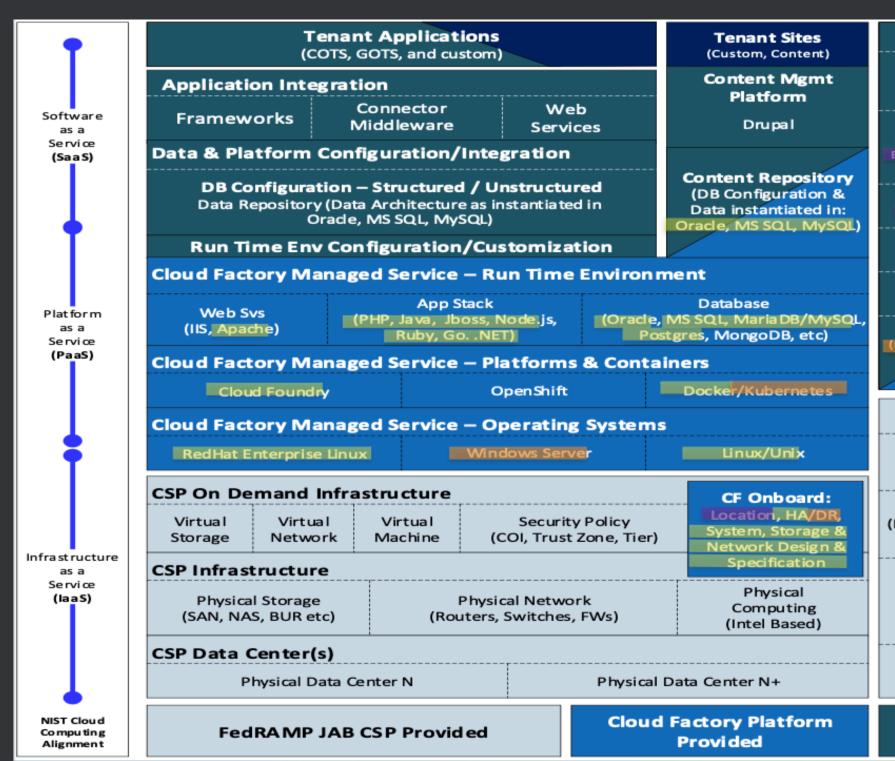
# Mnemonic Rules for Eponymous Laws

SRECon EMEA 2024

# Brace Wourself...



### Cloud Factory Managed Services – "In the Cloud Mgmt"

ALM, Dev, Test & Continuous Integration Tools Suite

(Code Repository, Version Control, Reqs Mgmt, Release Mgmt, Build/Deploy, Config Mgmt, Issue Tracking, Test Mgmt, Change Mgmt, Continuous Integration, Compliance

### Security, QA, Config & Compliance Mgmt

(Platform & Appl Svs Provisioning, Platform & Appl specific monitoring, Audting/Logging,
Event Notification, Appl/Platform DB Backup/Recovery, Appl/Plat Patching & CM, Continuous

Monitoring, integration w/ CSP SO C)

### Additional Network, Apply Security & AuthN Services

(TIC/MTIPS, Perimeter Controls, Appl FWs, DNS, GLB, Content Distro, ID/AuthN Integration)

### **Platform and Container Management**

(Onboarding, Configuration, Security, Clustering, Scaling, Monitoring, Mgmt)

### **Customized laaS & RTE Service & Customer Integration**

(Onboarding, Customer Appl/Sys Integration, Service Ordering & ITSM)

### Cloud & IT Services Management

Helpdesk, Incident Mgmt, Monitoring, Asset Mgmt, Configuration Mgmt, Usage Policy Mgmt, System & Network Design & Provisioning, Consumer/Tenant OS/RTE Patching, Automated Infrastructure & Platform Build/Deploy, CSP Identity & Access Mgmt Integration)

### CSP Managed Service – "Of the Cloud Management"

Consumer Configurable Services (Compute, Storage, Backup, Network, FW/LB, HA/DR)

Cloud Factory Configuration (System & Network Config -Compute, Storage, Network)

Service Management
(IaaS usage, billing & reporting: VM, Storage,
Network Utilization, etc)

CF Cloud Svs Mgmt (Config & Usage Tracking, Chargeback, cost model)

### Performance Monitoring & Management

(IaaS & Platform Managed Services Elements: Running Svs, File System Util) CF Cloud Perf Mgmt (Shared Services Monitoring, Share File System Util, Integrated into cost model)

### laaS Mgmt, Provisioning & laaS Lifecycle Mgmt

(Infrastructure Mgmt, Virtualization mgmt, IaaS & Platform Managed Services Elements: OSes, Web, DB, Stack)

Tenant Application Owner Responsibility Tenant / Content Owner

### What I said:

- How many customers do you have?
- Yada, yada, Agile Development, blah, blah, blah, Lean Enterprise, ...

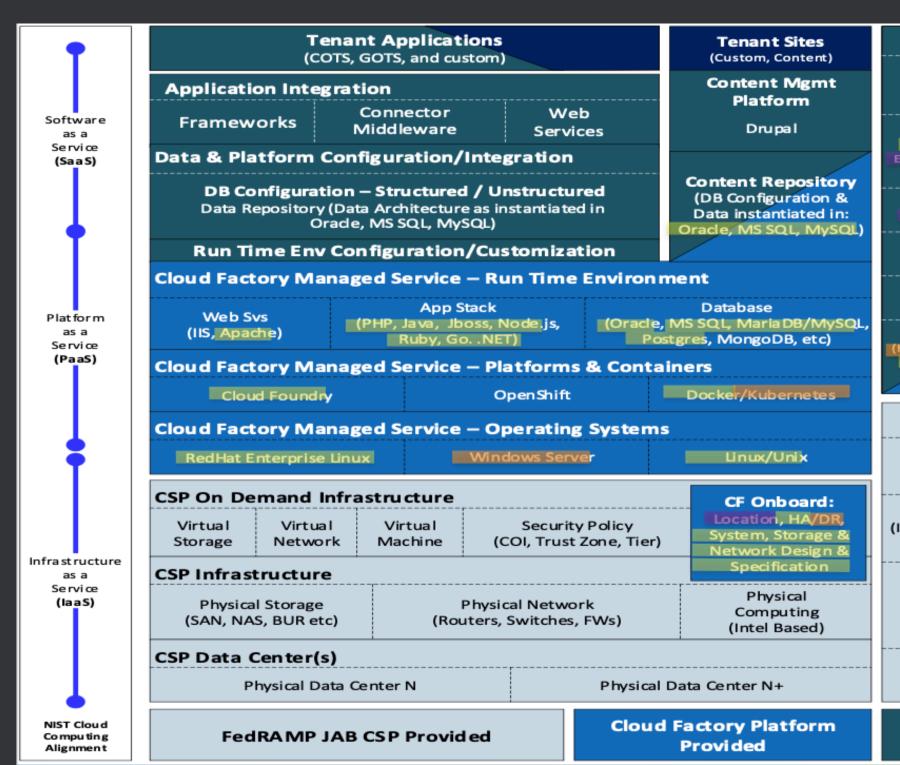
## What I needed:

- Eponymous Principle
  - a law named for a person (from Greek eponymos "given as a name")
- Mnemonic Rule:
  - a trick for recall (from Greek mnēmē "memory")

## Mnemonic Tricks

"To build a memory ... it has to be a little bit weird"

- Per Sederberg (Ohio State University)
- Good mnemonics are weird, perhaps a little gross, or embarrassing.
- Make them work for you



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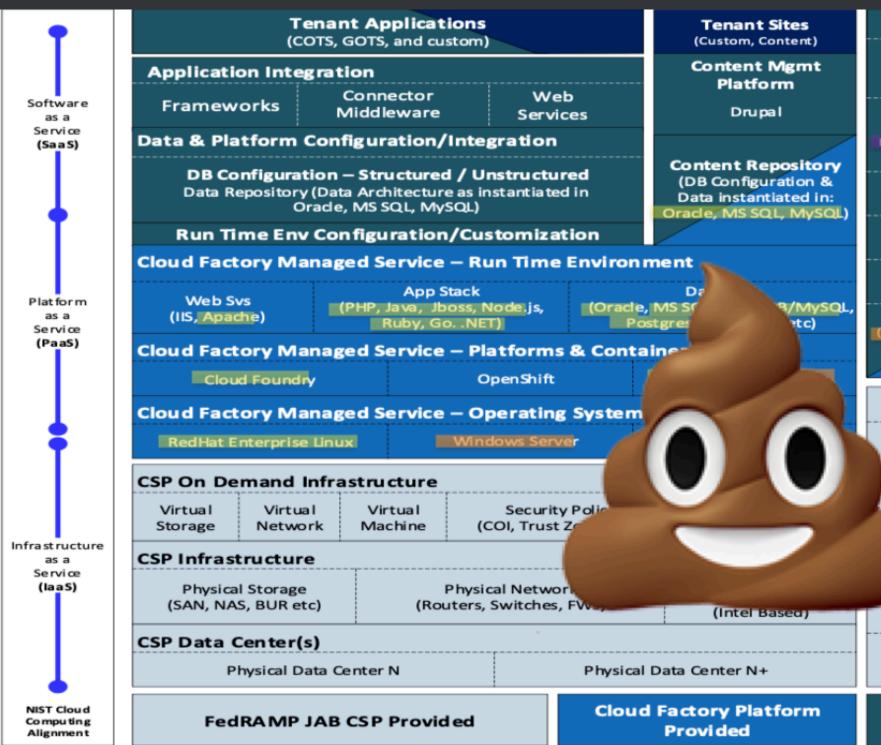
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**Tenant Application Owner** Responsi bility

**Tenant / Content** Owner

# Evolution of Digestion and 💩



- Worm Digestion:
  - A simple system that works
  - Eat continually, liver produces bile continuously
- Human digestion:
  - A complex systems that works
  - We eat big meals, liver stores bile in the GALL bladder
- **Gall**: Mnemonic for ...

### Gall's Law

- "A complex system designed from scratch never works, and cannot be patched ... to make it work. You have to start ... with a working simple system."
  - John Gall, M.D. 1975, General Systemantics
- Every complex system that works has evolved from a simple system that works.
- Mnemonic: Graphic imagery, digestive system, and GALL bladders

# Mnemonic Tricks for Eponymous Principles

- Peter Burkholder (he/him)
- US Gov (Cloud.gov), Chef Software, ..., Research Labs
- Geophysicist

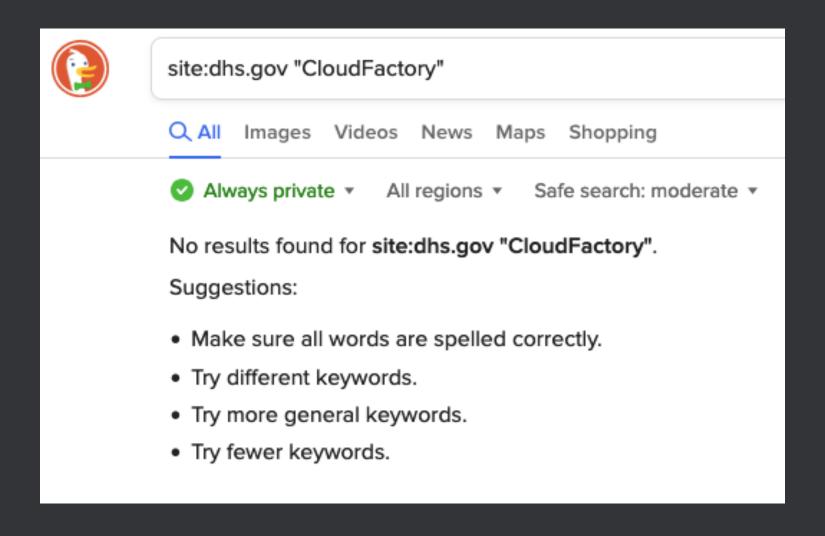
# The power of Eponymous Principles

- Newton's Laws
  - Law of inertia, etc.
- Murphy's Law
  - Everything that can go wrong will
- Moore's Law
  - Compute power doubles every two years

# What makes for a good eponymous principle?

- True with empirical evidence
- True with weight of lived experience
- Predictive or explanatory value

# Speaking of predictive value...



# Conuay's Law

"Organizations which design systems...are constrained to produce designs which are copies of the communication structures of these organizations"

- Melvin Conway, 1968
- Or: Your architecture will mirror your org chart
- Mnemonic: We CONstruct systems mirroring the WAY we communicate
- Application: ... next slide ...

# The Inverse Conway Maneuver

- Build teams to achieve the desired architecture
- Tech: Used bounded contexts and APIs along team bounds
- Orgs: Consider *Team Topologies* (Skelton & Pais, 2019)

(image: Team Topology cover)

### Brooks Law

"Adding [engineers] to a late software project makes it later"

- Fred Brooks, 1975, The Mythical Man Month
- Mnemonic: The **BROOK** went over the waterfall
- Why: onboarding time + geometrical growth in communication lines

# Javelins Paradox

As the throwing rate of javelineers in ancient Roman armies doubled they went from 1/5 of a brigade to 1/3.

One would expect the number to *decrease* because the same number would already throw TWICE as many.

### Jevons' Paradox

As the cost of economically useful commodity decreases, total expenditure on the commodity grows

- William Stanley Jevons, 1865
- Mnenomic: Something to do with ancient javelineers
- Examples:
  - 1860s: Coal
  - 1970s: Automobile fuel efficiency
  - 2010s: Cloud spend
- See also: Moore's Law

# Pareto Principle

"the vital few and the useful many" (or the 80/20) rule

- Joseph Juran, inspired by Vilifredo Pareto, 1941
- Mnemonic: (under construction)
- 80% of a project is complete in 20% of the time
- Validity: Power-law distribution in process variation
  - or a Pareto Distribution

# Pareto Principle (2)

"In the last six months, we've been able to meet the needs of one-half of our users. We can meet the needs of the other half in another six months"

Can you spot the problem here?

### Meme Laws

- True with empirical evidence
- True with weight of lived experience
- Feel true
- Predictive or explanatory value
- **Build Community**

### Godwin's Law

- As an online discussion grows longer, the probability it will involve Nazis approaches 1 . \* Mike Godwin, 1980
- In online discussions, Go(o)d never Wins



Replying to @DownTwist @Jamie\_Foxworthy and 5 others

If you think comparing me to Hitler works, you must be new to the internet.

9:31 AM · Aug 12, 2019 · TweetDeck

### Meme Laws

- Cunningham's Law
  - "The best way to get the right answer on the internet is not to ask a question; it's to post the wrong answer."
  - Ward Cunningham
  - Mnemonic: Knowledge is COMING HOME when you post the wrong answer
- Hofstadter's Law
  - "It always takes longer than you expect, even when you take into account Hofstadter's Law."
  - Douglas Hofstatder, 1979 (image: GEB cover)
  - Mnemonic: Ha! Later...

# Mhong's Law

"Every government agency, everywhere is working on a "new system"; It will solve all of their data problems and will be ready to use in 18-24 months."

- Chris Whong, 2018
- Mnemonic: Data throng done long? Wrong, says Whong.
- See also: Gall's Law, Pareto Principle

# Quiz Time

# What law explains this?

To meet the specified contract deadlines, we've added a DevOps team. But now we're further behind schedule!

### Answer:

- Brooks's Law
- Whong's Law
- Conway's Law

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- Mnemonic: The BROOK goes over the waterfall

### Fill in the blank

We have five teams assigned to a system that only has three major components. Time to apply an Inverse \_\_\_\_\_ Maneuver so we don't end up with five subsystems.

### Answert CONMAY

We have five teams assigned to a system that only has three major components. Time to apply an Inverse **Conway** Maneuver so we don't end up with five subsystems.

We CONstruct systems the same WAY we're organized

### Fill in the blank

This proposed architecture is too complex. We'll have to start with a simpler initial *working* solution, otherwise we're doomed by \_\_\_\_\_ Law.

### Answert Gal's Law

This proposed architecture is too complex. We'll have to start with a simpler initial working solution, otherwise we're doomed by **Gall's Law**.

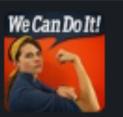
architecture -> digestion -> evolution -> Gall bladder

### Fill in the blank

We've met the needs of 80% of our users in two sprints, so by the \_\_\_\_\_ we'll need another \_\_\_\_ sprints for the other 20%.

### Answer

We've met the needs of 80% of our users in two sprints, so by Pareto Principle we'll need another eight sprints for the other 20%.



### Heather Battaglia (18F) (DEN) 🦒 Nov



27th at 6:26 PM

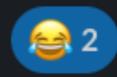
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3 replies



James Tranovich (18F - SF - he/him)

13 days ago









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Hofstadter's law!







# Thank you

And laws to look forward to in a future version

- G.I. Joe Fallacy
- Dunning-Kruger Effect
- Goodhart's Law
- Hanlon's Razor
- Overton Window
- Metcalf's Law

### Resources

- This talk: https://github.com/pburkholder/eponymous-principles
- Laws of Software: https://laws-of-software.com