

What is SRE?

Site Reliability Engineering

LINUX FEST



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Introduction

Story

Tenets of SRE

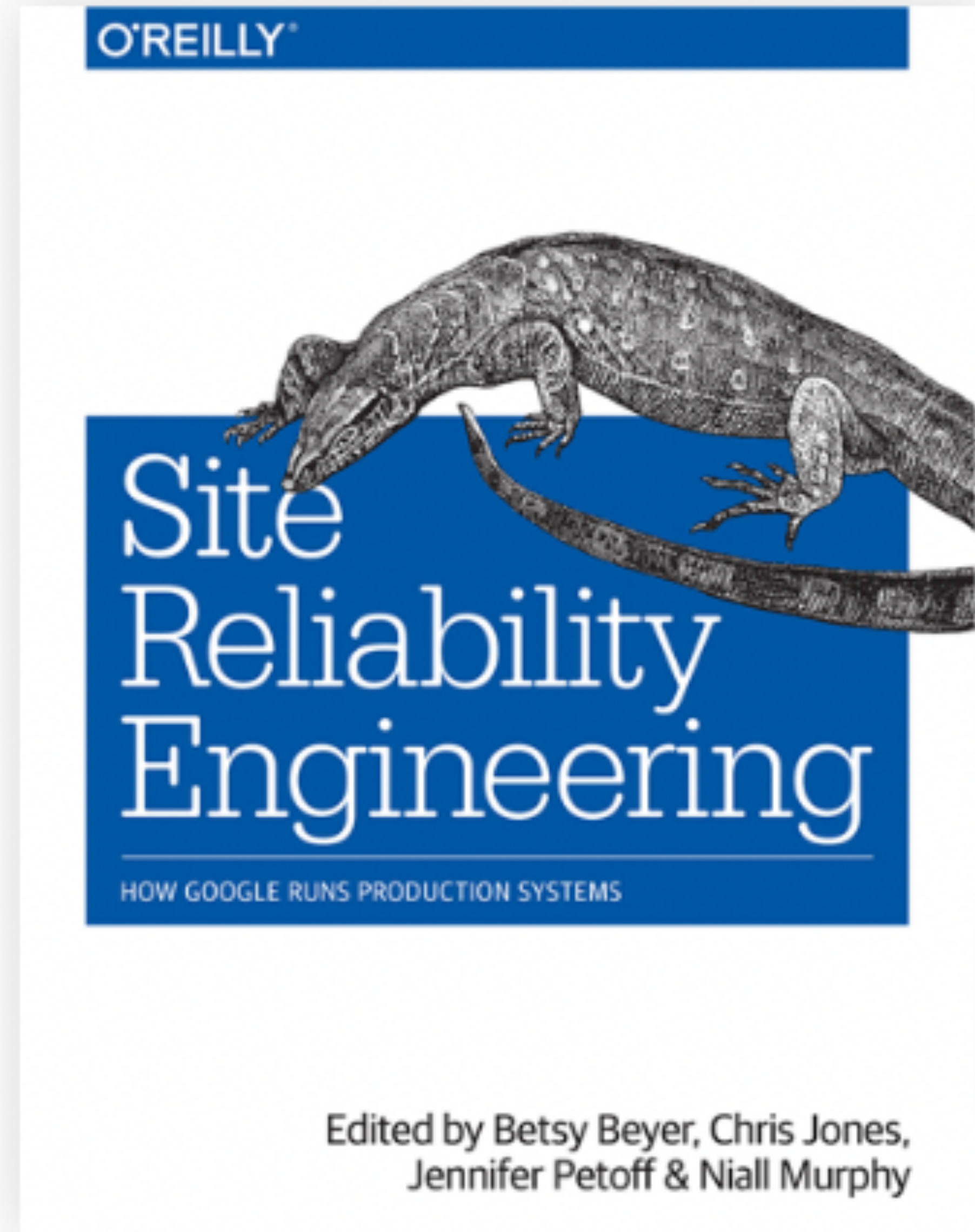
Introduction

System Administration

as a form of **Engineering**

What happened inside and outside of Google was very different

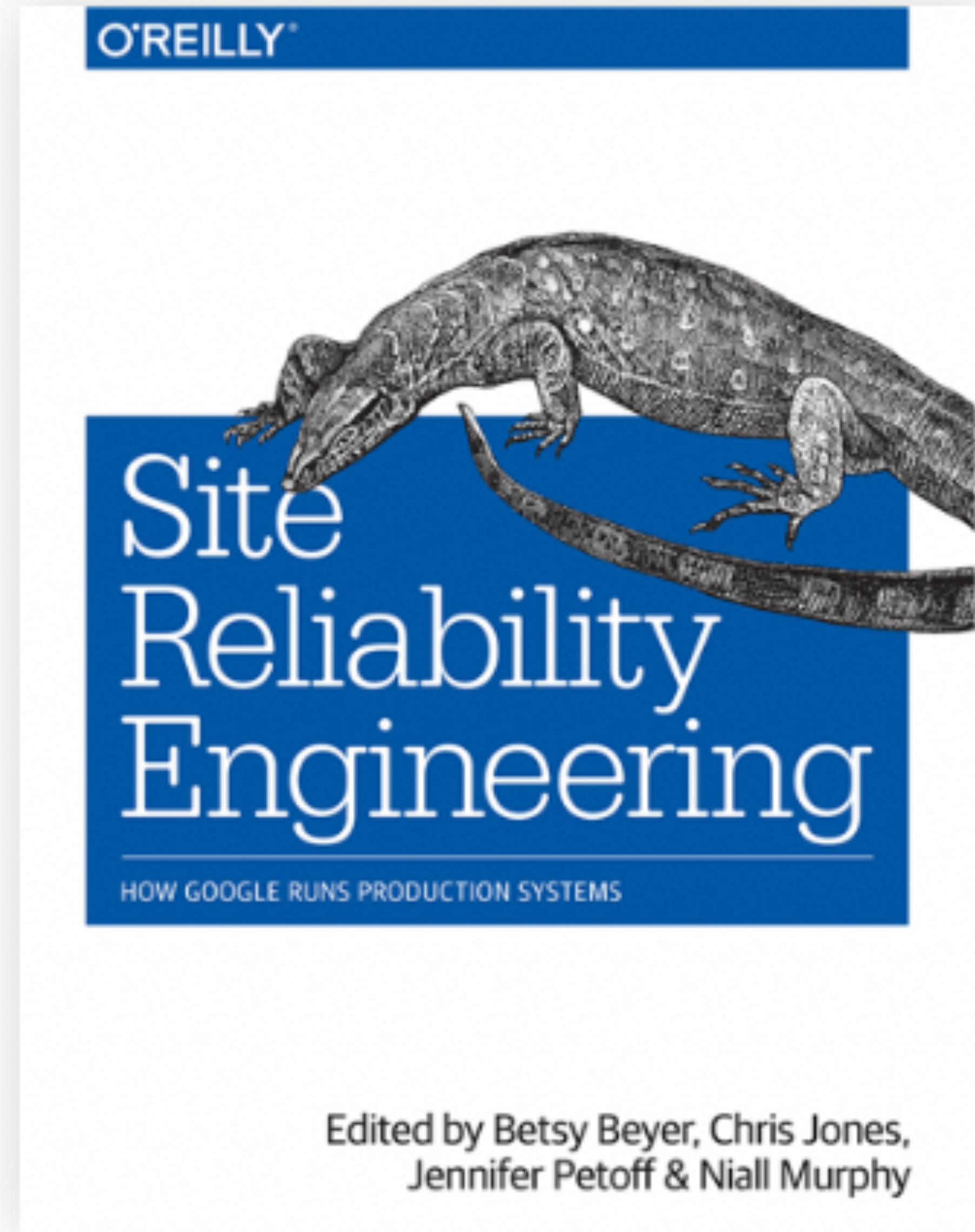
This book shows a willingness to
let SRE thinkings come out of
the shadows.



Just show me the code.

- A culture of “ask no questions” has grown.
- Community rather than expertise is championed.
- Think about the problems from first principles.

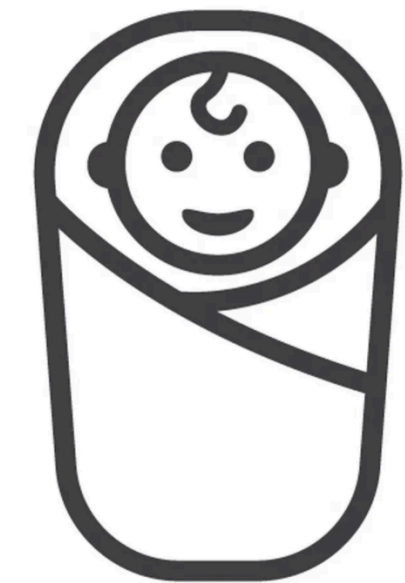
**A detailed
documentation of
Google's step
through a
watershed epoch.**



Story

Software Engineering ~ Having Children

The labor before the birth is painful and difficult,
but the labor after the birth is where you
actually spend most of your effort.



Software Engineering ~ Having Children

If software engineering tends to focus on designing and building, **there must be another discipline that focuses on the whole lifecycle of software objects.**

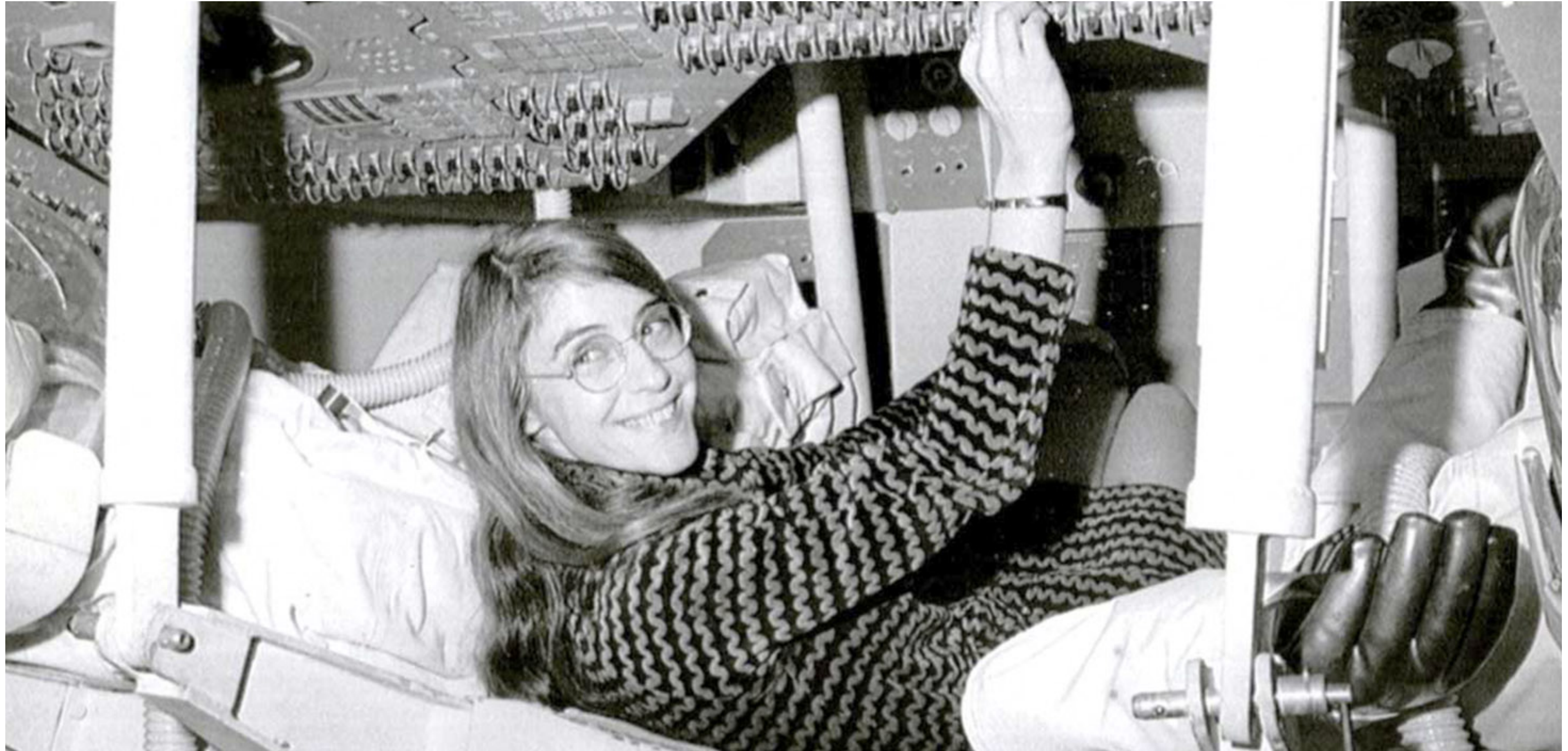
Wide range of skills



**“Today, our answer is the discipline Google calls
Site Reliability Engineering”**

- **SREs are engineers.**
- **We focus on system reliability.**
 - Reliable enough
- **SREs are focused on operating services** build atop our distributed computing systems.
 - Site —> [google.com](https://www.google.com)

Reliability is the one we regard as primary.



Margaret Hamilton, the first SRE

Part of the culture was to learn from everyone, and everything, including from that which one would least expect.

“A thorough understanding of how to operate the systems **was not enough to prevent human errors.”**

–Margaret Hamilton

Bear the SRE way in mind:

Thoroughness and dedication, belief in the value of preparation and documentation, and an awareness of what could go wrong, coupled with a strong desire to prevent it.

Tenets of SRE

Sysadmin Approach

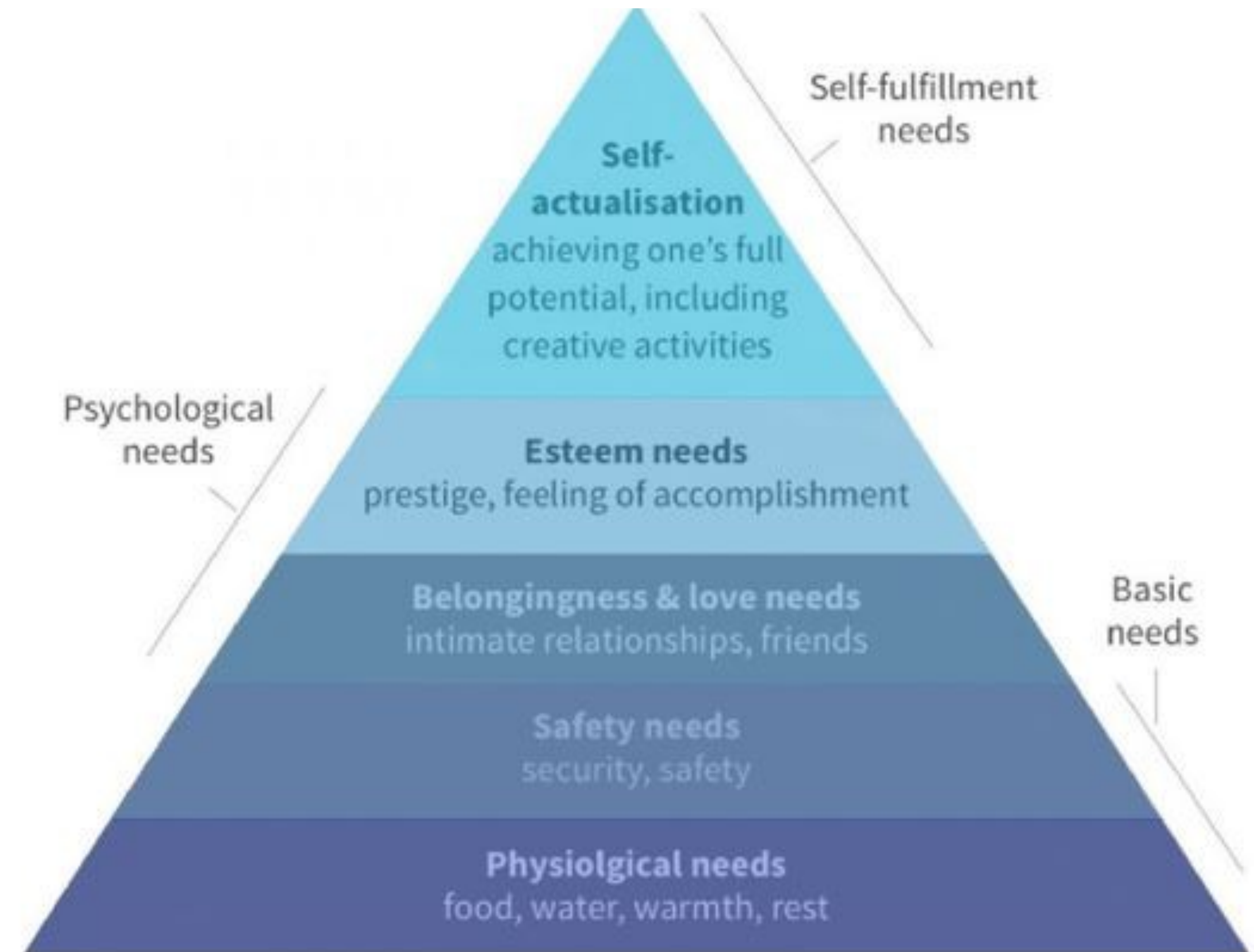
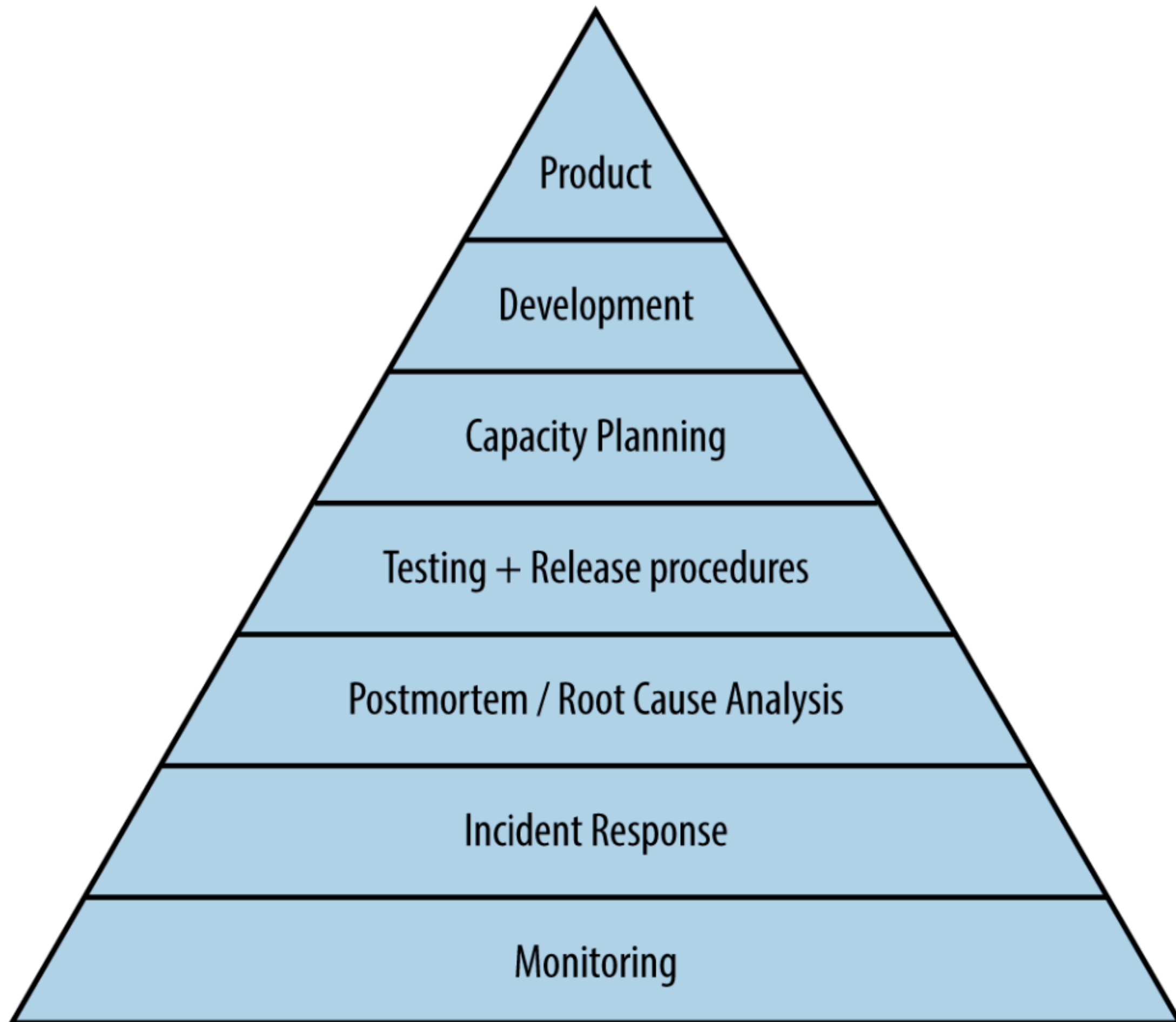
- **Advantages:** Easy to implement
- **Disadvantages:**
 - Growing load
 - Dev vs Ops: Conflict of interest

Different assumptions about risk and possibilities for tech solutions

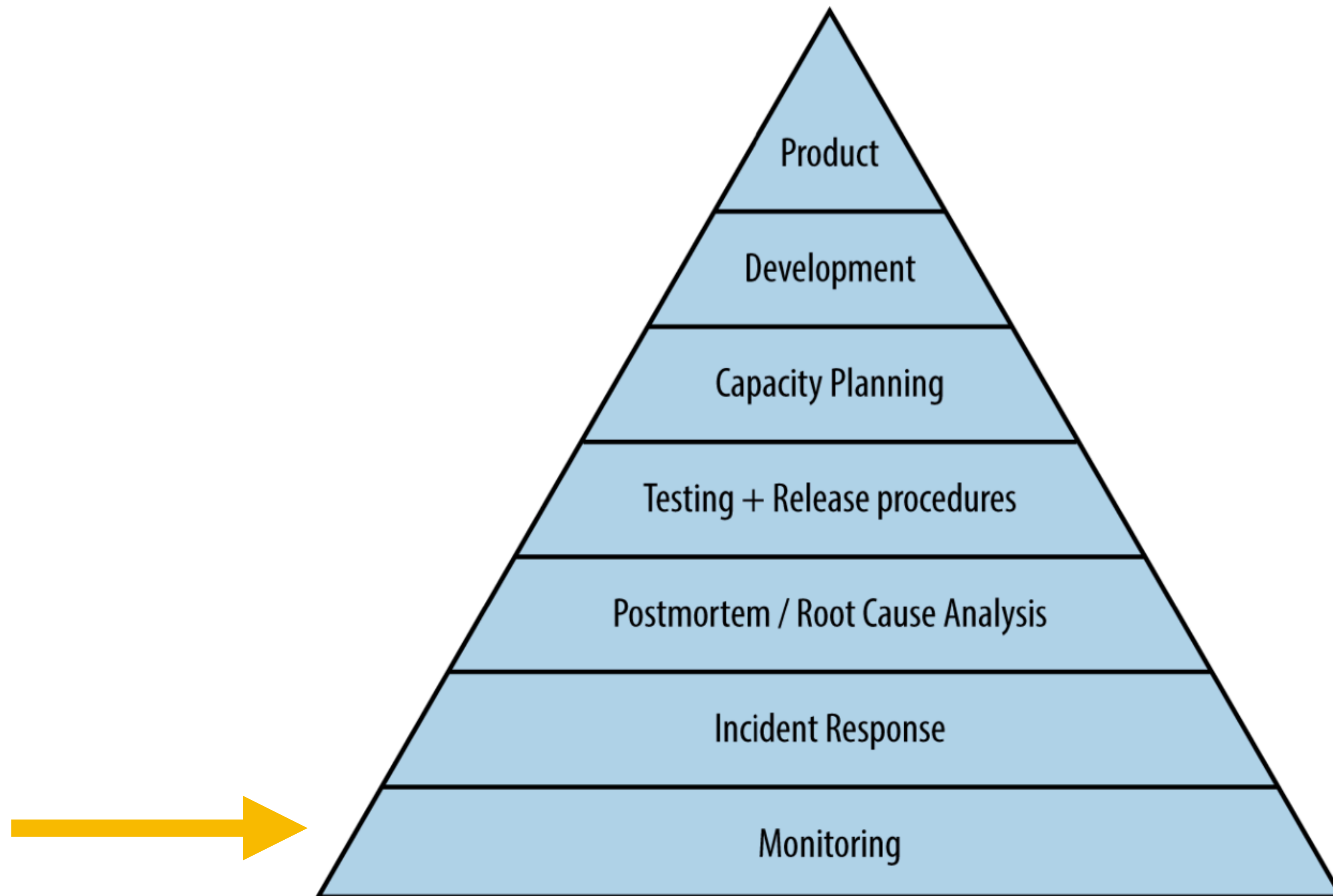
SRE Approach

- **SRE** is what happens when you ask a Software Engineer to design an operation team:
 - Quickly become bored by performing tasks by hand
 - Have the skill set necessary to write software for manual work.

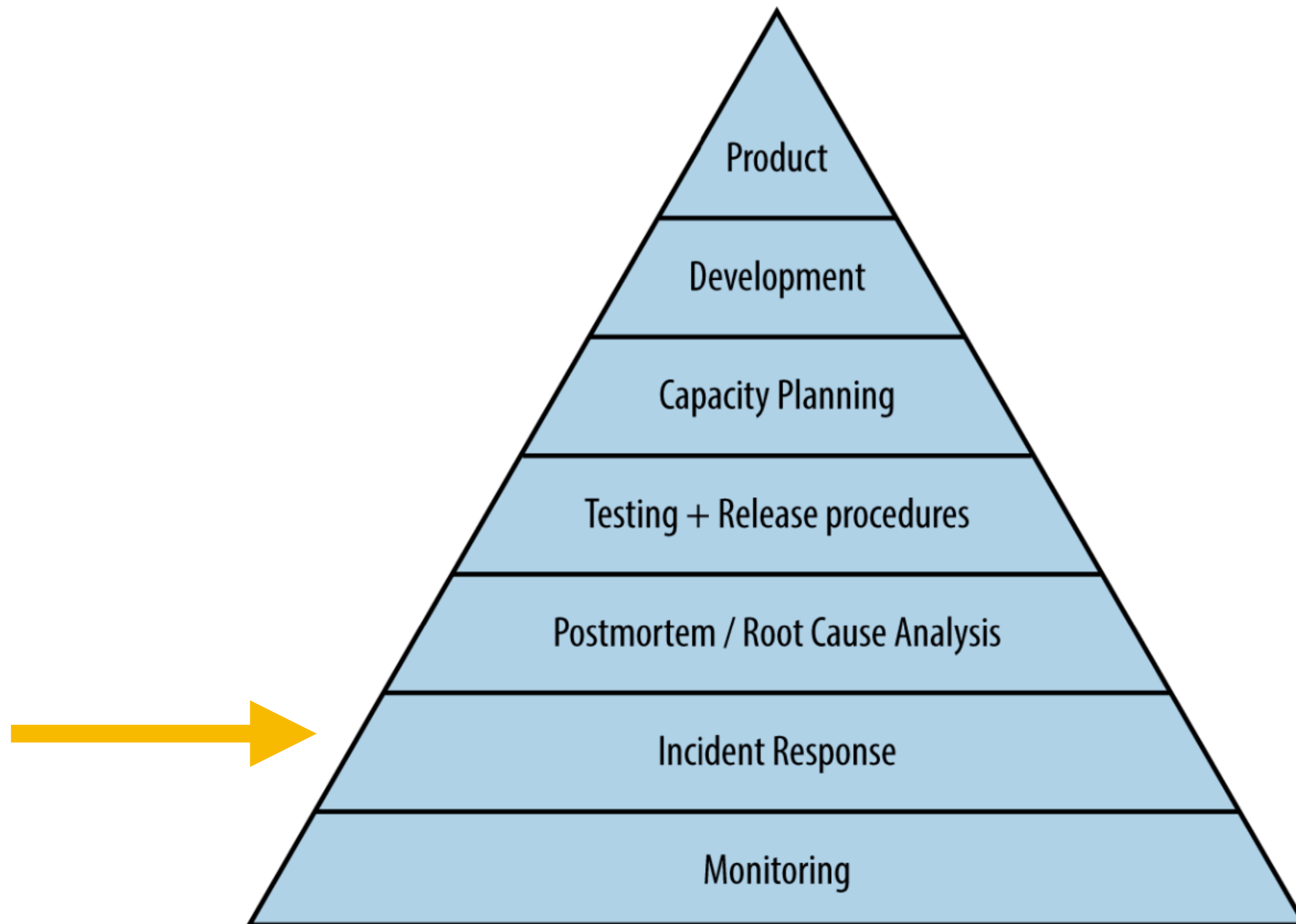
Service Reliability Pyramid



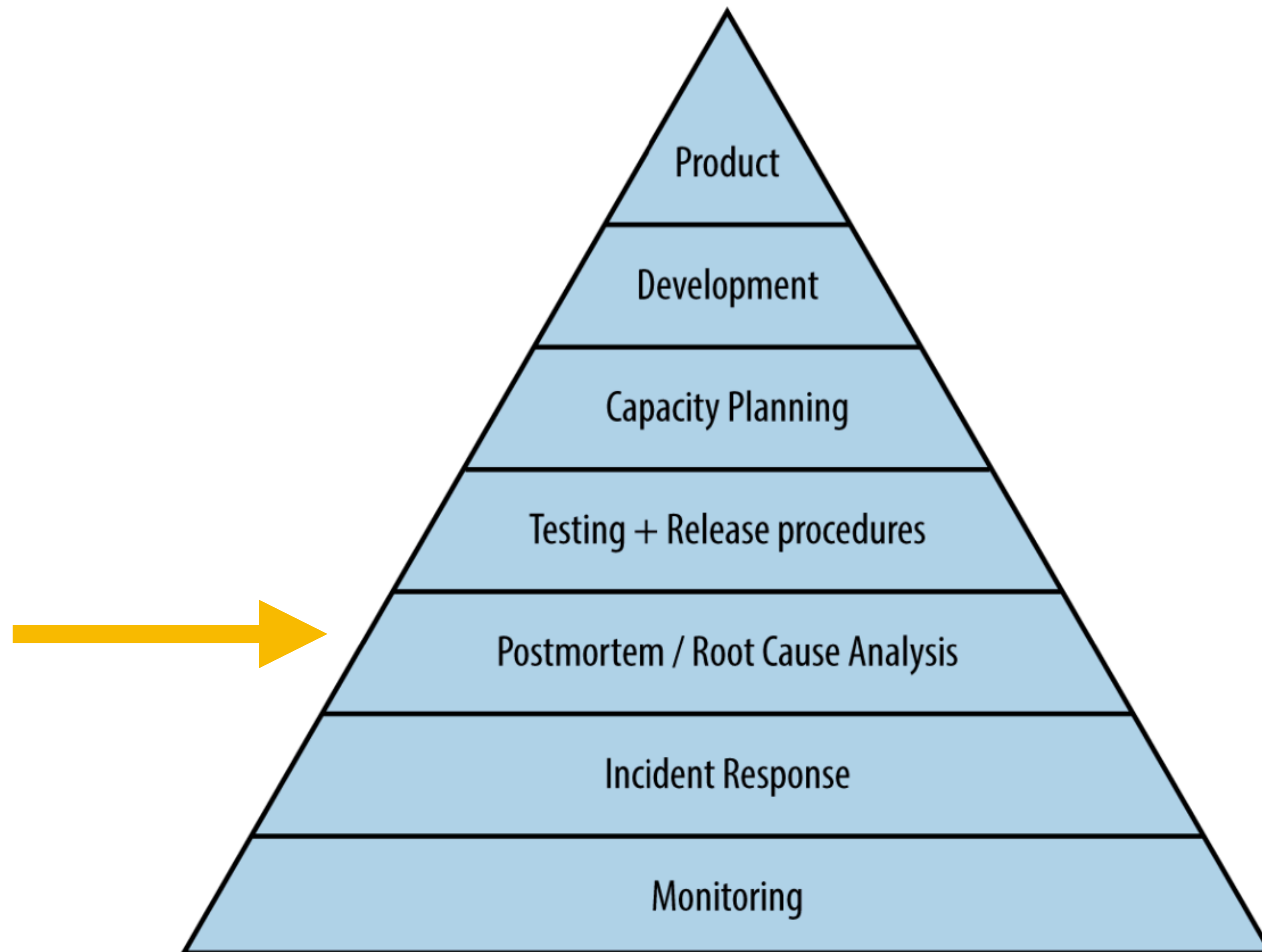
Service Reliability Pyramid



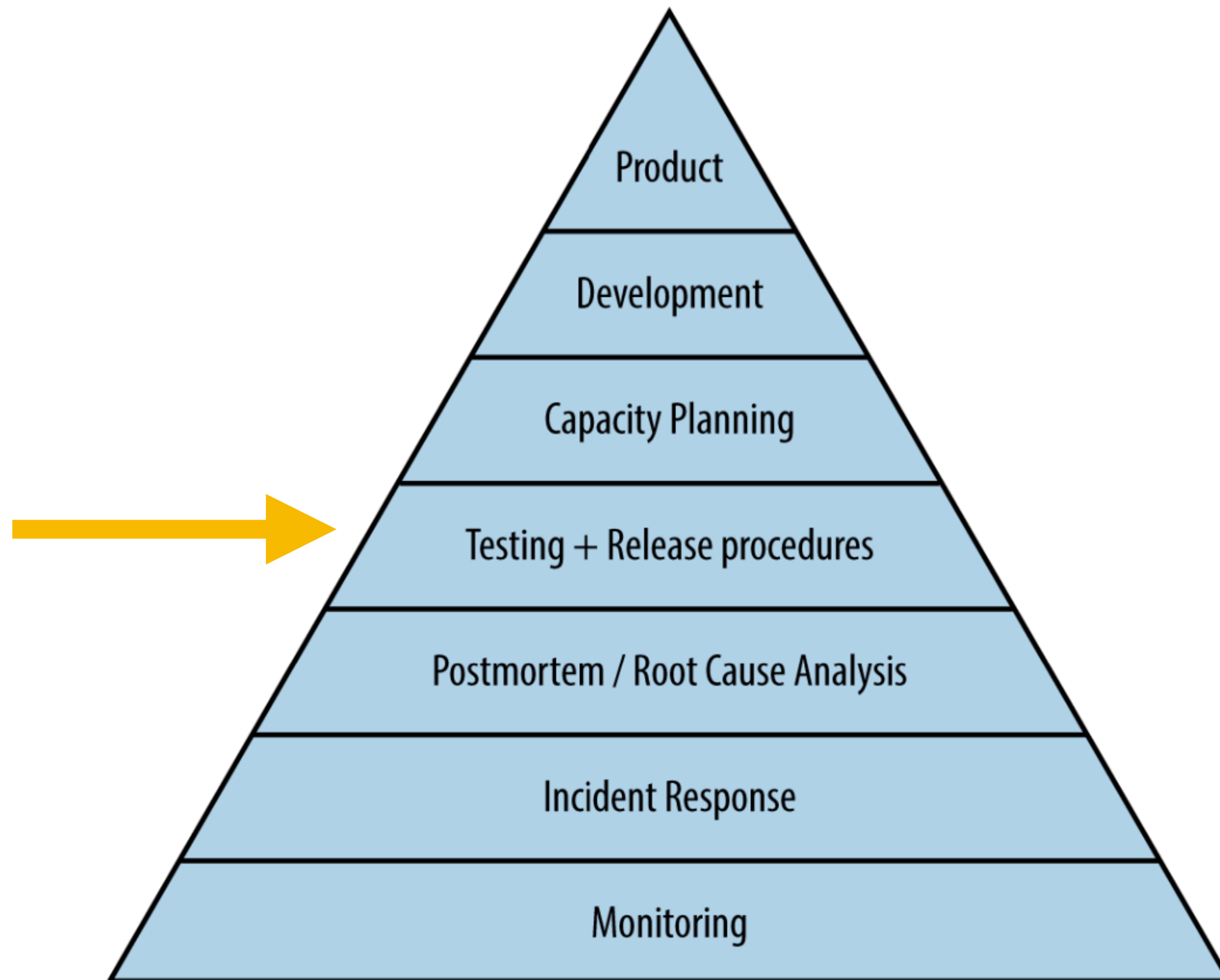
Service Reliability Pyramid



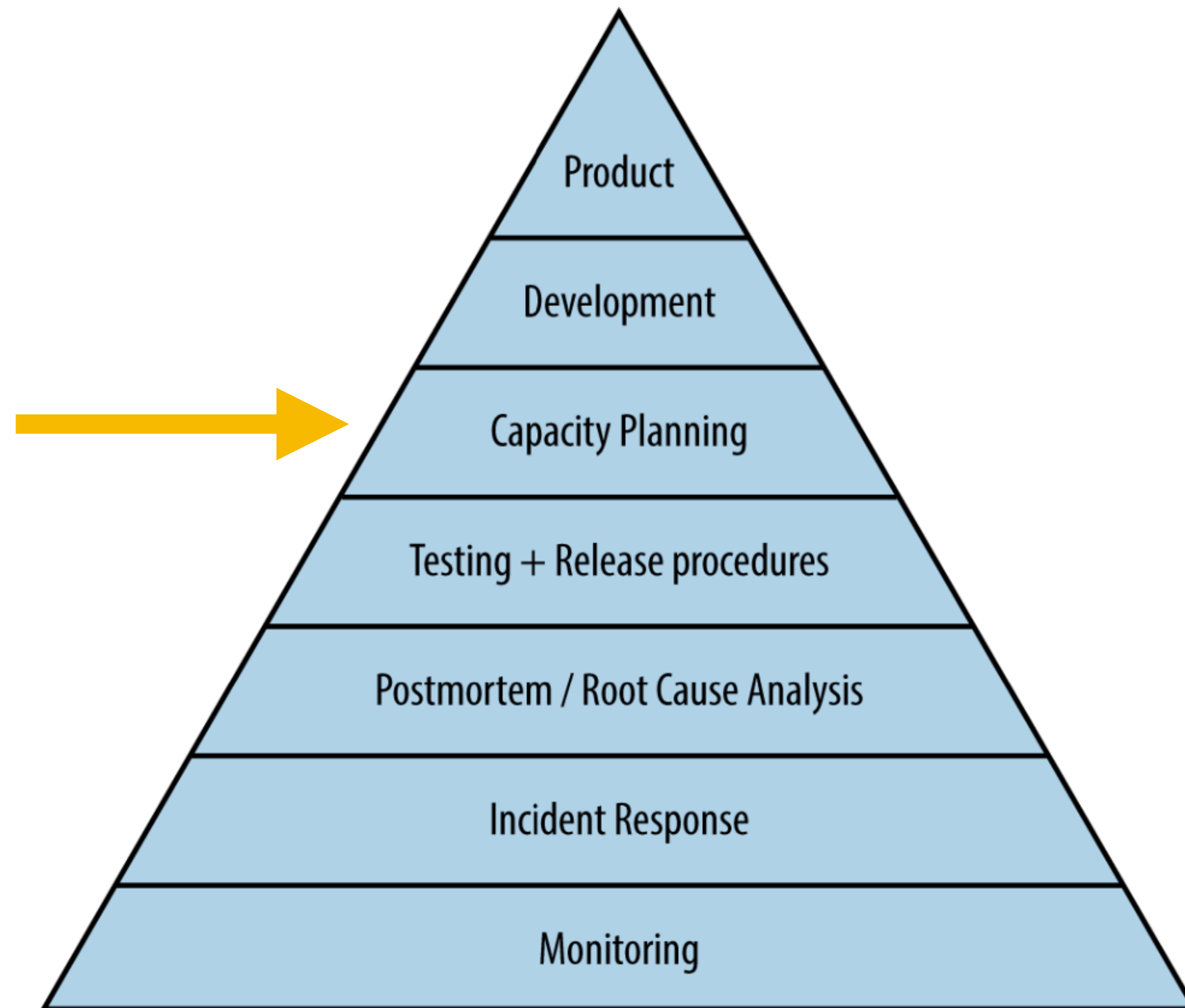
Service Reliability Pyramid



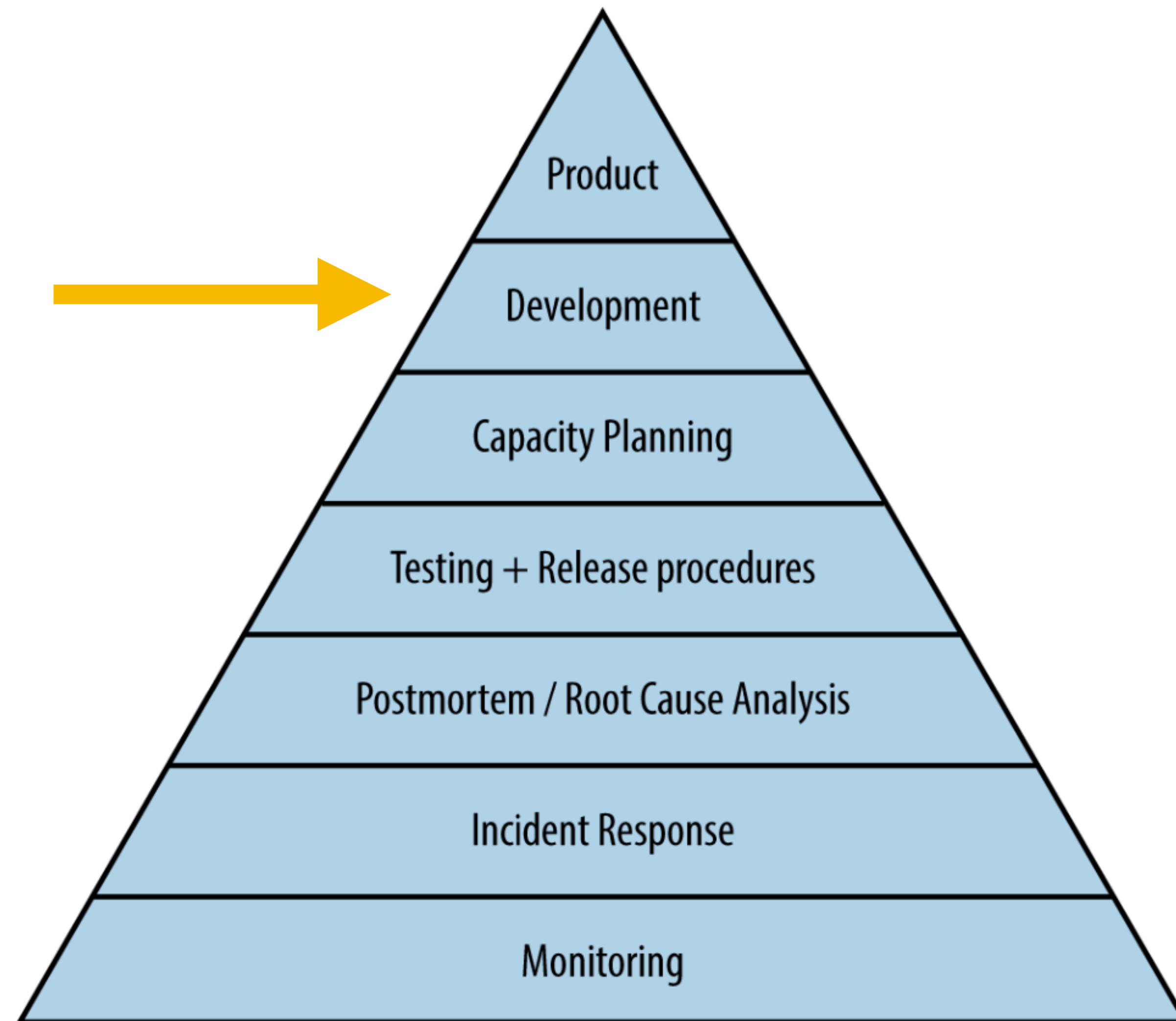
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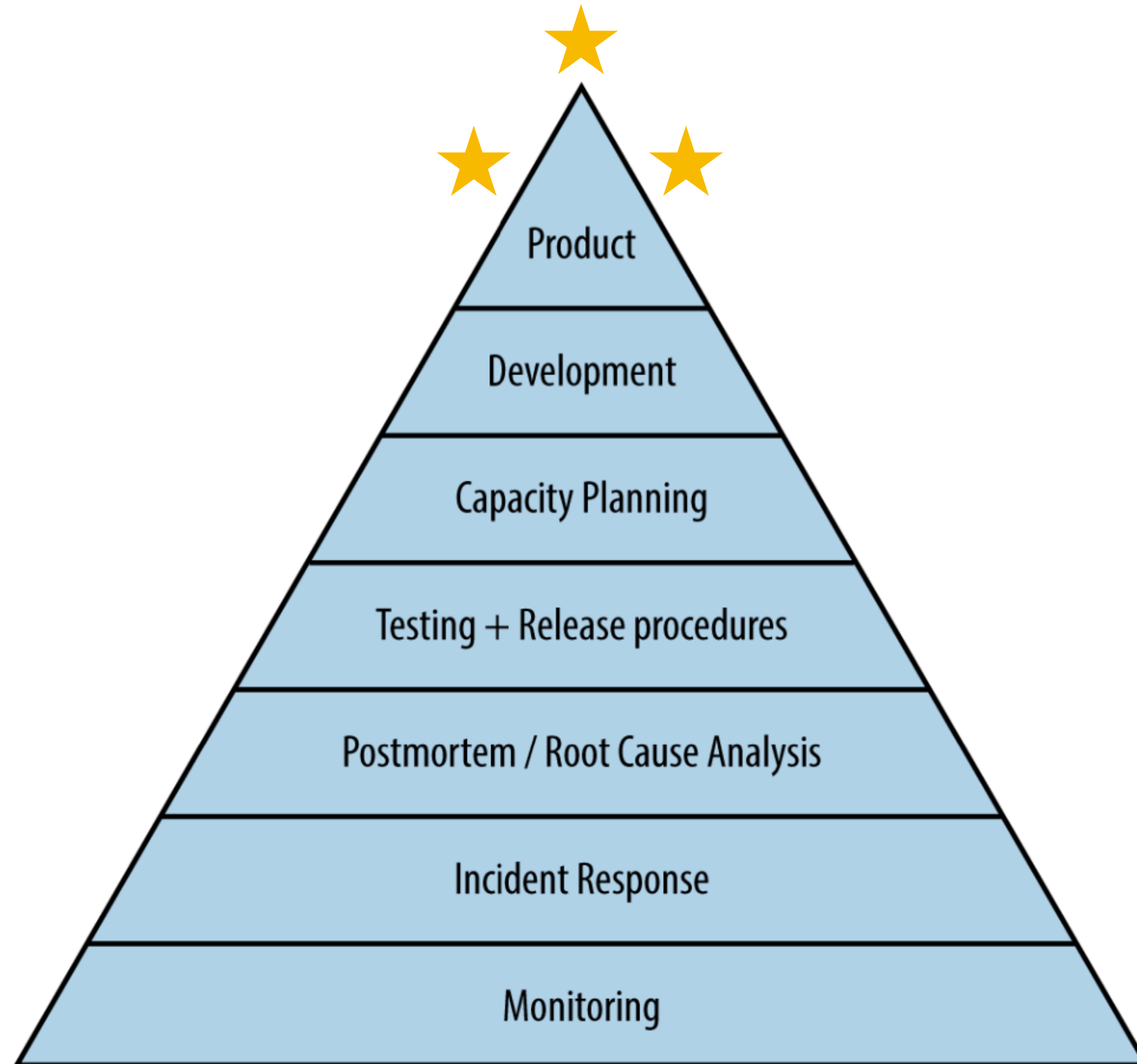
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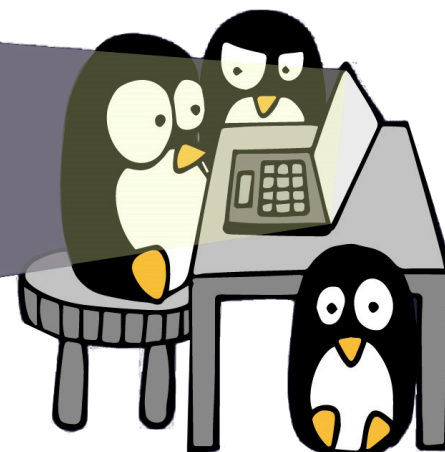
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