

# Wing Design II

## Lecture 9

ME EN 415

Andrew Ning

[aning@byu.edu](mailto:aning@byu.edu)



# Let's Experiment

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1) [juliabox.com](https://juliabox.com)

2) Sync > Git repositories >

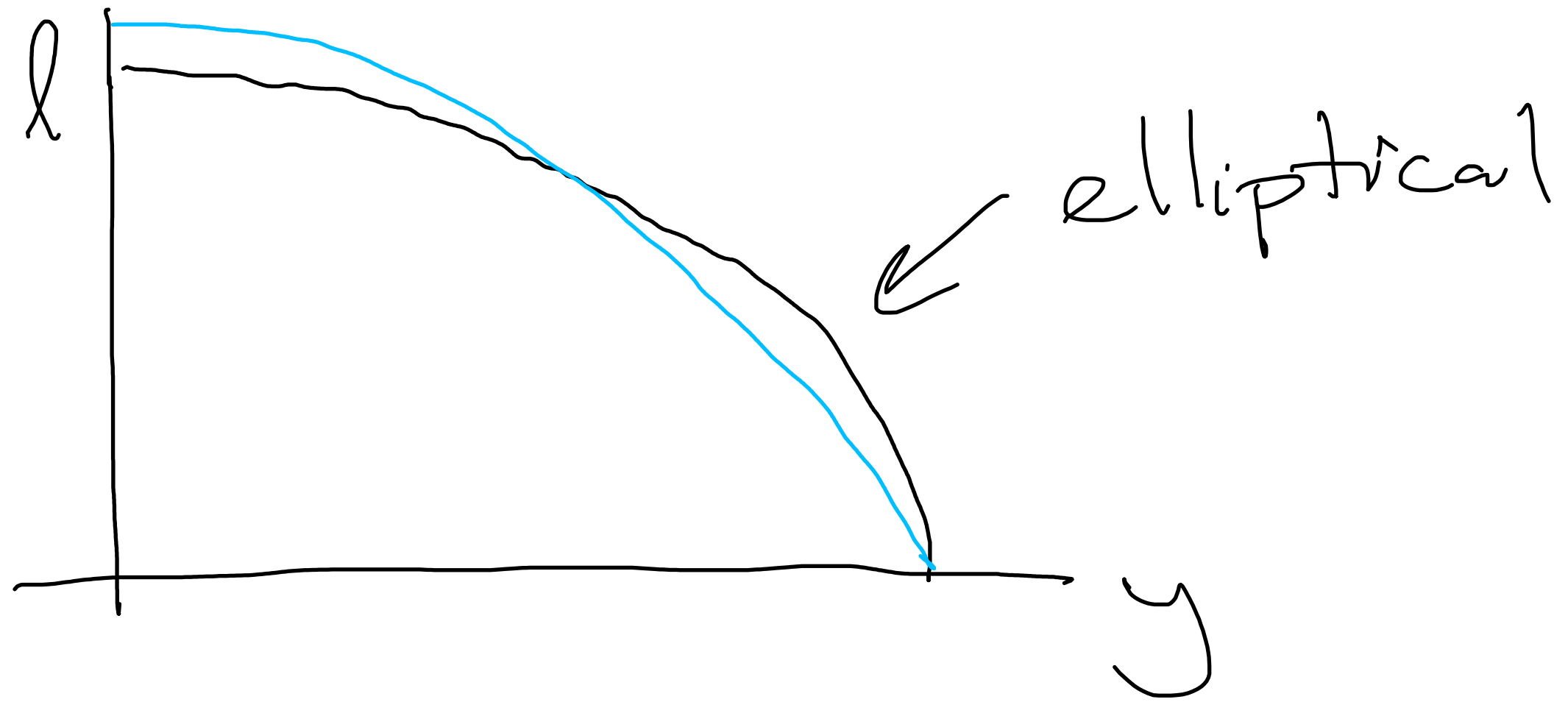
<https://github.com/byuflowlab/415notebooks.git>

3) 415notebooks

- setup
- simplewingdesign



# Ideal lift distribution



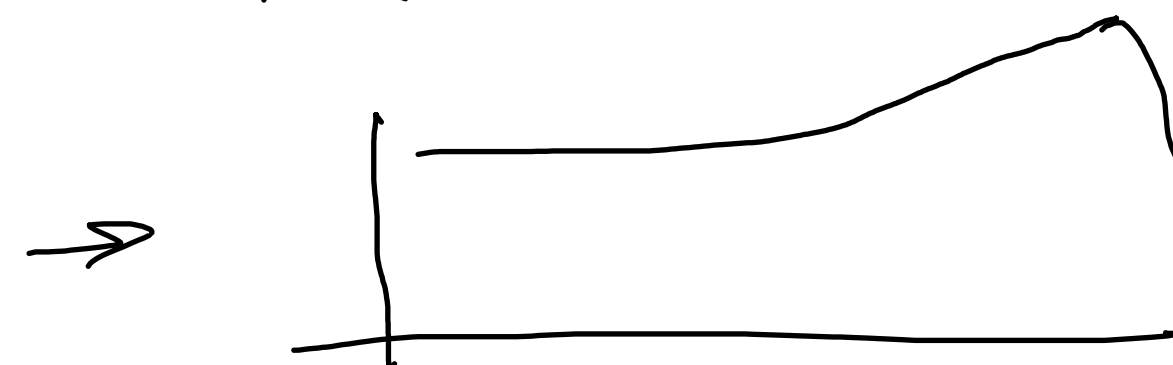
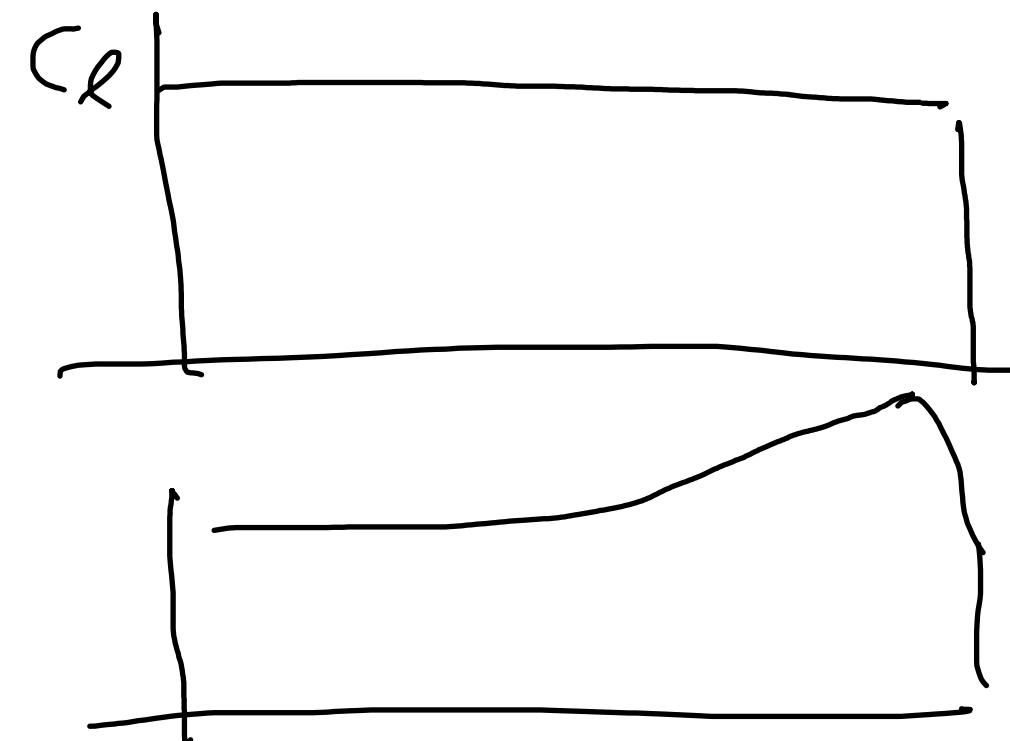
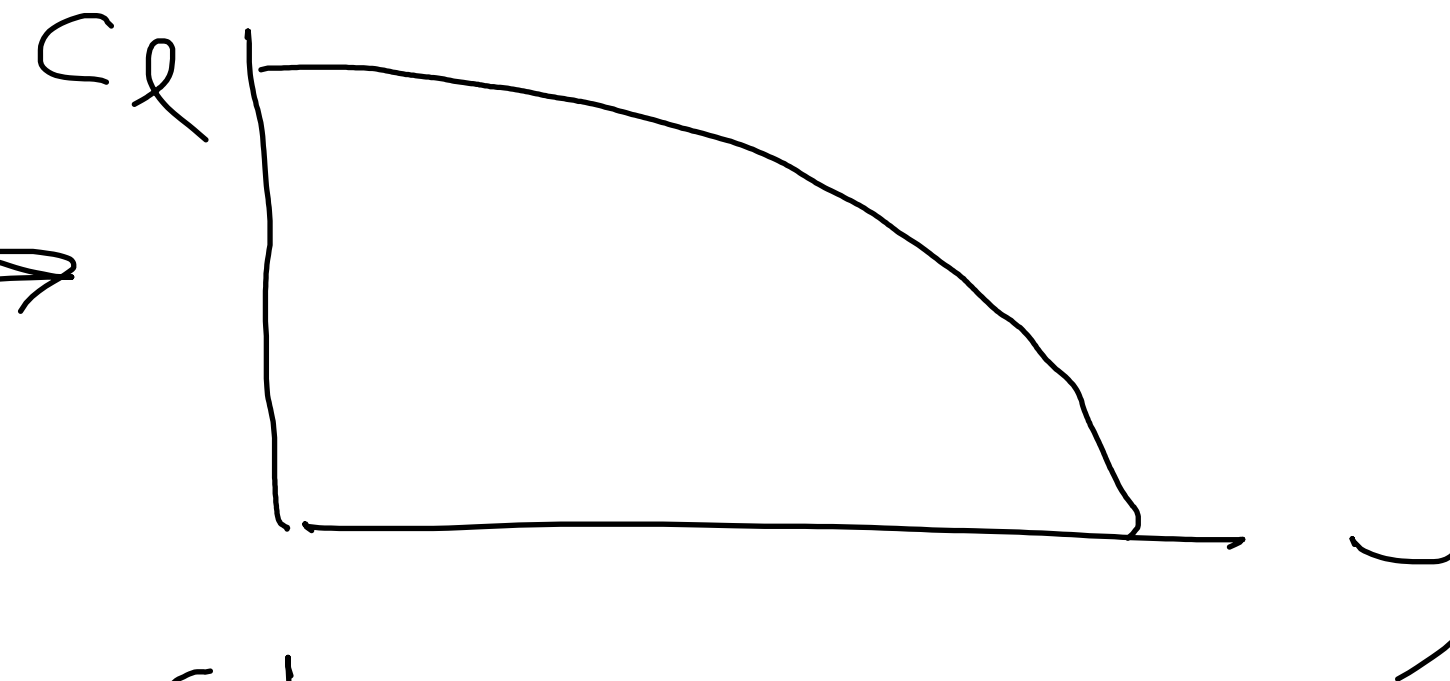
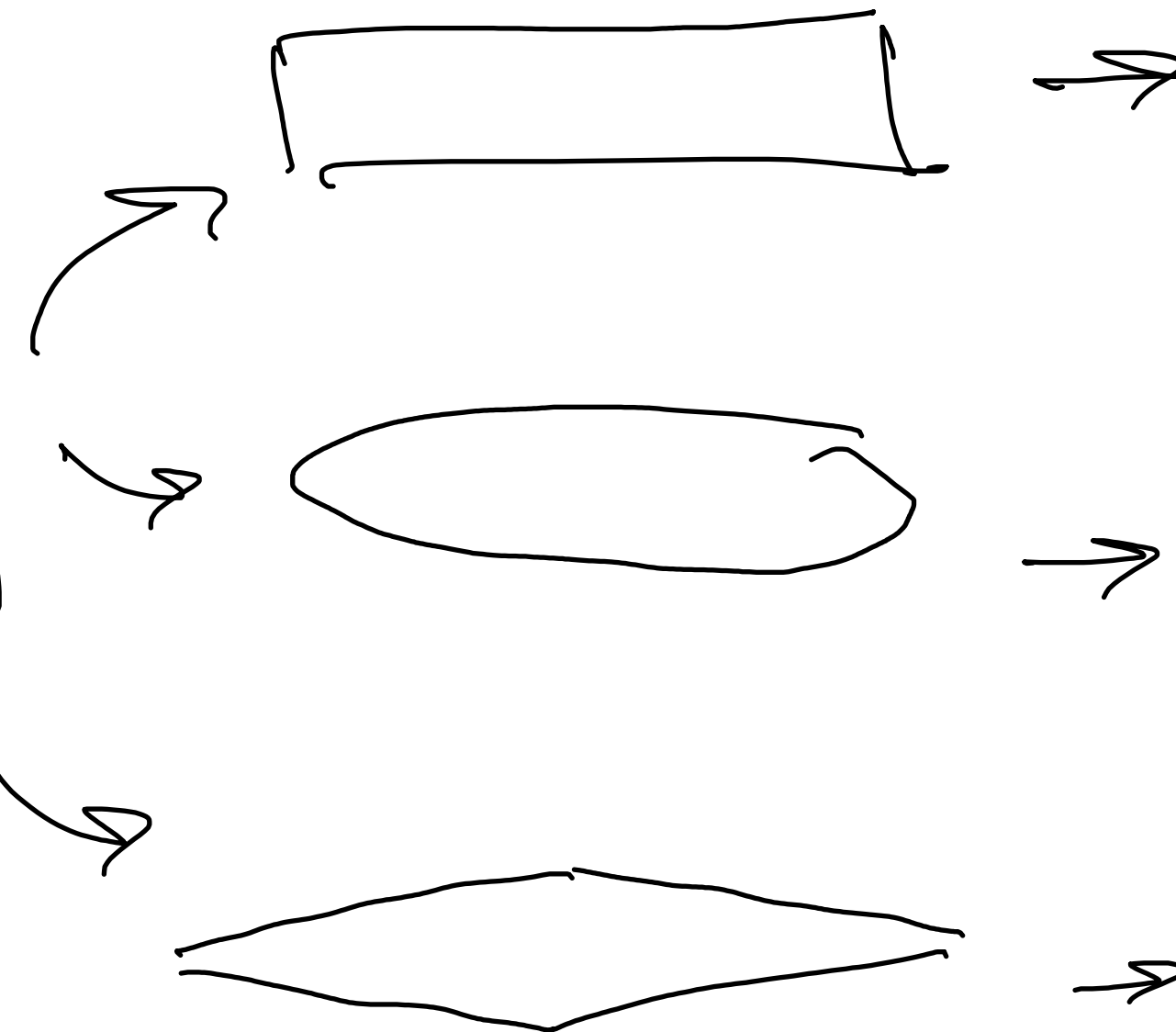
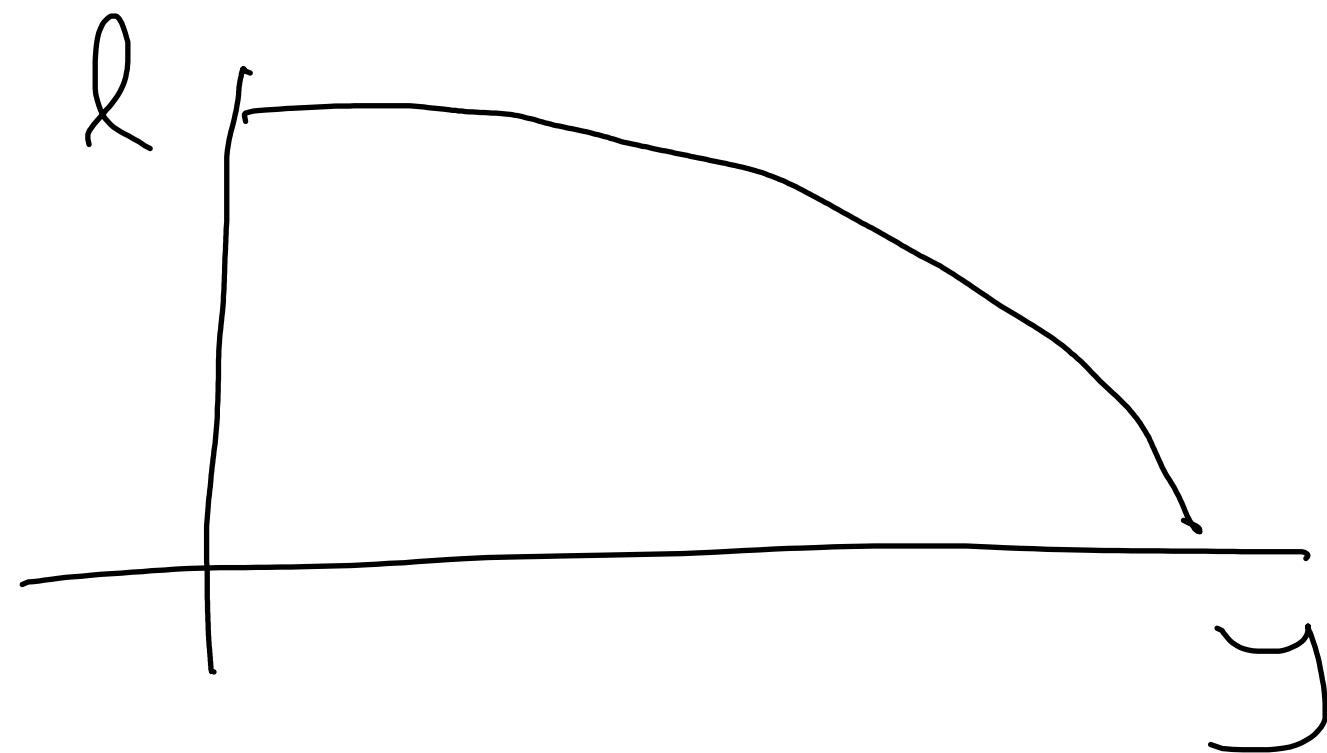
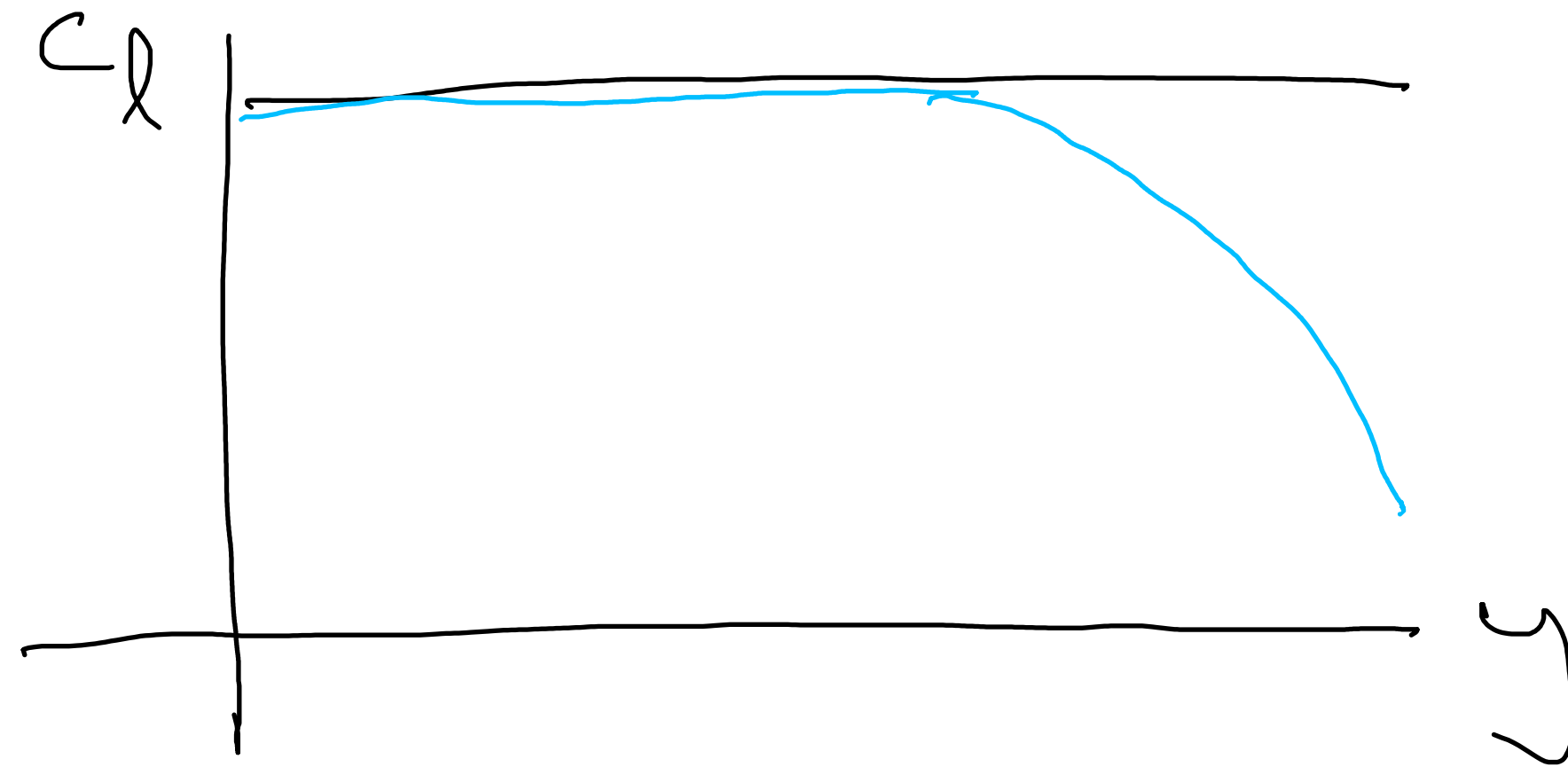
w/ twist lift distribution is  
almost decoupled from shape



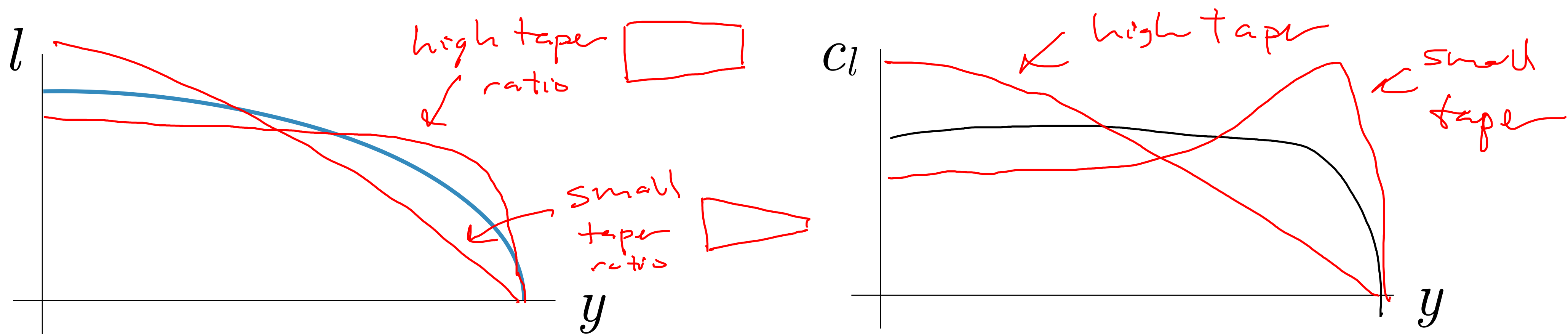
CC-BY-SA-3.0: Bryan Fury75, French Wikipedia

# Ideal cl distribution

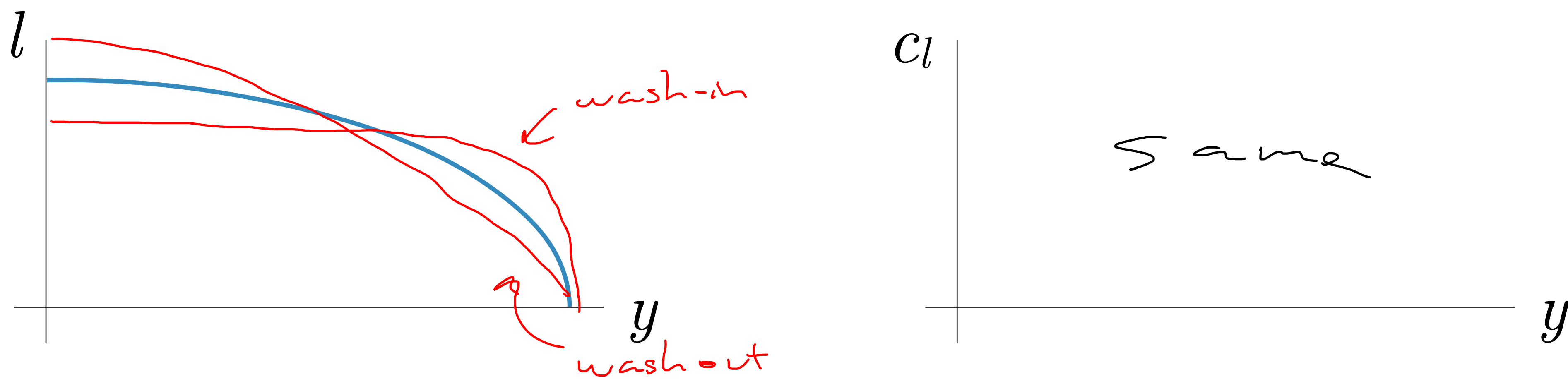
$$C_l = \frac{l}{q_{\infty} C}$$



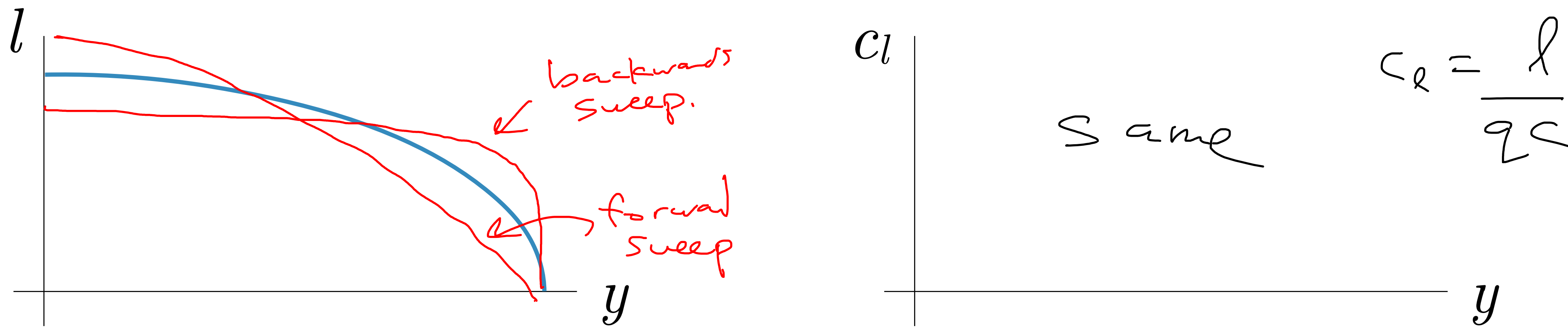
chord:



twist:



sweep:



# Critical Section Theory

