



The Myths of Rigor

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Rigor

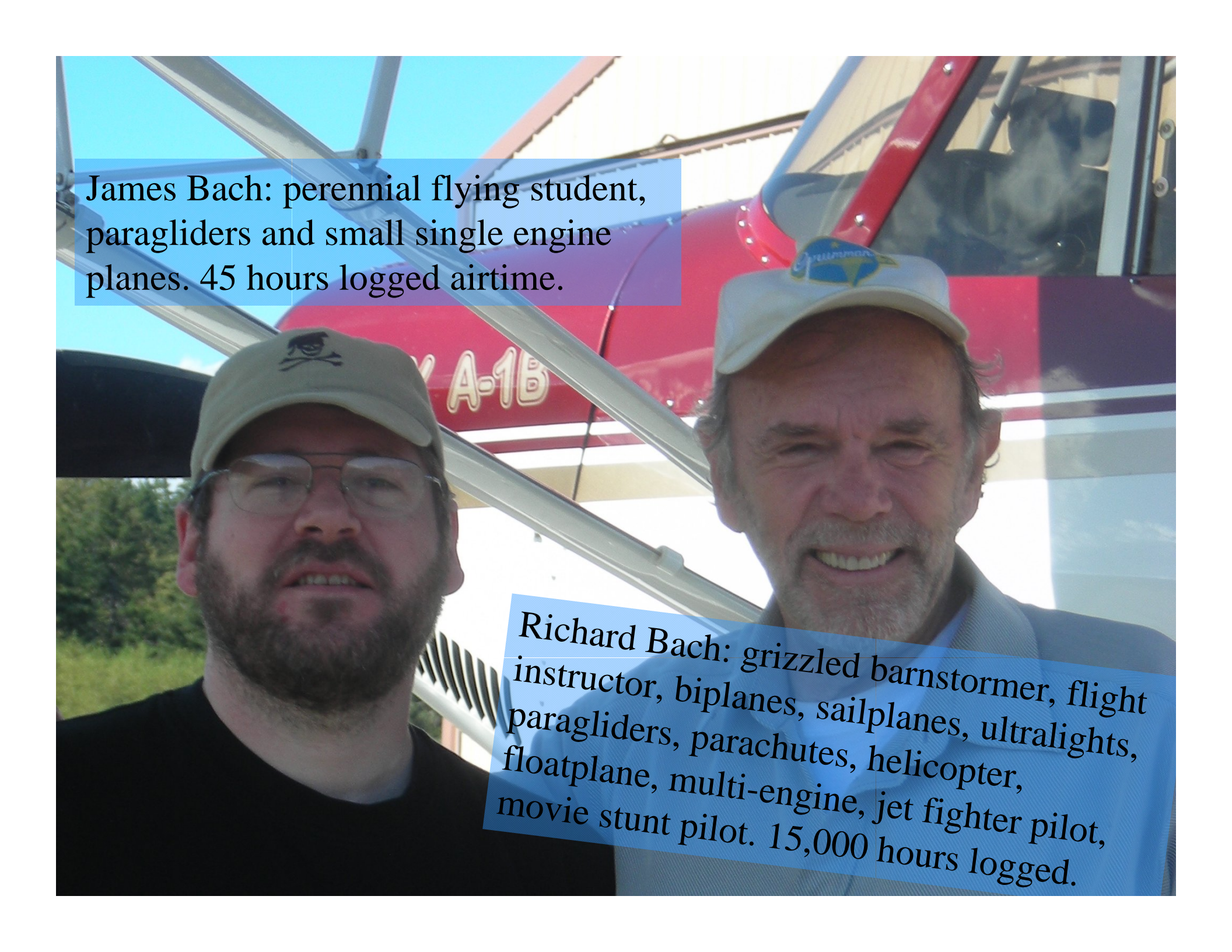
n Oxford English Dictionary

- The strict terms, application, or enforcement of some law, rule, etc.
- Strictness of discipline, etc.; austerity of life; an instance of this.
- Strict accuracy, severe exactitude.

Key Idea:

There can be no rigor without a standard of correctness.





James Bach: perennial flying student, paragliders and small single engine planes. 45 hours logged airtime.

Richard Bach: grizzled barnstormer, flight instructor, biplanes, sailplanes, ultralights, paragliders, parachutes, helicopter, floatplane, multi-engine, jet fighter pilot, movie stunt pilot. 15,000 hours logged.

Flying the Husky Rigorously

- n After flying with me a few days, Dad says “*What are the checklists for flying the Husky?*”
- n I researched and created the checklists. Dad reviewed them and offered corrections.

START

Prestart

Preflight	COMPLETE
Hydraulic System	DEPRESSURIZE
Seat Belt/Harness	FASTENED
PFD	ON
Water Rudder	UP
Gear Selector	AS REQUIRED
Avionics Switch	OFF
Alternator	OFF
Strobe Switch	ON
Mixture	RICH
Propeller	FULL INCREASE
Carb. Heat	COLD
Master Switch	ON
Throttle	CRACKED
Primer	AS REQUIRED

Engine Start

Brakes	ON
Propeller	CLEAR
Magneto Switch	START
Throttle	AS REQUIRED, THEN IDLE
Alternator	ON
Avionics Switch	ON
Oil Pressure	CHECK

Dad's Corrections

- n Some changes I understood.
- n Some changes I didn't understand.
- n Some changes I thought I understood but didn't.
- n One change he made was wrong. (I caught it!)

Key Idea:

*A standard isn't crystallized skill or action.
It must be interpreted and may be incorrectly interpreted.*

Flight Testing

- n Using the landing checklist forced my thoughts into a fixed linear sequence.
- n It took me out of my rhythm. *Timing and coordinated action are important in landings.*
- n I tried to use the checklist in a non-sequential way, but that led me to forget things entirely.

WATER LANDING

Water Landing

Gear Call	"This is a WATER landing. Gear up for a water landing."
Gear Selector	UP
Gear Check	"The left wheels are UP, the right wheels are UP, the wheels indicate UP for a water landing."
Water Rudder	UP
Carb. Heat	HOT
Mixture	RICH
Throttle	REDUCE
Air Speed	70 MPH
Flaps	AS REQUIRED
Propeller	FULL INCREASE
Landing Gear	RECHECK UP

Post Landing

Flaps	UP
Carb. Heat	COLD
Water Rudder	AS REQUIRED

**“Dad, we should share these checklists
on the Husky forum!”**



**“I suppose you could, James,
but *Husky pilots don't use
checklists.*”**

Value of the Lists

- n Excellent for quick review prior to the flight.
- n The engine start checklist works great as is.
- n Good tool for discussing and analyzing flight procedures.
- n Creating them helped me learn.
- n Using them without “following” them helps me fly better... *The next step is to memorize them for random access, experiment with different procedures, and practice, practice, practice.*

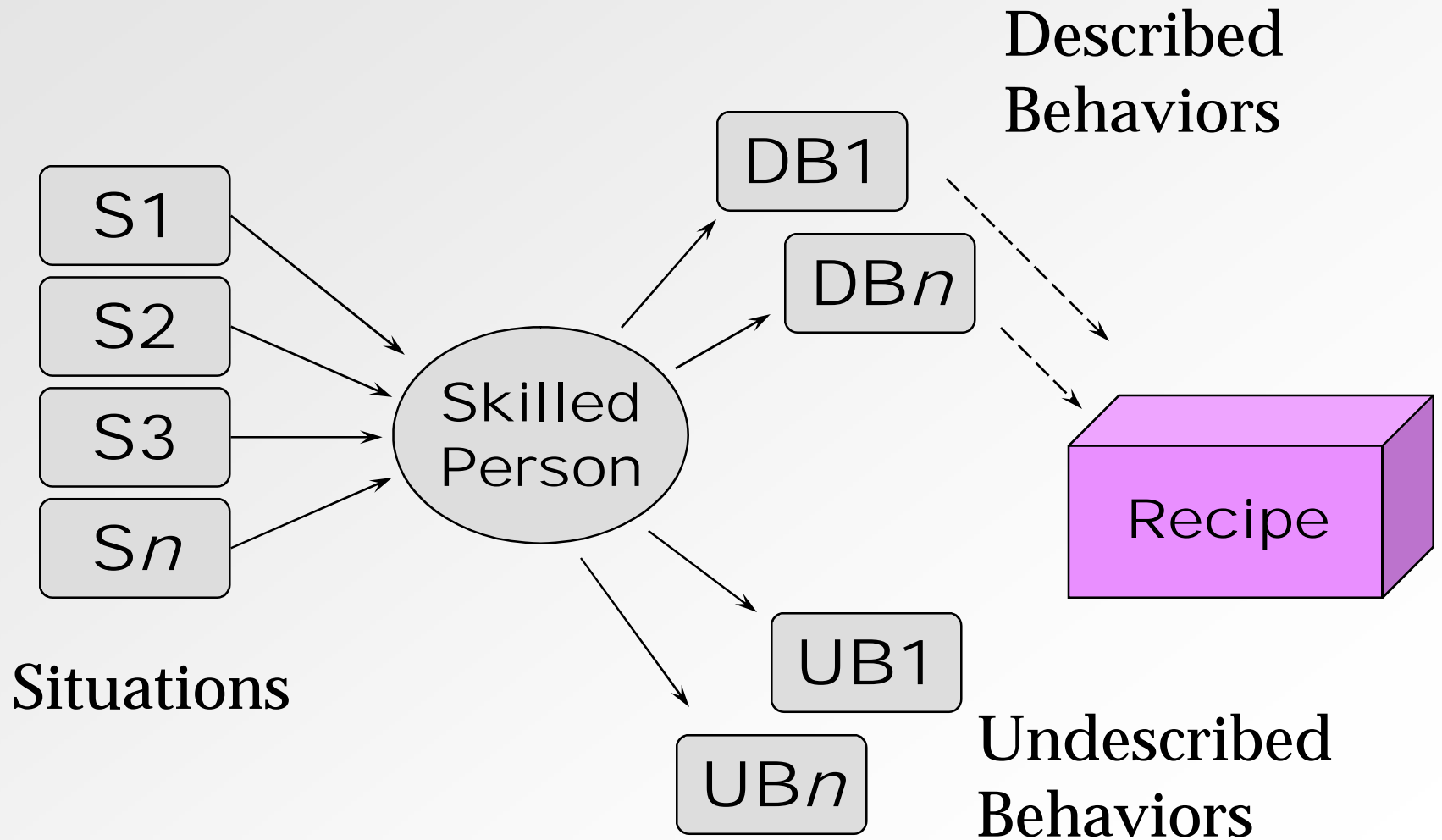
Good Rigor

- n Doing good things at a good time in a good way without too much trouble.
- n It must not cost too much to adopt, employ, or maintain in the face of change.

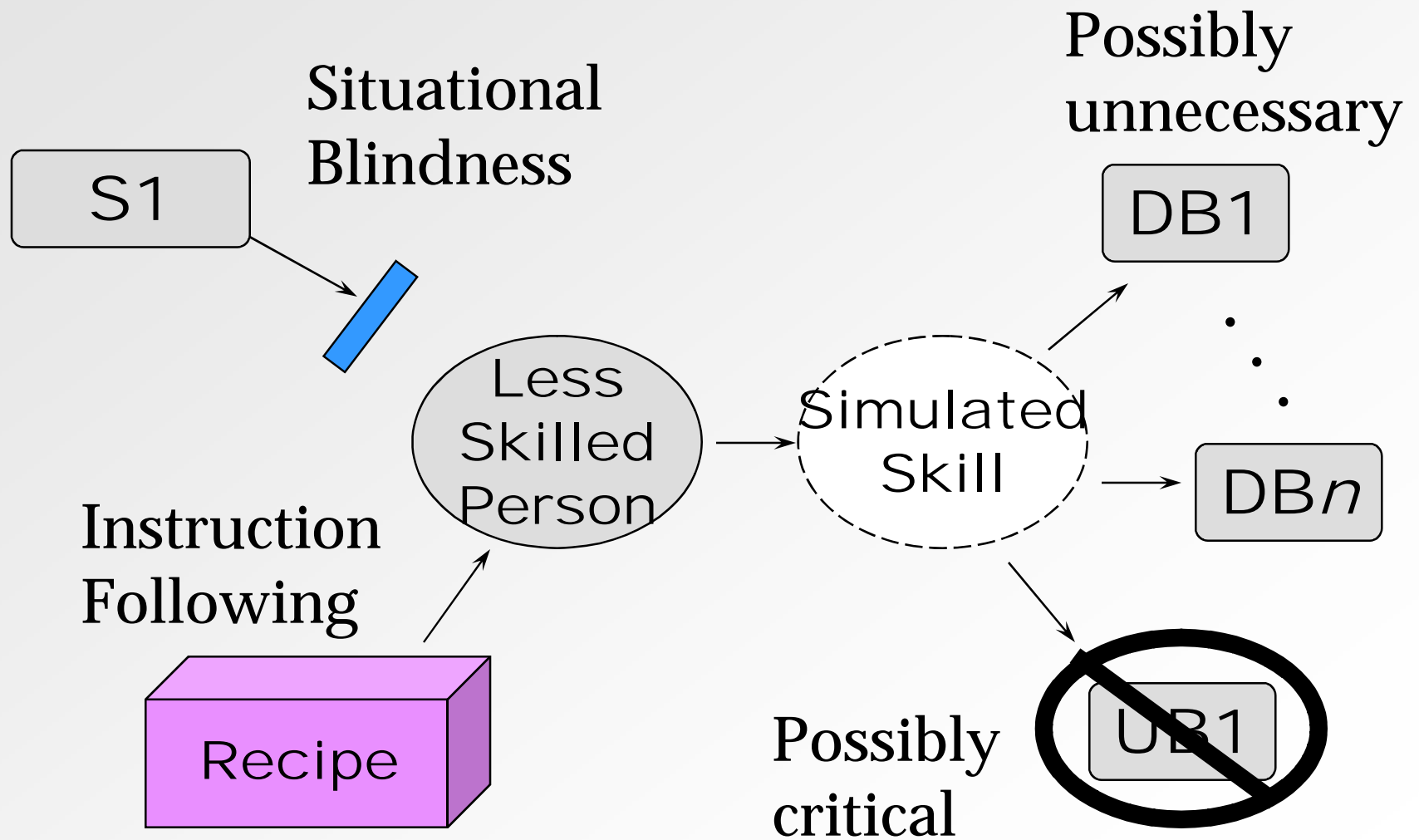
Bad Rigor

*means corporate obsessive-compulsive disorder:
following instructions without understanding
them or being properly supervised,
causing wrong or wasteful action.*

The Skill Simulation Problem



The Skill Simulation Problem



Coaching Rigor

- n James: “Woo hoo!”
- n Richard: “Not enough left rudder. Steep turns at low altitude must be coordinated or we risk an unrecoverable asymmetric stall, especially since we’re flying heavy.”
- n James: “I *felt* like I had enough rudder.”
- n Richard: “You didn’t. Practice feeling it. Let’s head over to Suchia and you can do some Dutch rolls.”



Richard Bach's Teaching Method

- n How slow can you fly until it stalls? **“Try it now and let's find out!”**
- n If we're at 1000ft. at the shoreline, can we make it to the airport if the engine quits? **“Let's do that!”**
- n How do we keep from accidentally stalling while in the landing pattern. **“Keep the nose below the horizon. Try it now and see if you can stall with the nose below the horizon.”**
- n What if we accidentally overlean the engine? **“The engine will stop. Lean it all the way right now! See? It stops pretty quick.”**
- n Now, how do we **restart** the engine in flight? **“What do you think? Try something!”**

Where to Apply Rigor?

Outcome

Rigorous **rejection of bad outcome.**
(testing, inspection, based on product standard)

Action

Rigorous **control of activity,** (tools, supervision, procedures, preparations, based on craft standard)

Skill & Knowledge

Rigorous **rejection of bad practitioners** (certification based on craft standard)

Learning &
Methodology

Rigorous **development of practitioners and craft** (culture of learning and self-criticism, eagerness for experimentation and debate.)

Where to Apply Rigor?

Outcome



Action



Skill & Knowledge



Learning &
Methodology

Rigor **here** optimizes solutions for a static and well-known world.

Rigor **here** helps us adapt to a changing and uncertain world.

Where to Apply Rigor?

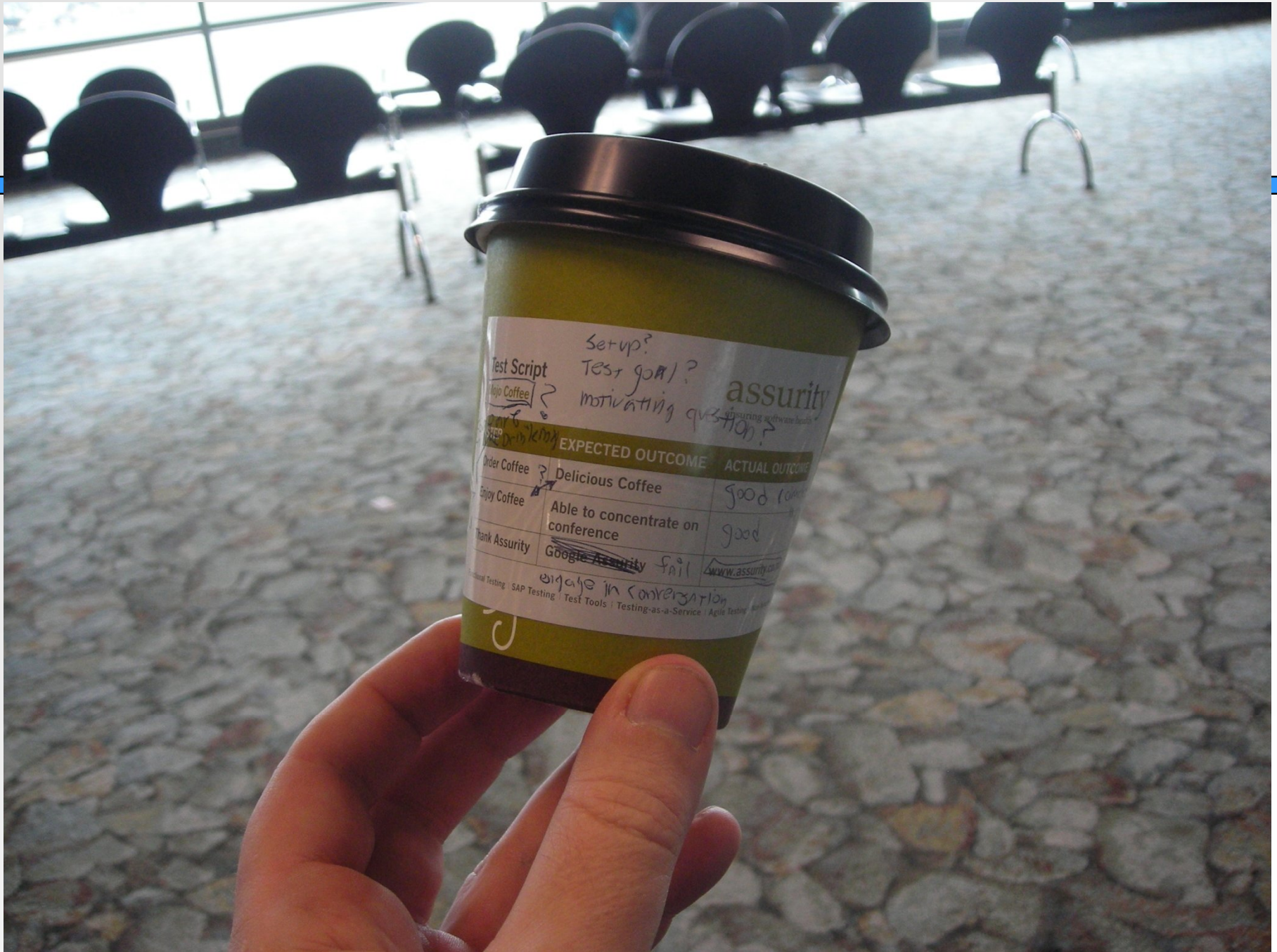


Management desperately wants this. If you can fake this, you will be rewarded... until it fails and then you just need to find a way to avoid the blame... which turns out not to be hard... but...

...true self-respect as a technical professional demands this kind of rigor.

Here's one kind of rigor I like:

**Seek and accept
playful challenges
to explore and
demonstrate skill.**



Test Script

Setup?
Test goal?
motivating question?

assurity

	EXPECTED OUTCOME	ACTUAL OUTCOME
Order Coffee ?	Delicious Coffee	good
Enjoy Coffee	Able to concentrate on conference	good
Thank Assurity	Google Assurity fail	fail

biggie in conversation

Professional Testing : SAP Testing / Test Tools / Testing-as-a-Service / Agile Testing

"Mojo Coffee" Test Script

STEP	EXPECTED OUTCOME	ACTUAL OUTCOME
Order coffee	Delicious coffee	
Enjoy coffee	Able to concentrate on conference	
Thank Assurity	Google Assurity	www.assurity.co.nz

What do you think?

Test Script

Mojo Coffee

Setup?
Test goal?
motivating question?

assurity
ensuring software health

Compare
to
drink
TS

STEP	EXPECTED OUTCOME	ACTUAL OUTCOME
Order Coffee	Delicious Coffee	good (cracks me)
Enjoy Coffee	Able to concentrate on conference	good
Thank Assurity	Google Assurity fail	www.assurity.co.nz

engage in conversation

SCRIPTING??

Unless you know what is the right thing to do...

Doing it rigorously will be reckless and irresponsible.

Doing it rigorously will retard your learning.

Premature standardization has harmed our craft.

The Myths of Rigor

- n Adding rigor makes a process better.
- n Engineering processes should be rigorous.
- n Rigor is all or nothing.
- n Documentation, metrics, scripted procedure, etc. IS rigorous.
- n Exploratory testing, agile, etc. is NOT rigorous.
- n Playfulness and loosely defined methodology is not a route to rigorous processes.
- n The route to rigor is for people to stop resisting and follow instructions.

Myths Adjusted

- n Adding rigor make a process less flexible.
- n Engineering processes should be reasonable in context.
- n Rigor is all or nothing or anything in between.
- n Documentation, metrics, scripted procedure, etc. might be bad rigor.
- n Exploratory testing, agile, etc. might be good rigor.
- n Playfulness and loosely defined methodology may be essential to developing excellent rigor.
- n A necessary condition for good rigor is for people to be passionate about learning their craft.

**In software development
various communities have
competing views of rigor.**

*I rigorously pursue
what I believe is excellence
in software testing.*

**Therefore,
I CANNOT accept “best practices,”
I CANNOT accept bad certification,
I MUST oppose bad standards,
I hope you will do these things, too.**