



# Recollections of Stanford CS 1969--1973

Ronald L. Rivest



CS 110

# Bob Floyd

ALGOL W (REVISED)

LANGUAGE DESCRIPTION	pp. 1 to 65
ERROR MESSAGES	pp. 66 to 75
NUMBER REPRESENTATION	pp. 76 to 89
DECK SET-UP	pp. 90 to 91
GRAMMATICAL DESCRIPTION	pp. 92 to 103

COMPUTER SCIENCE DEPARTMENT  
STANFORD UNIVERSITY  
SEPTEMBER 1969

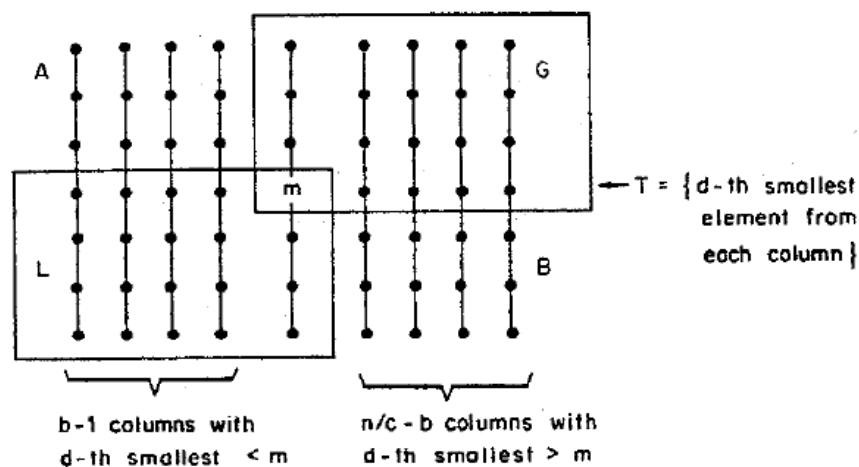


Algorithms  
Programming; Algol W  
Advice...



# Time Bounds for Selection\*

MANUEL BLUM, ROBERT W. FLOYD, VAUGHAN PRATT,  
RONALD L. RIVEST, AND ROBERT E. TARJAN

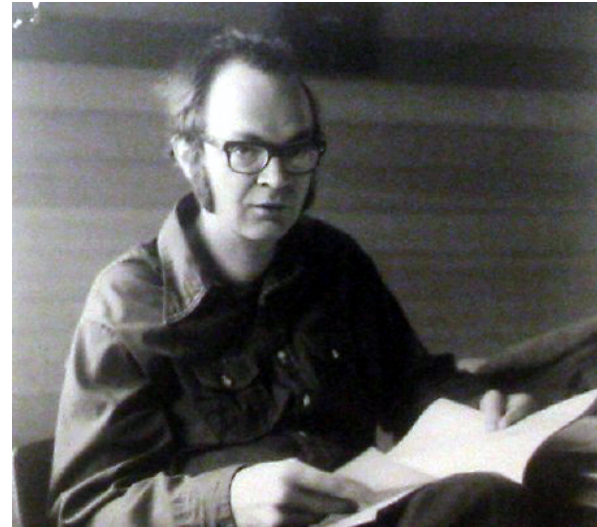


4<sup>th</sup> STOC (1972)

$$P(n) \leq \frac{66n}{21} + P\left(\frac{n}{21}\right) + n + P\left(\frac{31n}{42}\right)$$



# Donald E. Knuth



Optimal binary  
search trees

O-notation

The Art of Computer Programming...

Bibliography on Sorting joint paper

Phyllis Winkler



# Knuth's Seminar

NP-Completeness;  
Traveling Salesman  
Problem

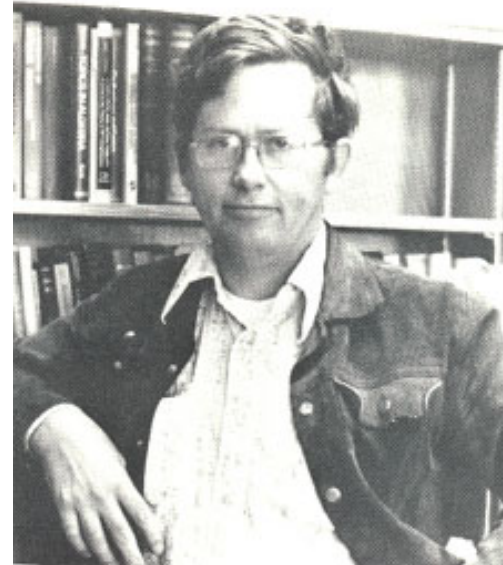


Dick Karp

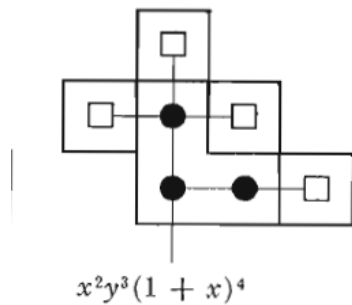
Ron Graham



# David Klarner



## Polyominoes



$$\lim_{n \rightarrow \infty} (t(n))^{1/n} = \theta \cong 4.649551.$$

## Wooden puzzles

(3)1x1x3 + (29)1x2x2  
or 25 Y's into 5x5x5 cube





# Vasek Chvatal

Combinatorics  
Perfect Graph Conjecture  
Linear Programming  
Mexico







# Other CS faculty...

- Zohar Manna
- John McCarthy
- John Herriott
- Jerry Feldman
- Gene Golub
- Ed Feigenbaum
- George Forsythe



# Computing

- Punch cards...
- Wylbur...
- SAIL...



Operating  
Systems

B. Randell  
Editor

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## WYLBUR: An Interactive Text Editing and Remote Job Entry System

Roger Fajman and John Borgelt  
Stanford University Computation Center





# Fellow students...

- Vaughan Pratt
- Leo Guibas
- Bob Tarjan
- Dick Sites
- Doug Brotz
- Mike Fredman
- Giles Kahn
- Jean Vuillemin
- Malcolm Newey
- Denny Brown
- Barbara Ryder
- ...

# SAIL Cart Project

- Bruce Baumgart
- "Find the road"
- PDP-10 assembler
- midnight hours...
- (draft deferment;  
for a while...)





# Teaching

- TA positions
- Summer Algol W course
  - Notes from Bob Floyd
  - Special TV room



# California





Gail





# Thesis

ANALYSIS OF ASSOCIATIVE RETRIEVAL ALGORITHMS

A DISSERTATION

SUBMITTED TO THE DEPARTMENT OF COMPUTER SCIENCE

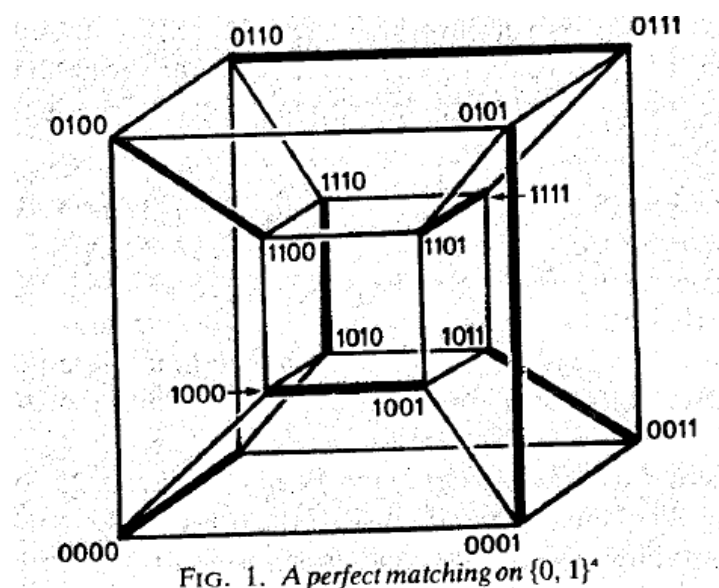
AND THE COMMITTEE ON GRADUATE STUDIES

OF STANFORD UNIVERSITY

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY



Privacy concerns... (shades of Google!)





# Economics

- \$300/month NSF Fellowship
- \$125/month rent in Escodido Village
- Gas was 28 cents/gallon
- Food stamps (!)





# Politics

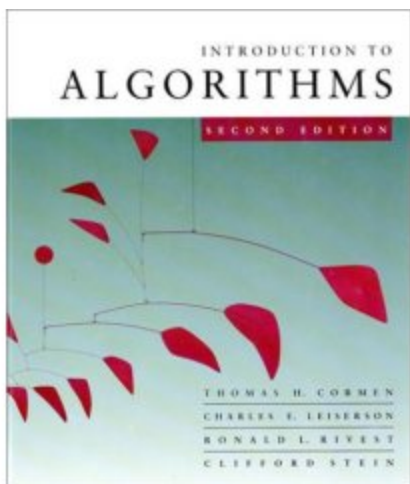
- Unpopular war...
- Unpopular president...
- The draft...
- George McGovern 1972 election
- "Computer security"....





# Then on to...

- France
- MIT
- RSA
- Kids
- Textbook...





Thanks!