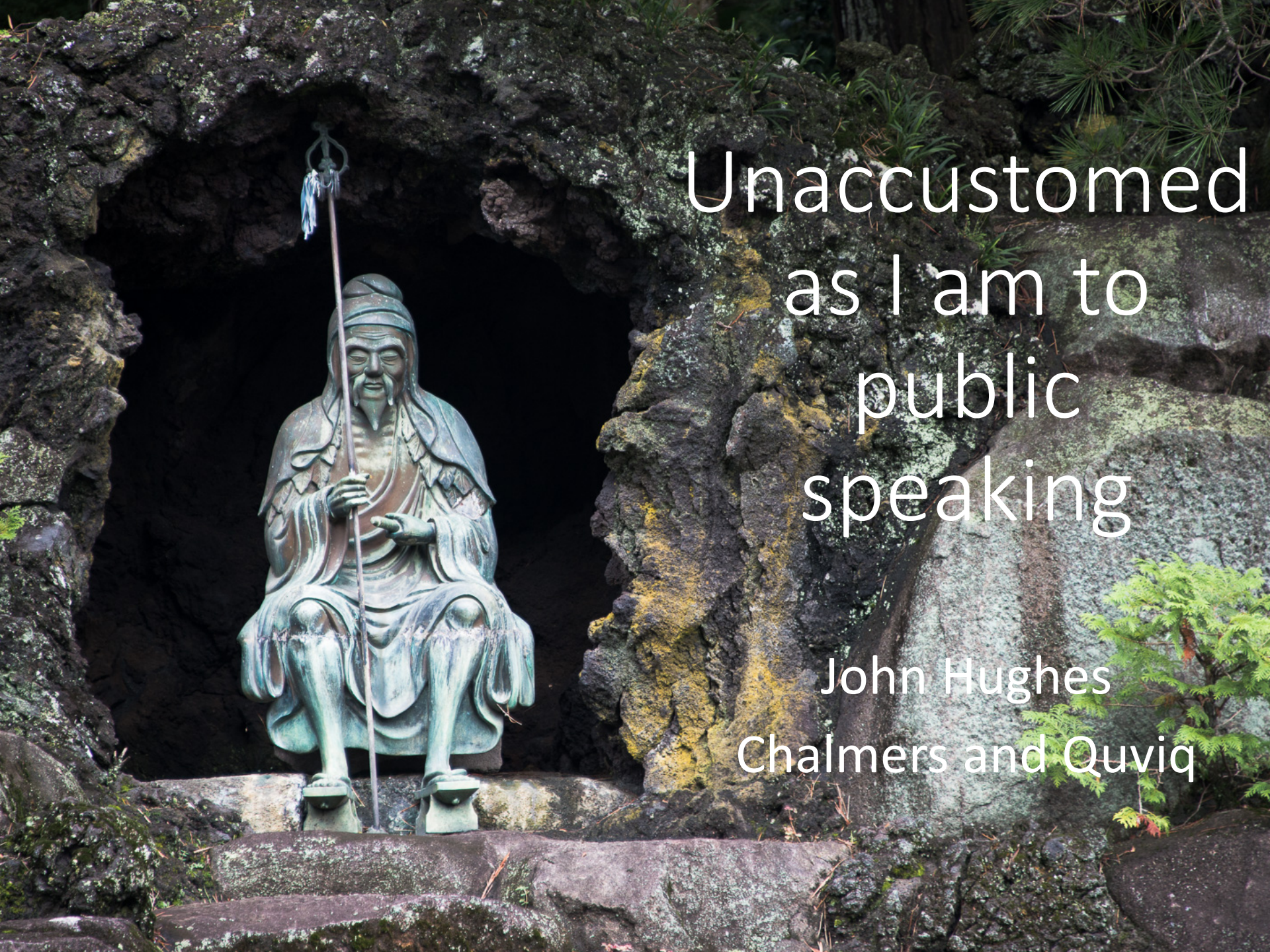


Unaccustomed as I am to public speaking

John Hughes
Chalmers and Quviq

A CHRISTMAS CAROL

BY

CHARLES DICKENS

Marley's Ghost.

Outline of the talk

- Introduction
- The problem
- My solution
- Results
- Discussion and related work
- Conclusion

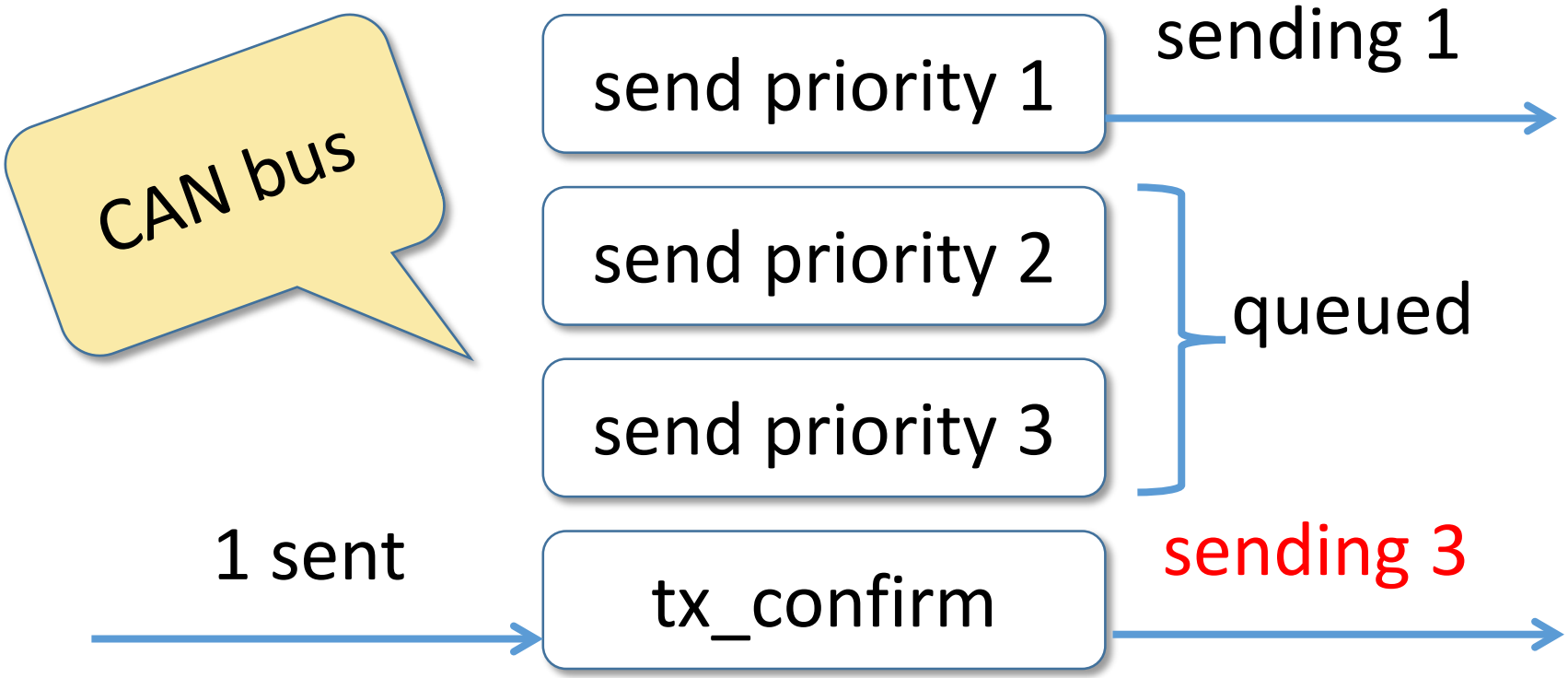
NEIL RACKHAM

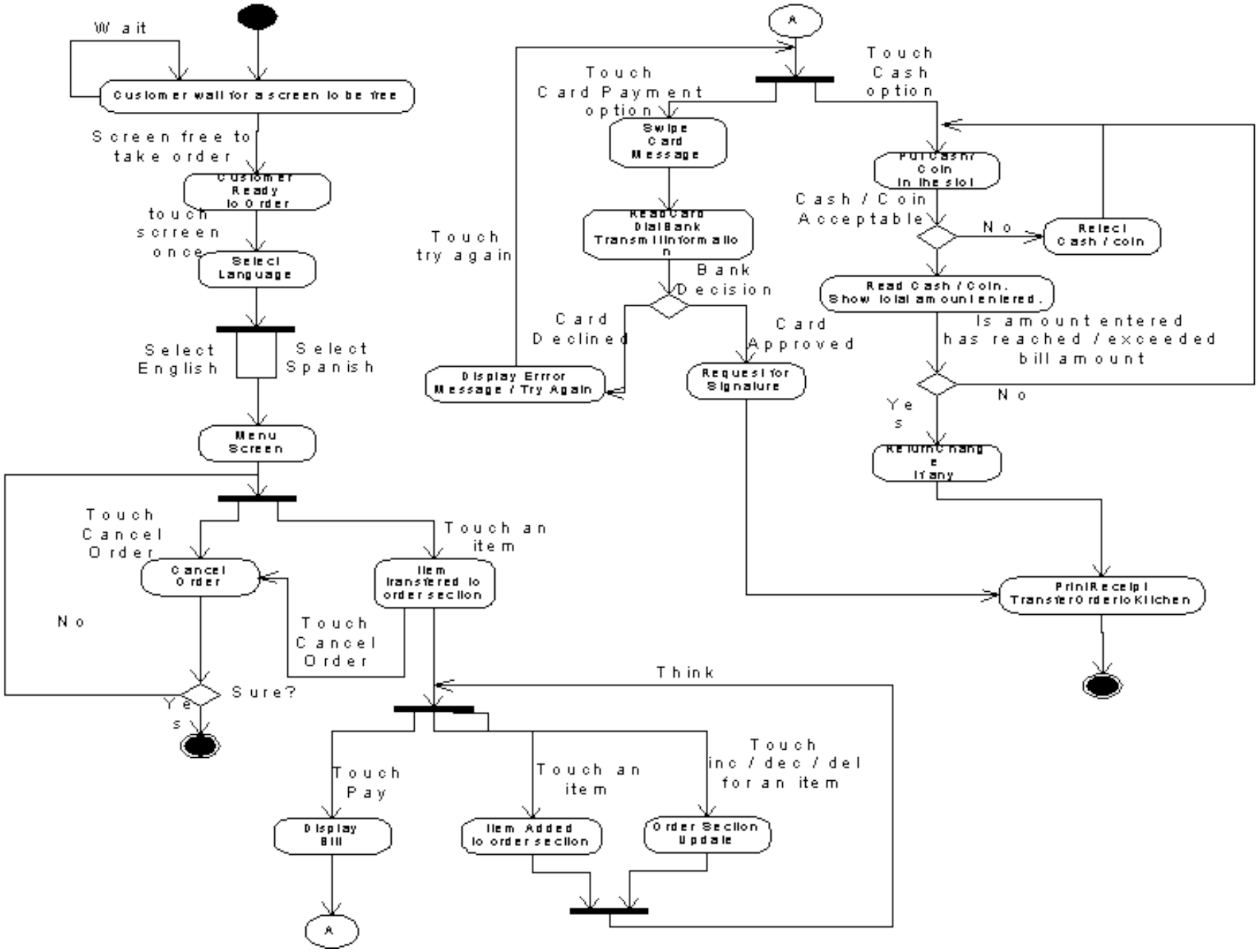
SPIN SELLING

SITUATION · PROBLEM · IMPLICATION · NEED-PAYOFF

THE BEST-VALIDATED SALES METHOD AVAILABLE TODAY. DEVELOPED FROM RESEARCH STUDIES OF 35,000 SALES CALLS. USED BY THE TOP SALESFORCES ACROSS THE WORLD.

A Bug in a vendor's CAN stack




Wait
Customer wait for a screen to be free
Screen free to take order
Customer Ready to Order
touch screen once
Select Language
Select English
Select Spanish
Menu Screen
Touch Cancel Order
Touch an item
Cancel Order
Item transfered to order section
No
Touch Cancel Order
Yes
Sure?
Think
Touch Pay
Touch an item
Touch inc / dec / del for an item
Display Bill
Item Added to order section
Order Section Update
A
A
Touch Card Payment option
Touch Cash option
Swipe Card Message
Read Card Dial Bank Transmit Information
Touch try again
Bank Decision
Card Declined
Card Approved
Display Error Message / Try Again
Request for Signature
Put Cash / Coin in the slot
Cash / Coin Acceptable
No
Reject Cash / Coin
Read Cash / Coin. Show total amount entered.
Is amount entered has reached / exceeded bill amount
No
Yes
Return Change if any
Print Receipt Transfer Order to Kitchen

How to give a research talk

What are you trying to achieve?

- NOT explain your paper in depth
- SELL your paper to the audience
- *Who is your audience?*
  - Explain too much, rather than too little
- *If they remember one thing from the talk, what should it be?*
- Explain one interesting thing well, not many superficially. Cut mercilessly!

What is your problem?

- Show an example!
- And why should I care?
- SPIN selling—implication
  - CAN stack bug… stereo and brakes
- Proving 10x cost of testing… Micra and BMW 5 series

Demos

- Nothing is more concrete!
- Fonts need to be enlarged
- Make sure your demo fits in 1024x768
- Practice; timing is unpredictable

Can you read this easily at the back?

$$\frac{}{x : A^x \vdash A}\ \textsc{Var}$$

$$\frac{t : \Gamma, A^x \vdash B, \Delta}{\lambda x.t : \Gamma \vdash A \to B, \Delta}\ \textsc{Lam}$$

$$\frac{t_1 : \Gamma \vdash A \to B, \Delta \quad \dots\ A, \Delta'}{t_1\ t_2 : \Gamma, \Gamma' \vdash B, \Delta, \Delta'}\ \textsc{App}$$

$$\frac{t : \Gamma \vdash [y/x]A, \Delta}{t : \Gamma \vdash \forall x.A, \Delta}\ \textsc{UnvTerm}$$

$$\frac{t : \Gamma \vdash [Y/X]A, \Delta}{t : \Gamma \vdash \forall X.A, \Delta}\ \textsc{\dots vForm}$$

$$\frac{t : \Gamma \vdash \forall x.A, \Delta}{t : \Gamma \vdash [t'/x]A, \Delta}\ \textsc{UnvInstTerm}$$

$$\frac{t : \Gamma \vdash \forall X.A, \Delta}{t : \Gamma \vdash [T/X]A, \Delta}\ \textsc{UnvInstForm}$$

$$\frac{t : \Gamma \vdash A, \Delta}{[\alpha]t : \Gamma \vdash A^\alpha, \Delta}\ \textsc{\dots meApp}$$

$$\frac{[\beta]t : \Gamma \vdash A^\alpha, \Delta}{\mu\alpha.[\beta]t : \Gamma \vdash A, \Delta}\ \textsc{NameAbs}$$

$$\frac{t : \Gamma \vdash \neg A, \Delta \quad t' : \Gamma' \vdash A, \Delta'}{t\ t' : \Gamma, \Gamma' \vdash \bot, \Delta, \Delta'}\ \textsc{BtmIn1}$$

$$\frac{[\alpha]t : \Gamma \vdash \Delta \quad \beta \notin CFV(t)}{\mu\beta.[\alpha]t : \Gamma \vdash \bot, \Delta}\ \textsc{BtmIn2}$$

$$\frac{t : \Gamma, A^x \vdash \bot, \Delta}{\lambda x.t : \Gamma \vdash \neg A, \Delta}\ \textsc{NegIn}$$

$$\frac{t : \Gamma \vdash \bot, \Delta}{[\alpha]t : \Gamma \vdash \Delta}\ \textsc{BtmElim}$$

$$\frac{[\alpha]t : \Gamma, A^x \vdash \Delta}{\lambda x.\mu\beta.[\alpha]t : \Gamma \vdash \neg A, \Delta}\ \textsc{LeftToRight}$$

$$\frac{t : \Gamma \vdash \neg A, \Delta \quad t' : \Gamma' \vdash A, \Delta'}{[\alpha](t\ t') : \Gamma, \Gamma' \vdash \Delta, \Delta'}\ \textsc{Contra}$$

$60 billion

$240 billion

50%

Money spent on testing ≈ Cost of remaining errors

The cost of testing vs faults

- Software errors cost the US economy around $60 billion per year [Congressional report, 2002]
- The turnover of the US software industry is around $240 billion per year
- Testing makes up around 50% of the cost of a typical software project
- Therefore the amount spent on testing is approximately the same as the cost of tolerating the remaining errors
- Increasing the cost of verification by more than a factor of two cannot pay off

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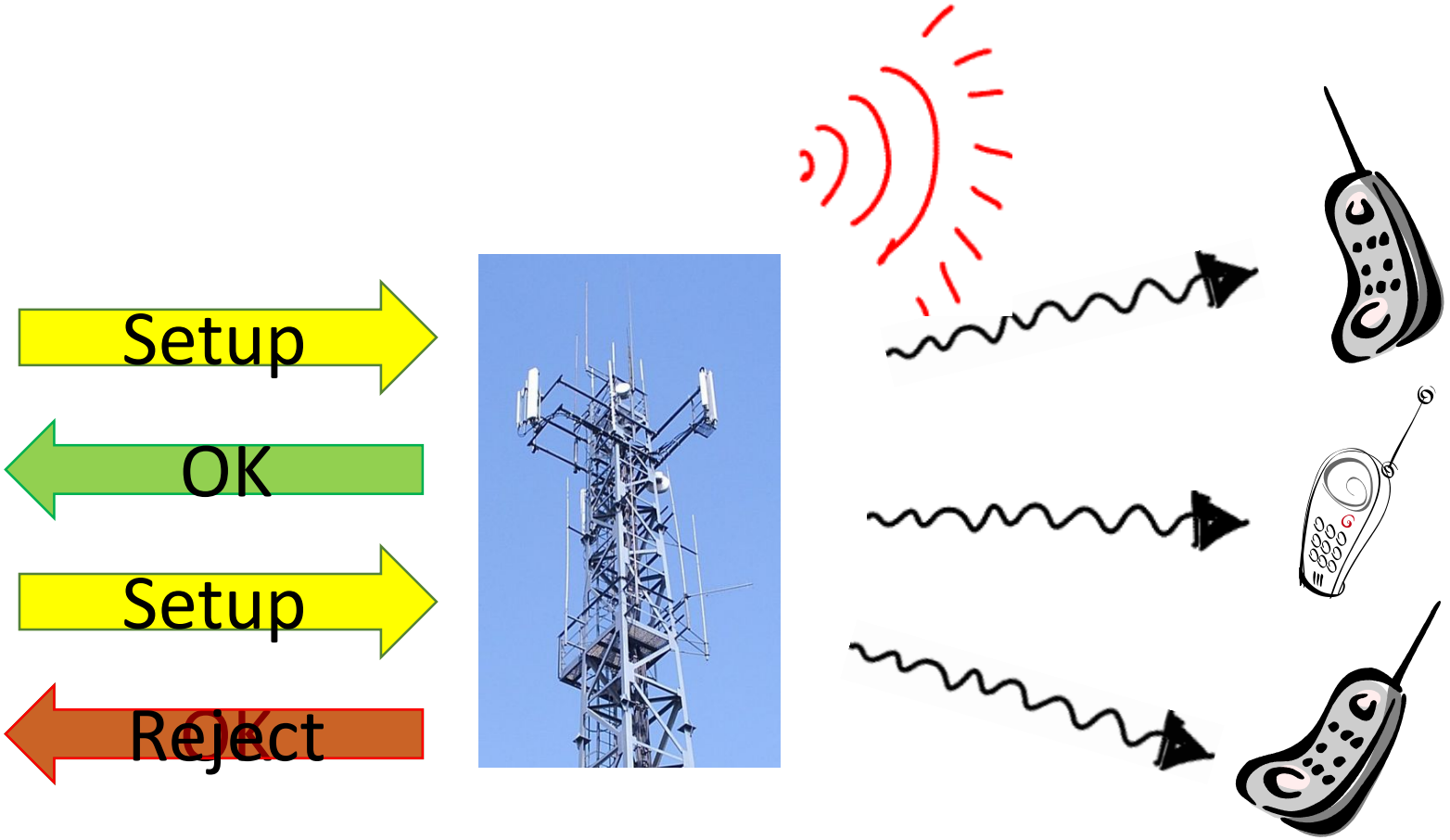
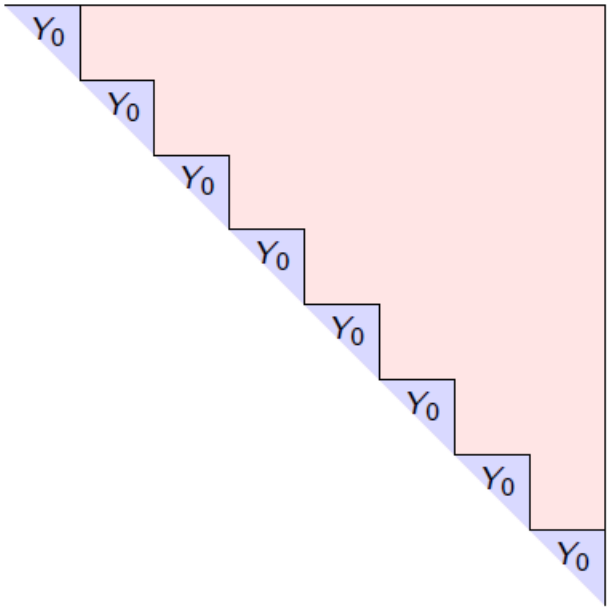
3G Radio Base Station

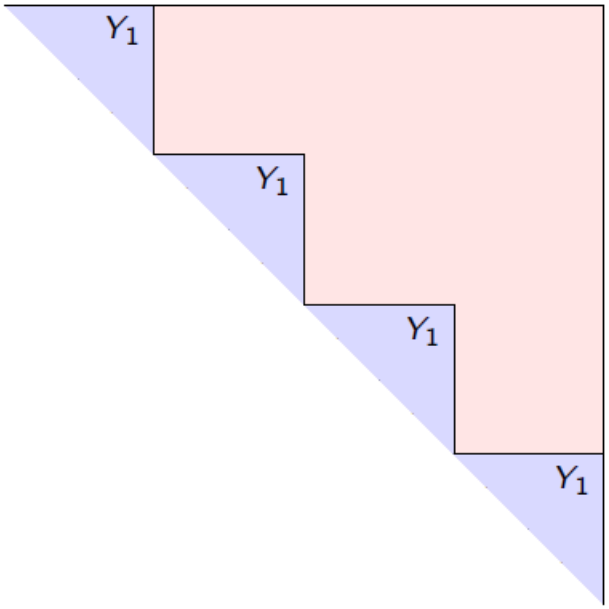


Binary encoding of lists: idea



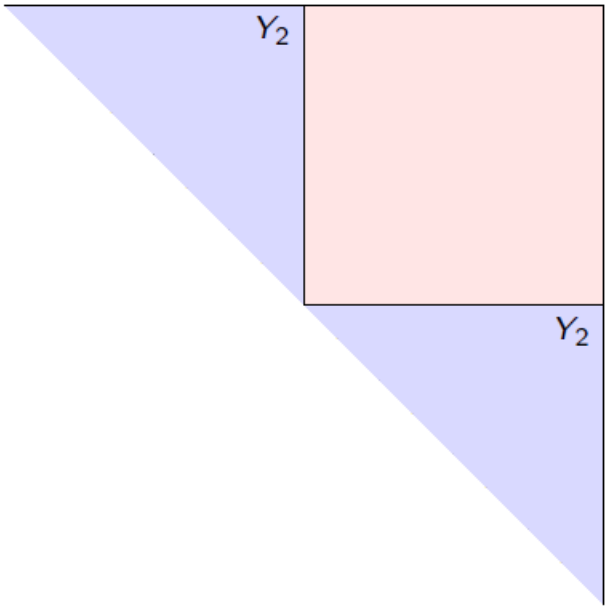
$$L \to Y*$$

Binary encoding of lists: idea



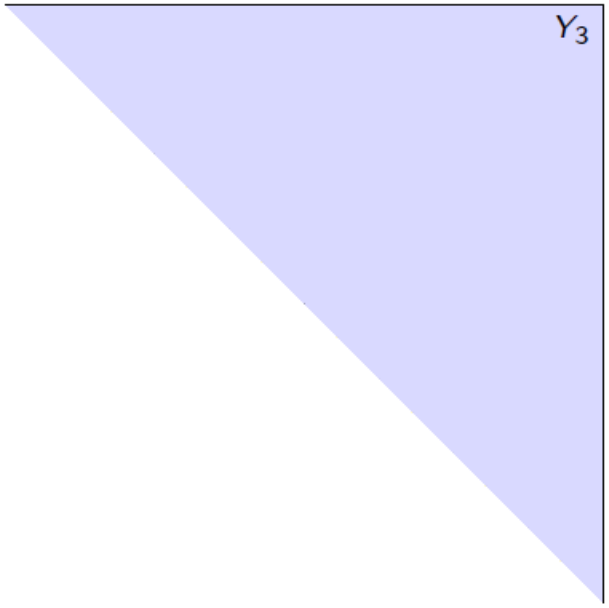
$$L \to Y*$$

Binary encoding of lists: idea



$$L \to Y*$$

Binary encoding of lists: idea



$$L \to Y*$$

Göran Hägg

PRAKTISK RETORIK

TALARSKOLA

med klassiska och moderna exempel

W&W

Presentation exercise

- Explain key idea
  - Including past: *why* was this a big step forward
  - Including future: *how* has idea been used since
- 15 minutes! That's short!
- In reality: small group in a small room
- Imagine: for 20—30 people
- Book a slot!