The Neuroscience of Story

CONN MCQUINN
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There have been great societies that did not use the wheel, but there have been no societies that did not tell stories.

Ursula K. Le Guin
NOW YOU DIE!!

NO!

NO!
How Do I Learn?
Knowledge about the Brain

We’ve learned more about the brain in the last 25 years than we did in the previous 2,500.

Dr. Eric Chudler, University of Washington
What happens in the brain when you learn?
Cell body (the cell’s life-support center)

Dendrites (receive messages from other cells)

Axon (passes messages away from the cell body to other neurons, muscles, or glands)

Myelin sheath (covers the axon of some neurons and helps speed neural impulses)

Terminal branches of axon (form junctions with other cells)

Neural impulse (electrical signal traveling down the axon)
Reflection

• What was surprising?
• What did you already know, but now see in a new way?
• What new questions do you have?
NEW!
It is literally neurologically impossible to learn deeply about something you don’t care about.

Dr. Mary Helen Immordino-Yang
Reflection

• What was surprising?
• What did you already know, but now see in a new way?
• What new questions do you have?

4 minutes
People think that stories are shaped by people. In fact it's the other way around.

- Terry Pratchett
Storytellers
RUN THE WORLD
Reflection

- What was surprising?
- What did you already know, but now see in a new way?
- What new questions do you have?

4 minutes
ACT I
SEPARATION
1. Ordinary World
2. Call to Adventure
   (Inciting incident)
3. Refusal of the Call
4. Meeting with
   the Mentor
5. Crossing
   the Threshold
6. Tests, Allies,
   Enemies
7. Approach
8. Central Ordeal
   (Midpoint, Death, and
   Rebirth)
9. Reward
10. The Road
    Back
11. Resurrection
    (Climax)
12. Return with Elixir
    (Denouement)

ACT II A
DESCENT

ACT II B
INITIATION

ACT III
RETURN
Hero!

Mentor

Ally

Herald
Hero!
The need to belong and feel connected
The need for self-determination and autonomy
The need to feel competent
Fixed Mind-set: Intelligence is static.
- Leads to a desire to look smart and therefore a tendency to avoid challenges.
- Obstacles: Give up easily.
- Effort: See effort as fruitless or worse.
- Criticism: Ignore useful negative feedback.
- Success of others: Feel threatened by the success of others.

Growth Mind-set: Intelligence can be developed.
- Leads to a desire to learn and therefore a tendency to embrace challenges.
- Obstacles: Persist in the face of setbacks.
- Effort: See effort as the path to mastery.
- Criticism: Learn from criticism.
- Success of others: Find lessons and inspiration in the success of others.

As a result, they may plateau early and achieve less than their full potential. All this confirms a deterministic view of the world.

As a result, they reach even higher levels of achievement! All this gives them a greater sense of free will.

GRAPHIC BY NIGEL HOLMES
THREAT

CHALLENGES
...avoid challenges

OBSTACLES
...give up easily

EFFORT
...see effort as fruitless or worse

...embrace challenges
...persist in the face of setbacks
...see effort as the path to mastery
As a result, they may plateau early and achieve less than their full potential. All this confirms a deterministic view of the world.

As a result, they reach ever-higher levels. All this gives them a greater sense of...
What are the stories we are telling to our children?
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