## My Interests

- Mainly: Reliability (in communication) (mmean)
- Some Past Works:
- Error-correcting codes \& List decoding
- Local testing/correcting of codes
- Communication with no prior context!
- (Talking to alien, child learning language)
- Communication with lots of (imperfectly shared) context
- This talk?
- Other interests:
- Probabilistically Checkable Proofs ...
- Any mathematically interesting question


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## A Current Interest

- Aggregation of Information/Errors: [Ben-Eliezer,Mossel,S'21]
- Underlying issue: Knowledge is cumulative ... but errorprone.
- How does latter affect former?
- Needs error-correction (else almost everything erroneous).
- Information spread model?
- Errors?
- Correction?


## Aside/Poll

- What fraction of papers in math journals have an error (in thm/lemma)
- If you think:
- $\leq 5 \%$ : Raise Hand
$-\geq 30 \%$ : Cross Hands (X/No on zoom)


## A baby model (Inf. Prop.+Errors)

- Information: Single bit of information at "source"
- Network: Nodes connected in a tree rooted at source
- Propagation: Nodes copy parent information (prob. $p$ of error)
- Correction: With prob. $q$ in each round check information against parent and update to parent's value.
- Question: If $p=.001$ and $q=.99$ and tree is a complete binary tree, what fraction of nodes that have information have it right?


## Some proofs/pictures (TBD ${ }_{\text {rawn }}$ )

