

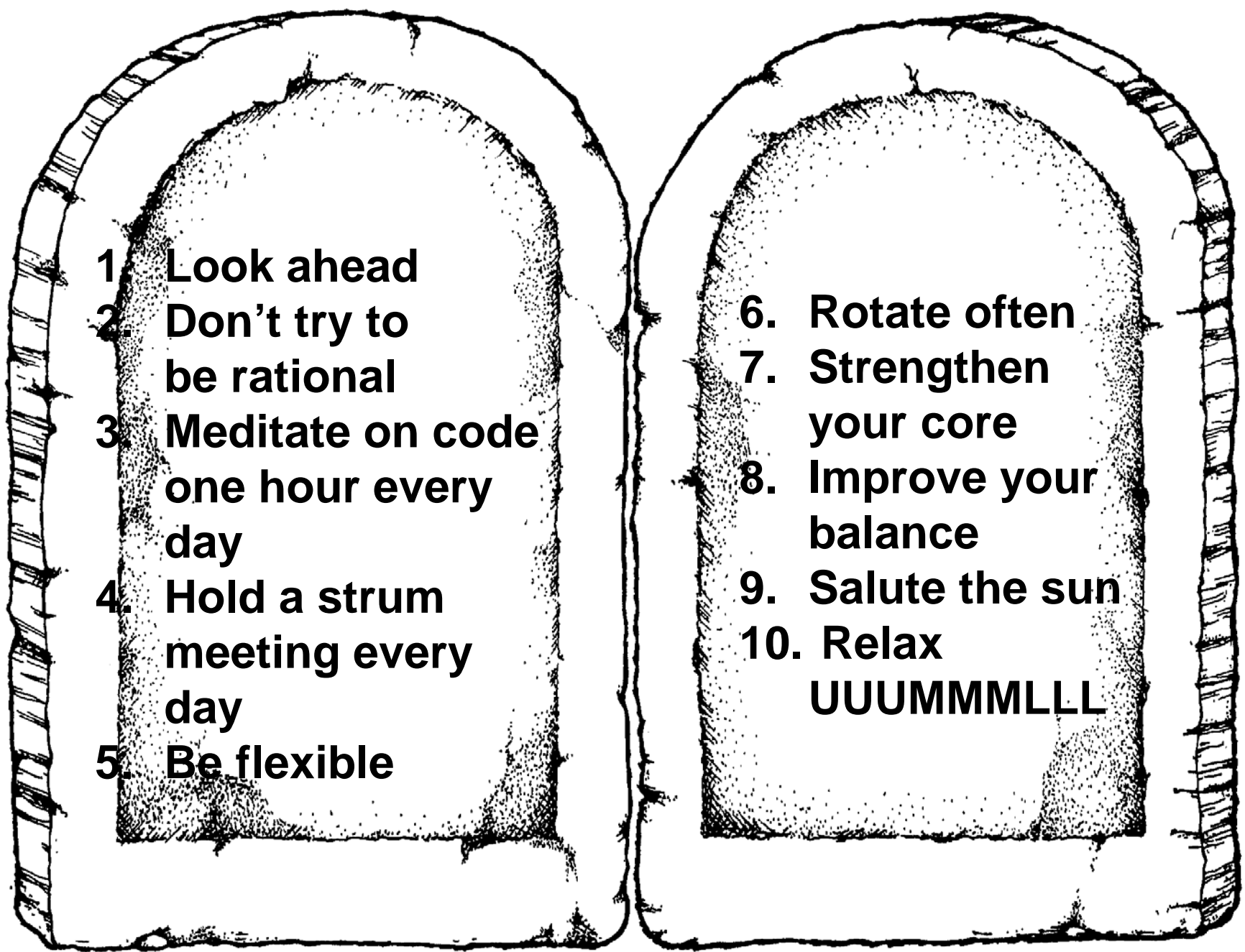
YOGA - A Software Development Process Based On Ancient Principles

Seth Winis, YM
sethwinis@gmail.com



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- Learning Center tools for professional development: <http://learning.acm.org>
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1. Look ahead

2. Don't try to be rational

3. Meditate on code one hour every day

4. Hold a strum meeting every day

5. Be flexible

6. Rotate often

7. Strengthen your core

8. Improve your balance

9. Salute the sun

10. Relax

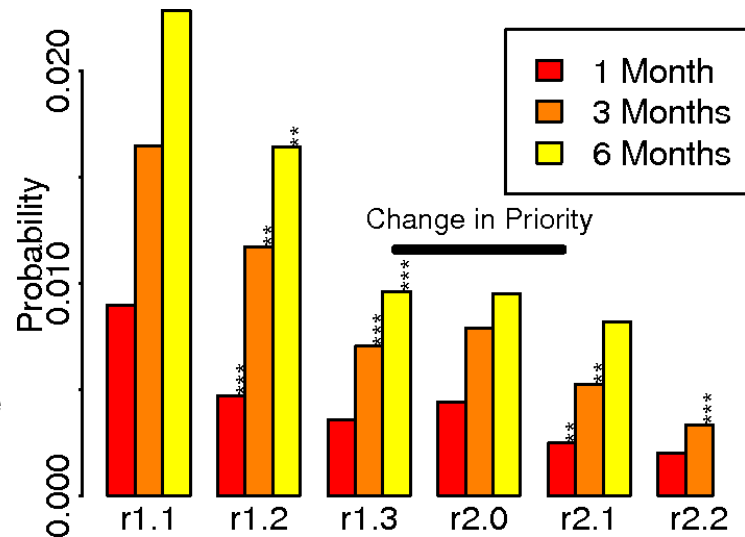
UUUMMLLL

I. Ignore the past and look ahead

- Those who ignore history will not repeat it.
- Data shows that improvement is never steady. Forge ahead. Use the latest technology.

Customer complaints
per delivered system
per month

Source: Hackbarth, R., Palframan, J., Mockus, A., Weiss, D.; Assessing the State of Software in a Large Enterprise, Journal of Empirical Software Engineering, October, 2009

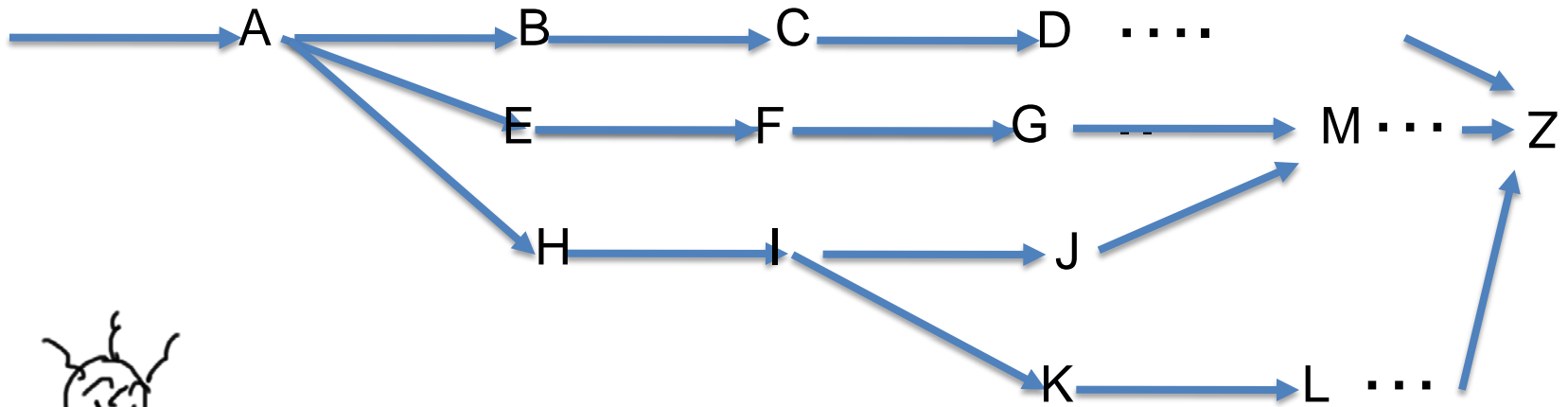


II. Don't Try To Be Rational

- No such thing as a rational design process
 - See Parnas, D.L., Clements, P.C.; *A Rational Design Process: How and Why to Fake It*, IEEE Transactions on Software Engineering, SE-12, No. 2, February 1986, 251-257

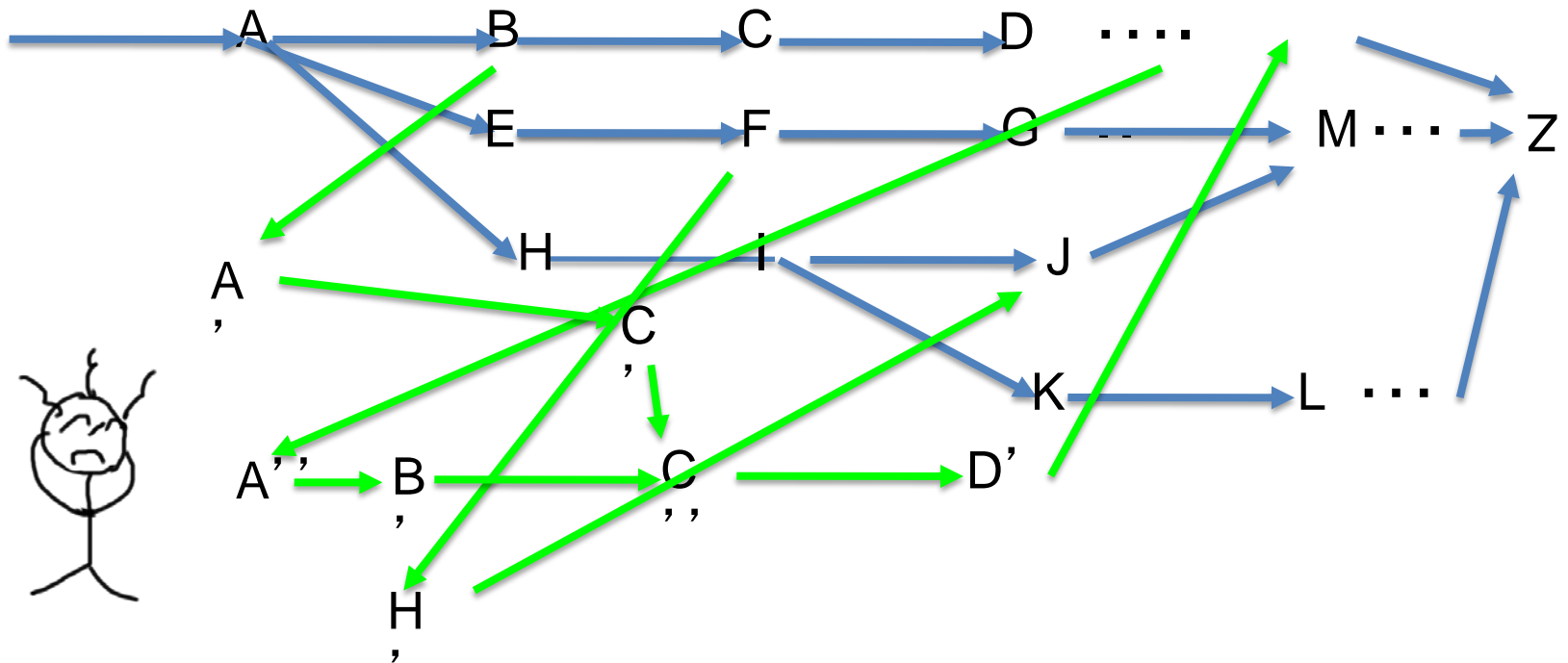
Plans vs. Reality (Rational vs. Irrational)

Plan



Plans vs. Reality (Rational vs. Irrational)

Reality



III. Meditate on code an hour a day

- What is easy to change?
- What is hard to change?
 - How can I make it easier?
- What is worth changing?
 - What is the value of each change?
 - What is the cost of each change?
 - If I do it?
 - If someone else does it?
- What should I change today?

IV. Hold a strum meeting every day*

- Everyone proposes a change – based on meditation
 - What did you meditate on?
- Vote on what change(s) to make today
- All done to the relaxing rhythm of a guitar – strum meeting

* Stand-up – works well with team of about 10



V. Be Flexible About Changes

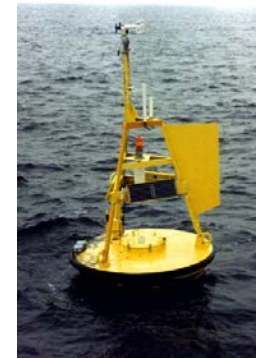
- Make a change a day
- Pick a change that everyone likes
 - Choose daily change during strum meeting
 - Start with variabilities

Contributions to master,



Identify Variabilities Early and Often

- The following statements describe how Floating Weather Stations* may vary. While commonalities identify what is common to all members of the family, variabilities describe how members of the family may differ.
- V1. The number of wind speed sensors.
- V2. The resolution of each sensor.
- V3. The sensor period.
- V4. The format of the messages transmitted.
- V5. The transmission period.
- ...



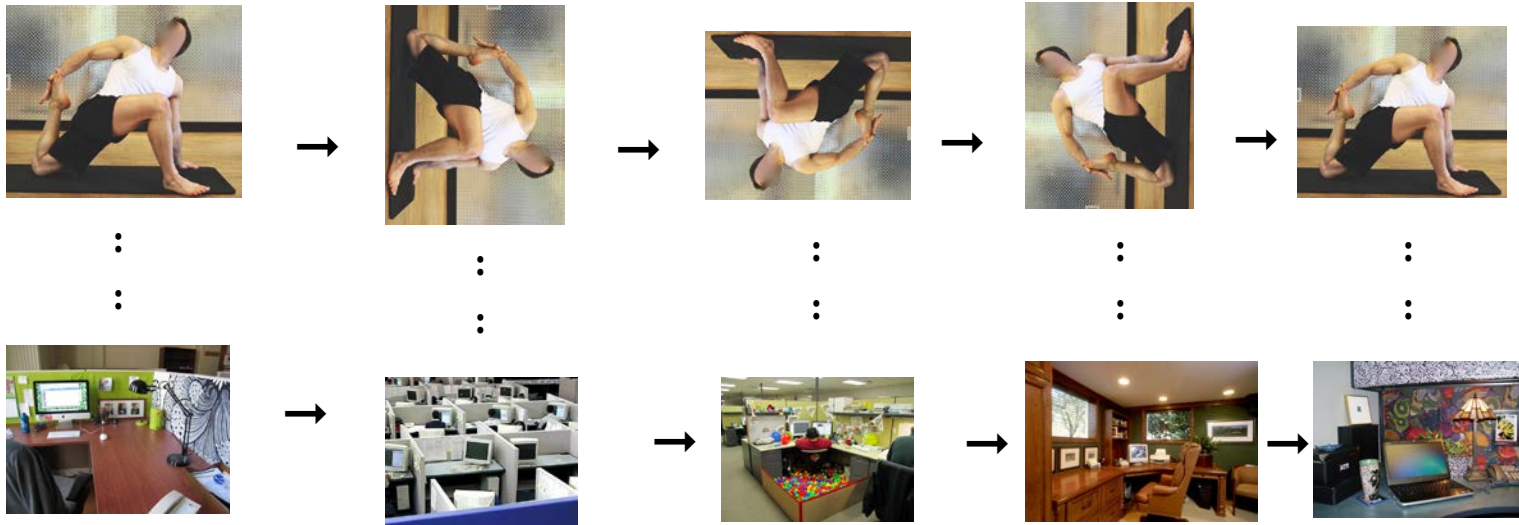
Source: Weiss, D. and Lai, C.T.R.; Software Product Line Engineering, Addison Wesley, Reading, MA, 1999

* For map of and data from FWS see <http://www.ndbc.noaa.gov/>

VI. Rotate Often

- Switch Roles

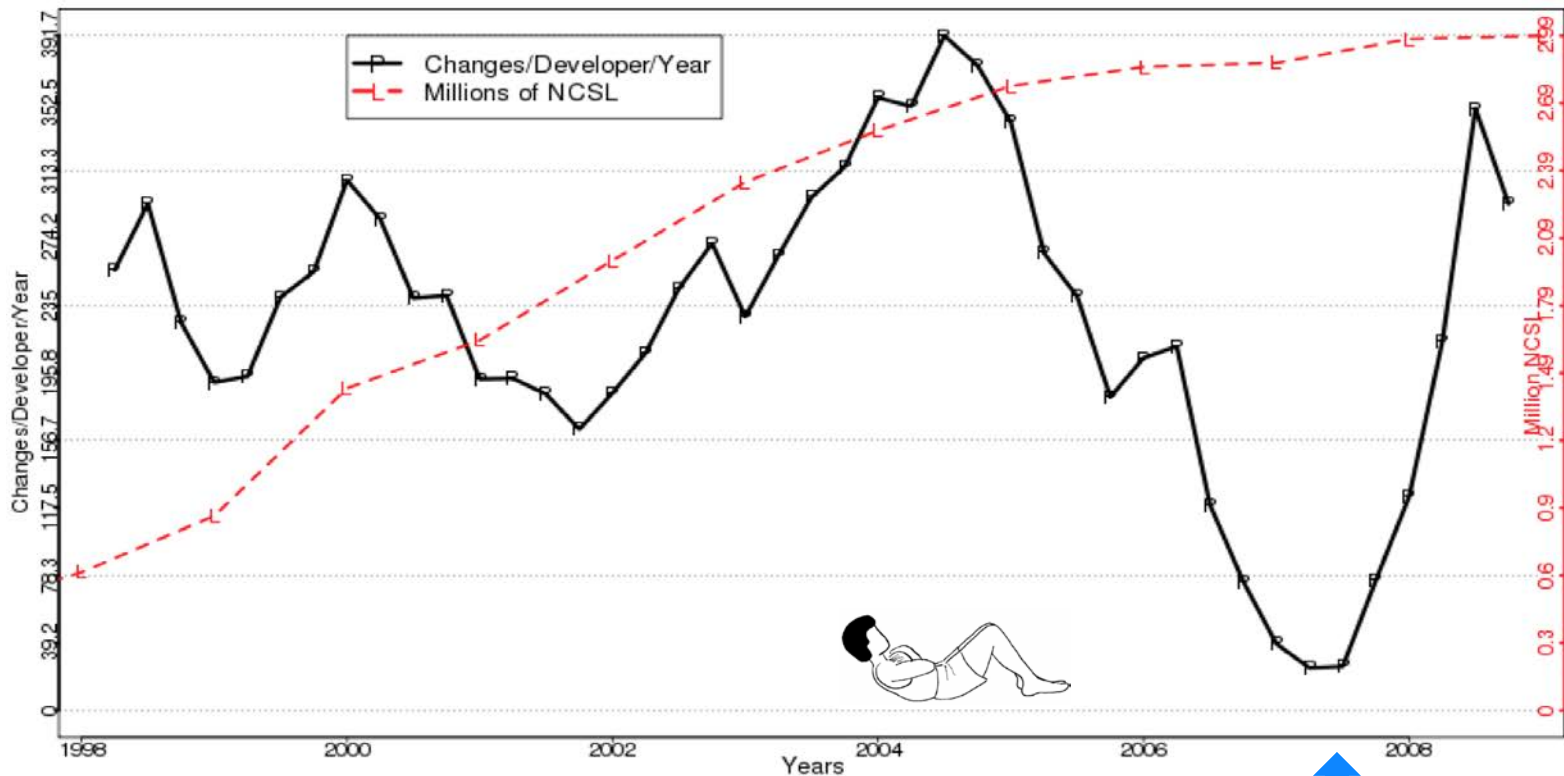
Architect → Developer → Tester → PM → Architect



VII. Strengthen Your Core

- Practice Refactoring

Core Group: Developers who made 80% of changes

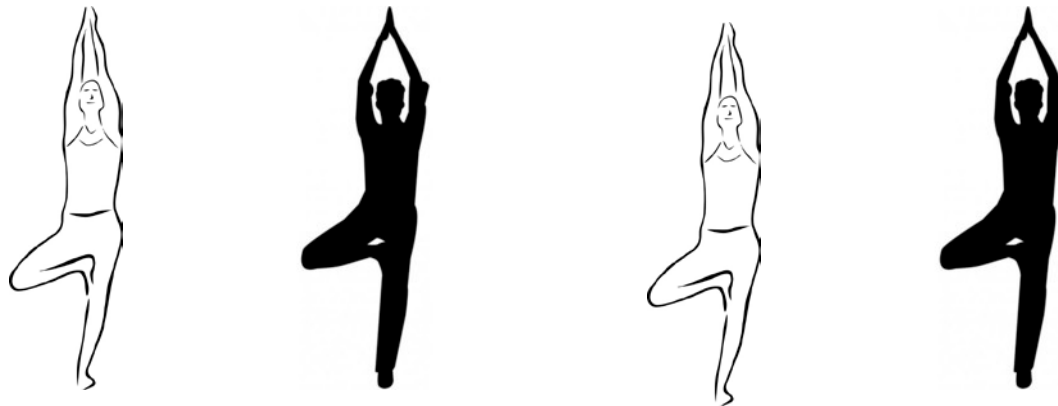


Source: Hackbarth, R., Palframan, J., Mockus, A., Weiss, D.; Assessing the State of Software in a Large Enterprise, Journal of Empirical Software Engineering, October, 2009

**Project Moved Offshore
To Inexperienced Group**

VIII. Improve Your Balance

- Do team members complement each other?
- Do team members compliment each other?
- Do team members back up each other so that essential knowledge is unlikely to be lost?
- Do inexperienced team members have mentors?
- Practice balance during strum meeting.



IX. Salute The Sun

The Yoga master leads the team to start the day.

- Is everything/everyone ready to start the day? Look up and ahead!



X. Relax

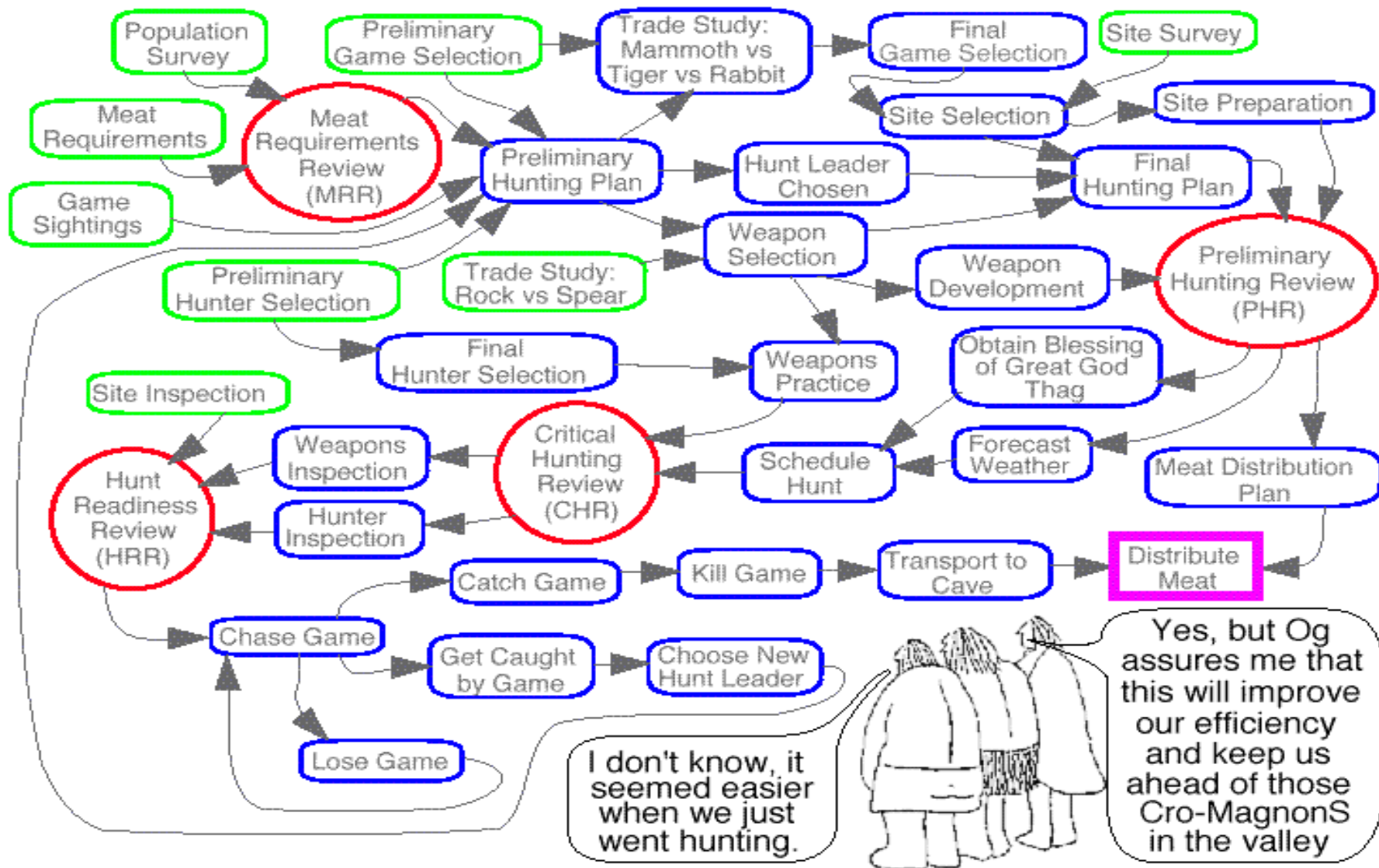
- End the day with group deep relaxation
 - Some may be finishing the day, some may be starting the day
 - Puts everyone in a good frame of mind
 - Program the mind for the next step

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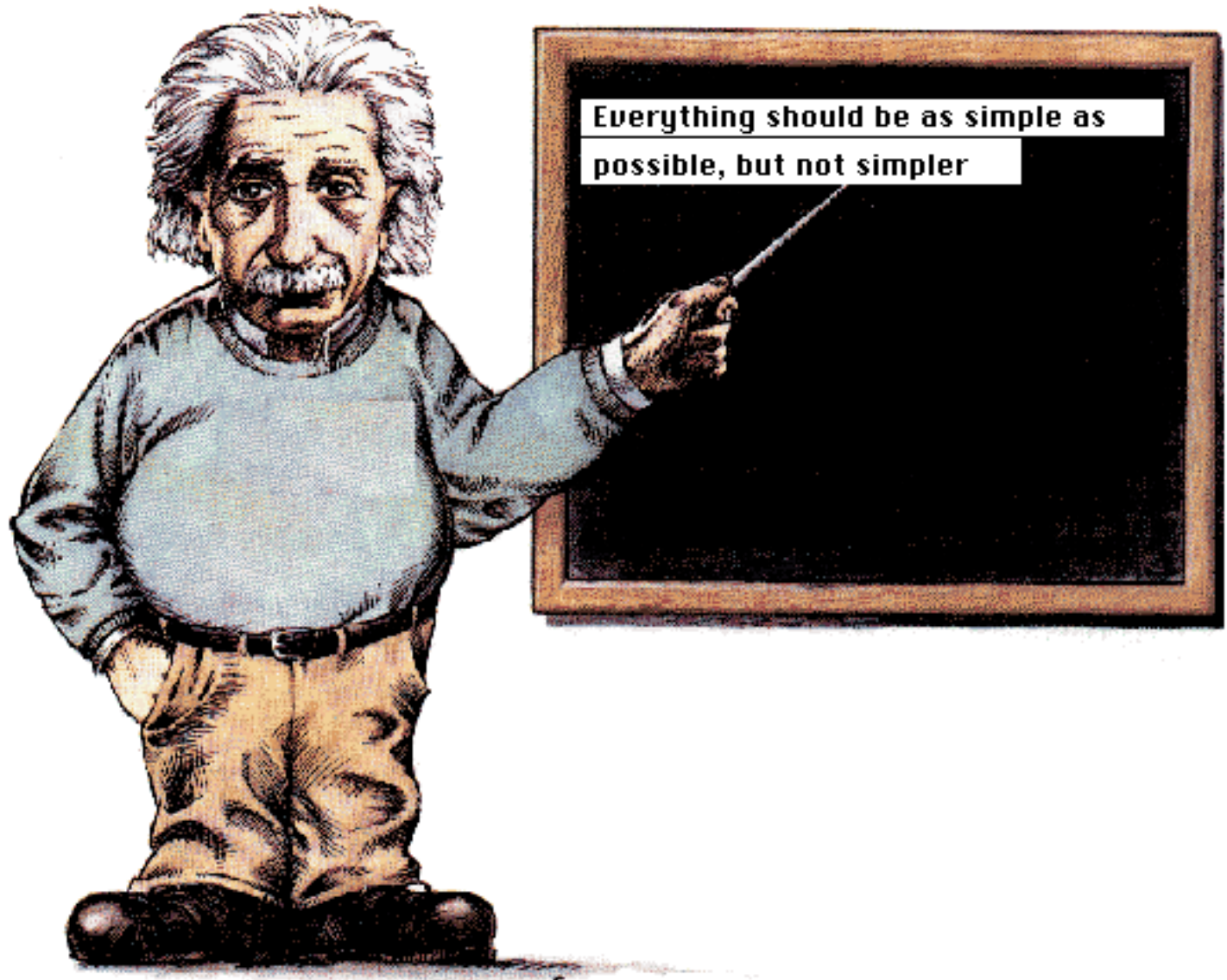


But, what about ...

- Artifacts
- Roles
- Activities
- Schedules
- Risks
- Process = Artifacts + Roles + Activities
 - Roles perform the activities to produce the artifacts



Why the Neanderthals became extinct.

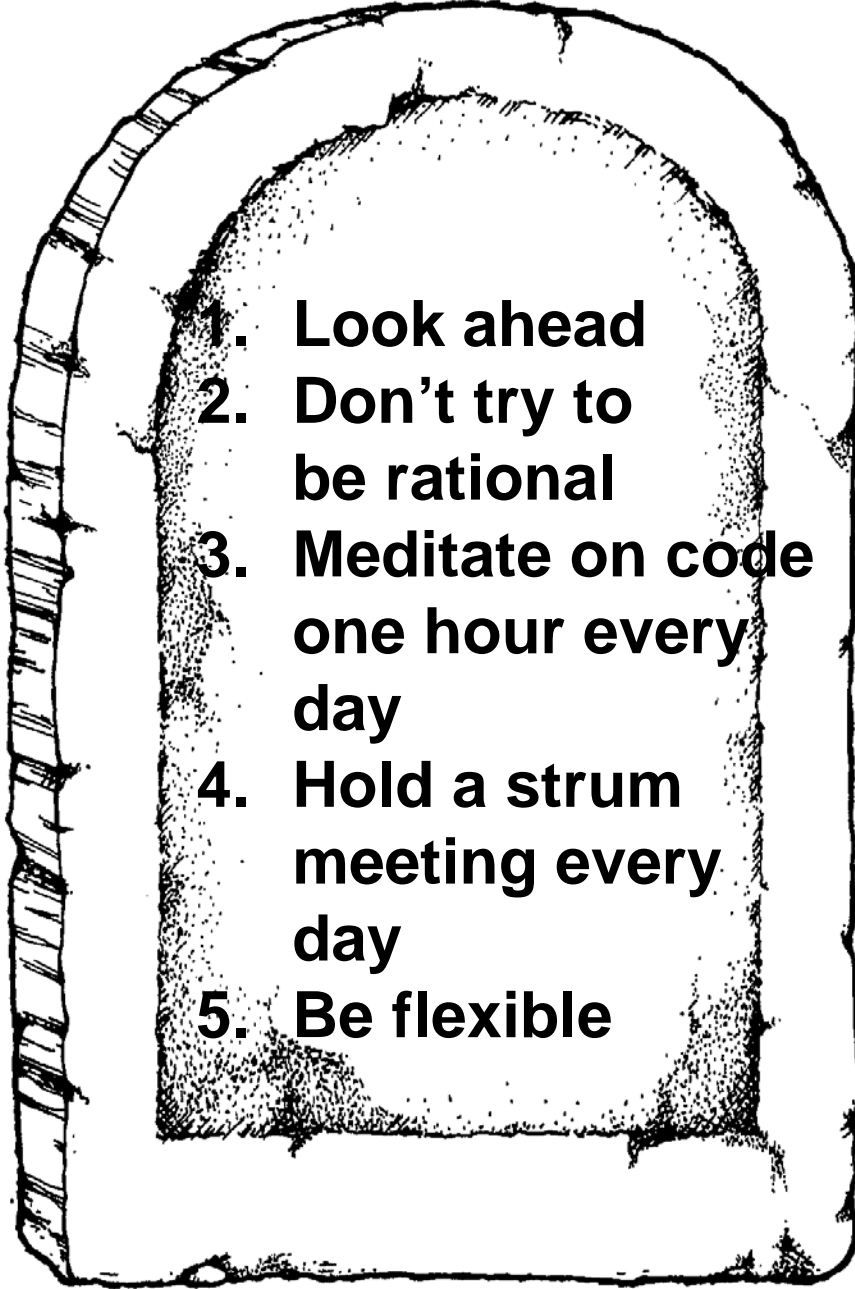


“If I have seen farther than others, it is because I have stood on the shoulders of giants.”

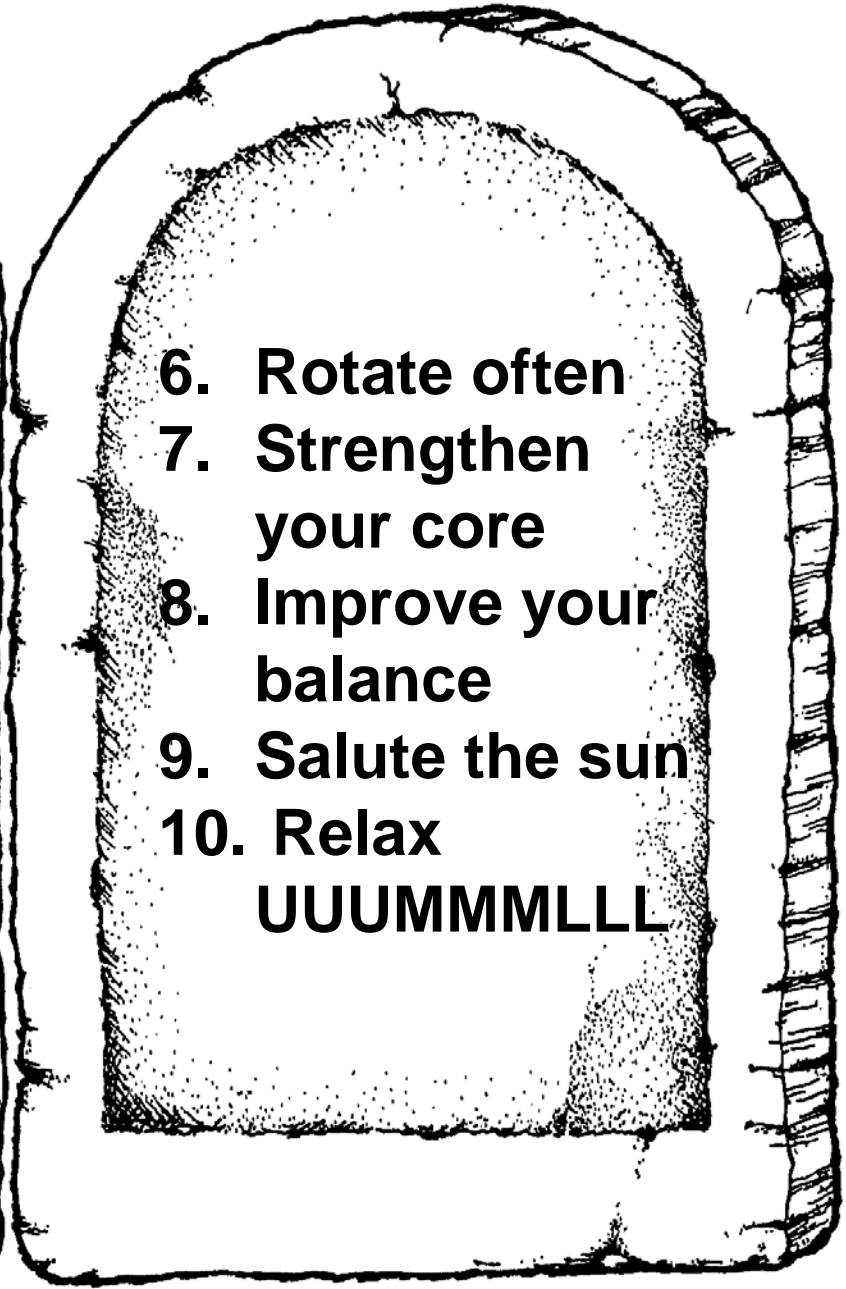
-- Isaac Newton (17th century)

“Pygmies who stand on the shoulders of giants see farther than the giants.”

-- Bernard of Chartres (12th century)



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 - 8. Improve your balance**
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- UUUMMLLL**



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