

From Slide Rule to Computer:

Forgetting How it Used to Be Done

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Summary

- As technology advances over the years, engineers moved from using simple slide rules to complex computer programs to help calculate in the design process. While computers have many benefits, their accuracy and how they are affecting the field are called into question.

“Slide” Back in Time

- Slide rules were essential to engineers in the 1950s & '60s
- Only calculate to 3 decimal points



It's Electronic?!



- Electronic slide rules replaced regular ones
- First pocket calculator invented in 1972
- Rendered slide rules obsolete

The Computer Age

- Computers soon replaced calculators as the go-to for evaluations
- Program can be used to calculate figures in an instant



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Are Engineers Becoming Lazy?

- Engineers have become dependent on computers
- Computers can make many calculations in a timely manner and engineers don't have to do much work
- Engineers don't bother to double check computers because it would take too much time

How Accurate is That Computer?

- Predictions of structural behavior only within 60% of actual values 95% of the time
- Unpredictability

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Computers & Safety Concerns

- One wrong input in the programming can throw off all calculations and lead to failure
- Buildings being under-supported, whereas in the past they were over-supported due to high factors of safety
- Large reliance on computers makes it easier for engineers to get jobs in fields they don't specialize in, making it harder for them to catch computer mistakes and putting people at risk