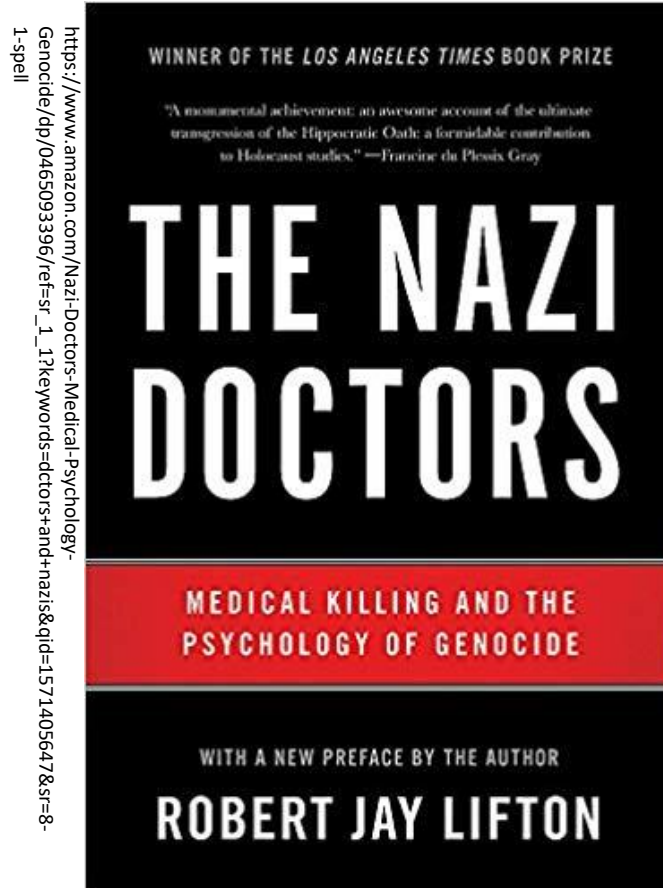
# Dehumanization

- Debasing the others' individuality as either an "individual" species or an "individual" object
- Animalistic
- Mechanistic





# Dehumanization





# Dehumanization

- Debasement the others' individuality as either an "individual" species or an "individual" object
- Animalistic
- Mechanistic

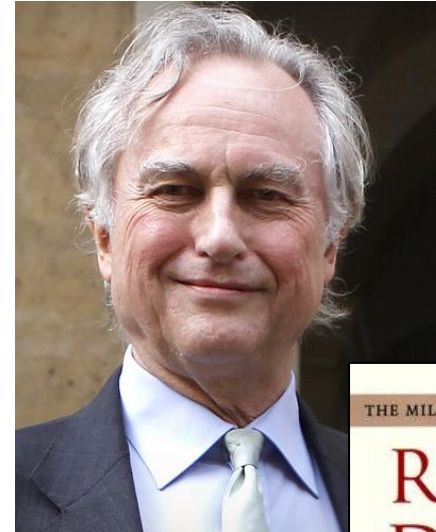
**Difference**  
✓ Cultural  
✓ Ethnical  
✓ Whatever

**Cultural development is  
disproportional**



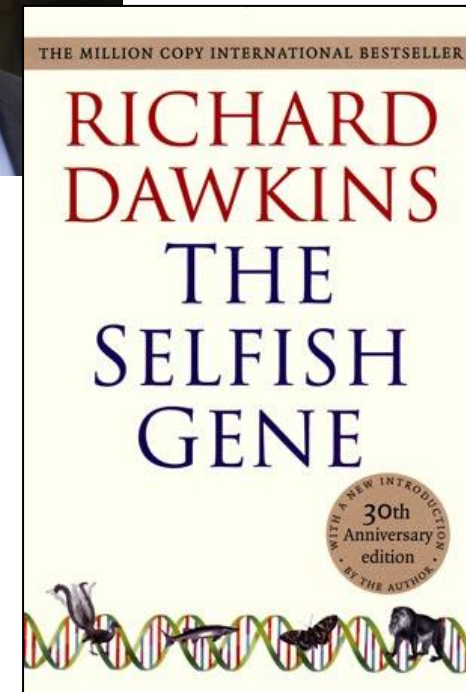
# Memetics

- Evolutionary model of cultural information transfer
- Analogy genetic information transfer



[http://media.salon.com/2013/08/richard\\_dawkins2.jpg](http://media.salon.com/2013/08/richard_dawkins2.jpg)

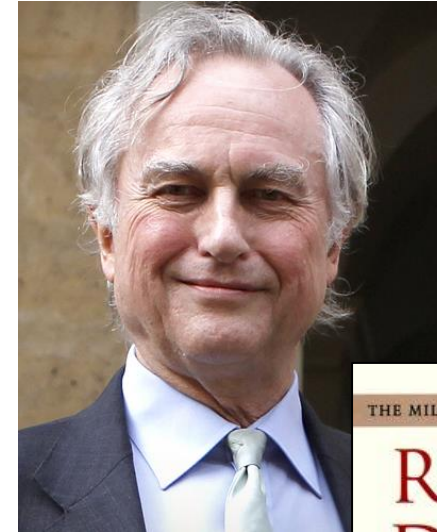
1976



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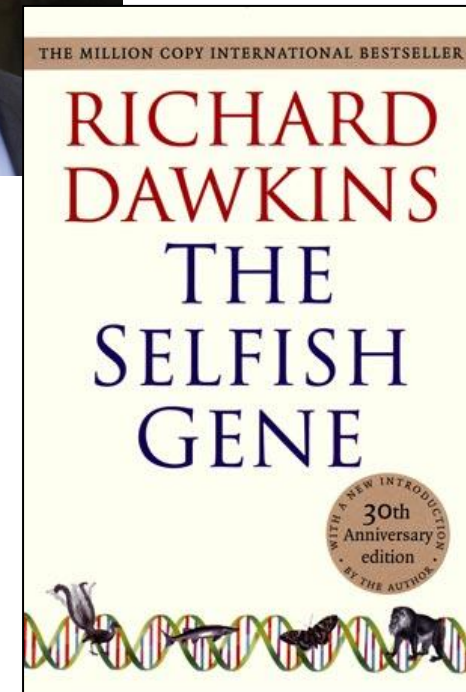
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- Evolutionary model of cultural information transfer
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- Mem
  - „unit of cultural information“
- Memetic complex
  - System of values/philosophy/religion



[http://media.salon.com/2013/08/richard\\_dawkins2.jpg](http://media.salon.com/2013/08/richard_dawkins2.jpg)

1976



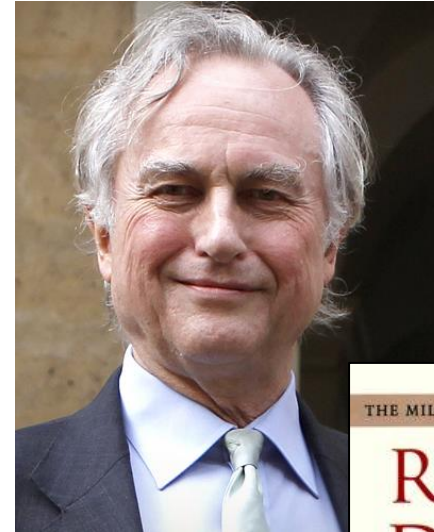
[https://geophagus.files.wordpress.com/2009/07/b123pb\\_lg.jpg](https://geophagus.files.wordpress.com/2009/07/b123pb_lg.jpg)



# Memetics

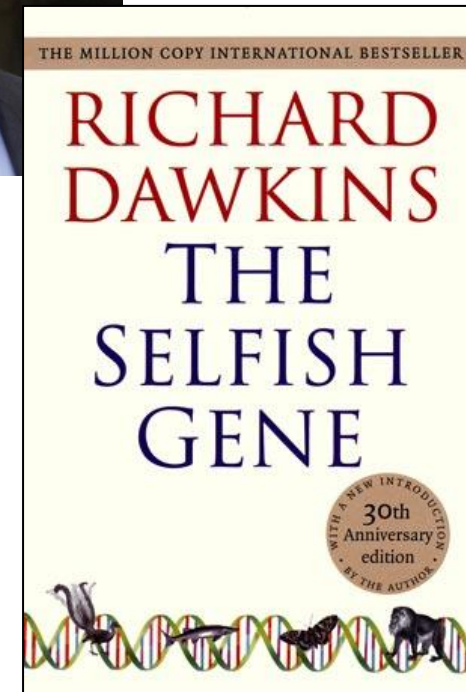
- Evolutionary model of cultural information transfer
- Analogy genetic information transfer
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  - System of values/philosophy/religion

**Every system of values has to be considered as a memetic complex (philosophy of consume lifestyle, biker or hooligan)**



[http://media.salon.com/2013/08/richard\\_dawkins2.jpg](http://media.salon.com/2013/08/richard_dawkins2.jpg)

1976



[https://geophagus.files.wordpress.com/2009/07/b123pb\\_lg.jpg](https://geophagus.files.wordpress.com/2009/07/b123pb_lg.jpg)

# Memetics

- Memetic complex has to replicate, otherwise it will become a "dead learning / information"
- Memetic complexes compete each other for „substrate“ (human mind)



<http://cdn2.5wm83b1.maxcdn-edge.com/wp-content/uploads/2014/08/pepsiad2.jpg>



[http://4.bp.blogspot.com/\\_4ryHM8waEOc/S5ZL9uKNi0I/AAAAAAAAA4w/9cyf2Jf7rnc/s400/coke\\_vs\\_pepsi.jpg](http://4.bp.blogspot.com/_4ryHM8waEOc/S5ZL9uKNi0I/AAAAAAAAA4w/9cyf2Jf7rnc/s400/coke_vs_pepsi.jpg)

Memetics may be applied to any part of the culture, eg. on technological processes

# Culture

– the sum of knowledge

- ✓ Material
- ✓ Spiritual



<https://cdn.nexternal.com/tjb/images/FC-11.jpg>



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<http://previews.123rf.com/images/dja65/dja651107/dja65110700341/10025966-Stone-age-axe-Stock-Photo-tools-ancient-stone.jpg>



[http://www.thebushcraftstore.co.uk/ekmps/shops/bduimportsitd/images/condor-greenland-pattern-axe-\[2\]-12105-p.jpg](http://www.thebushcraftstore.co.uk/ekmps/shops/bduimportsitd/images/condor-greenland-pattern-axe-[2]-12105-p.jpg)



<https://en.wikipedia.org/wiki/File:Mary16thC.jpg>



<https://www.wikiart.org/en/leonardo-da-vinci/the-madonna-of-the-carnation>



<https://pixels.com/featured/1-madonna-and-child-peter-paul-rubens.html>



<https://www.wikiart.org/en/m-h-maxy/madonna>



## Medical doctor

- Treatment strategy
  - Evidence based
  - Rational
  - Reproducibility
  - Knowledge transfer possible

## Healer

- Treatment strategy
  - Personal ability based
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It is possible that people with supernatural abilities exist, but they are in minority and the majority of healers intentionally or unintentionally manipulate their patients

➤ Every phenomenon which cannot be explained rationally is similar to miracle/supernatural phenomenon



<http://pop.h-cdn.co/assets/15/45/2048x1152/hd-aspect-1446671691-ufo3000.jpg>



<https://space.desktopnexus.com/wallpaper/598423/>



<https://s-media-cache-ak0.pinimg.com/originals/c3/53/40/c353406ec16aa486bdf806581839dcb7.jpg>



# ➤ Even we cannot explain some phenomena we should consider its effect, reproducibility and knowledge transfer possibilities

NCBI Resources How To Sign in to NCBI

PMIC Search Help

Journal List > Glob Adv Health Med > v3(4); 2014 Jul > PMC4104560



Glob Adv Health Med. 2014 Jul; 3(4): 6–8.  
Published online 2014 Jul 1. doi: 10.7453/qaahmi.2014.042

PMCID: PMC4104560

### Acupuncture: Past, Present, and Future

Jason Jishun Hao, DOM, MTCM, MBA<sup>1</sup> and Michele Mittelman, RN, MPH

Author information > Copyright and License information >

#### Abstract

Go to: ☺

During the past 40 years, acupuncture, a therapeutic technique of oriental medicine, has become more and more popular, evolving into one of the most utilized forms of complementary integrative medicine interventions in the United States. In fact, more than 10 million acupuncture treatments are administered annually in the United States alone. Its rise in popularity, particularly in the West, can be attributed in part to its effectiveness for pain relief and in part to the fact that scientific studies have begun to prove its efficacy.

**Key Words:** Acupuncture, headache, scalp, central nervous system, pain relief

During the past 40 years, acupuncture, a therapeutic technique of oriental medicine, has become more and

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Safety and efficacy of acupuncture in children: a review of the evidence. [J Pediatr Hematol Oncol. 2008]

[Acupuncture as complementary medicine in patients with osteoarthritis of the knee. [Harefuah. 2007]

Clinical acupuncture research in the West. [Front Med. 2011]

Lessons from an acupuncture teaching clinic: patient characteristics and pain management effects [Explore (NY). 2014]

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Journal List > Syst Rev > v.3; 2014 > PMC4326322



Syst Rev. 2014; 3: 142.  
Published online 2014 Dec 6. doi: 10.1186/2046-4053-3-142

PMCID: PMC4326322

### Randomised placebo-controlled trials of individualised homeopathic treatment: systematic review and meta-analysis

Robert T Mathie,<sup>1</sup> Suzanne M Lloyd, Lynn A Legg, Jürgen Clausen, Sian Moss, Jonathan RT Davidson, and Ian Ford

Author information > Article notes > Copyright and License information >

This article has been cited by other articles in PMC.

#### Abstract

Go to: ☺

#### Background

A rigorous and focused systematic review and meta-analysis of randomised controlled trials of individualised homeopathic treatment has not been conducted. The aim of this review was to assess the overall outcome of an individualised homeopathic treatment compared with placebo.

#### Conclusions

Medicines prescribed in individualised homeopathy may have small, specific treatment effects. Findings are consistent with sub-group data available in a previous 'global' systematic review. The low or unclear overall quality of the evidence prompts caution in interpreting the findings. New high-quality RCT research is necessary to enable more decisive interpretation.

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It is possible that people with supernatural abilities exist, but they are in minority and the majority of healers intentionally or unintentionally manipulate their patients

- Approach to patient
  - More rational - explanatory

- Approach to patient
  - More emotional - calming

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Every illness is a stressor negatively affecting patient's psyche

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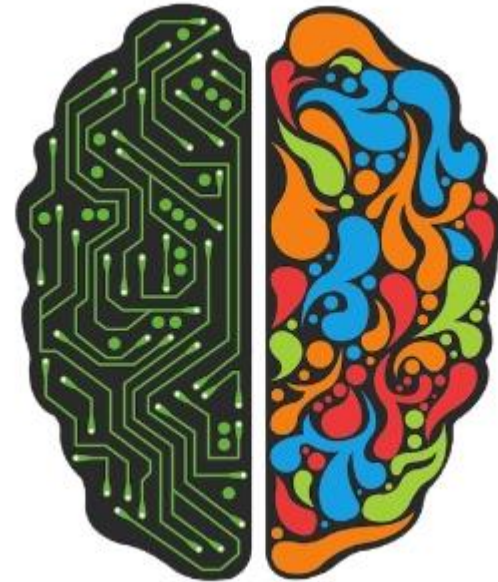
Placebo has an effect in approximately 30% of cases and this is associated with anticipation functions of the brain

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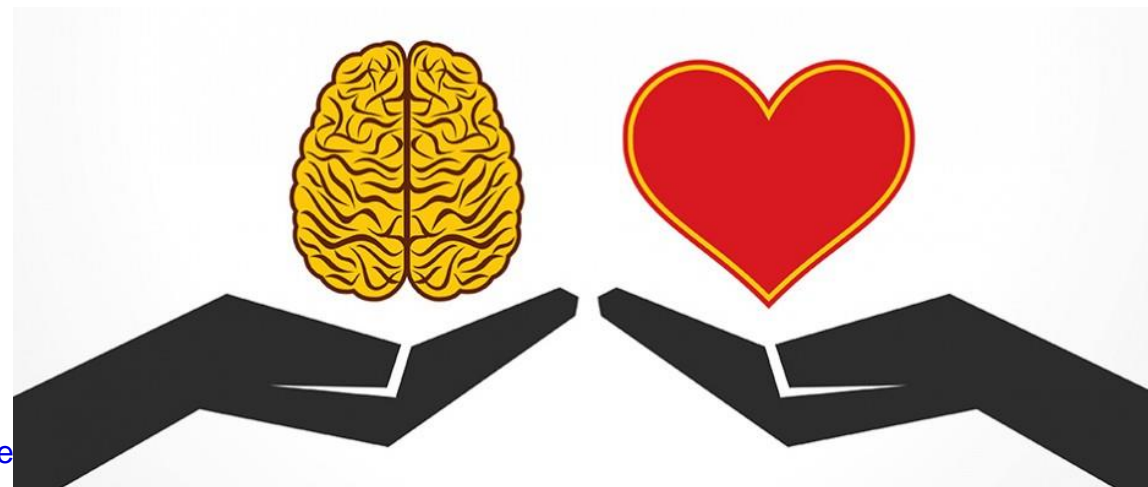
Good approach to patients may improve treatment results by combining placebo effect with the effect of medicaments

# Empathy

Rationality



Emotionality





## 86. The basic characterization of neocortical functions – language and social brain, basic overview of functional diagnostic methods used in neurology

- Communication and language
  - Language areas – localization and function including lobulus parietalis inferior, aphasia...
  - Lateralization of language functions, gender differences
- Social brain
  - Human is a social being, so the brain has to be designed accordingly
  - Frontal lobe and limbic system in behavioral control
  - Triune brain theory, whole brain model, mentalization, dehumanization
- Functional diagnostic methods (EEG, SPECT, PET , fMRI)

M U N I

M E D