Standards and Modularity

A Scalable, Multi-Use History

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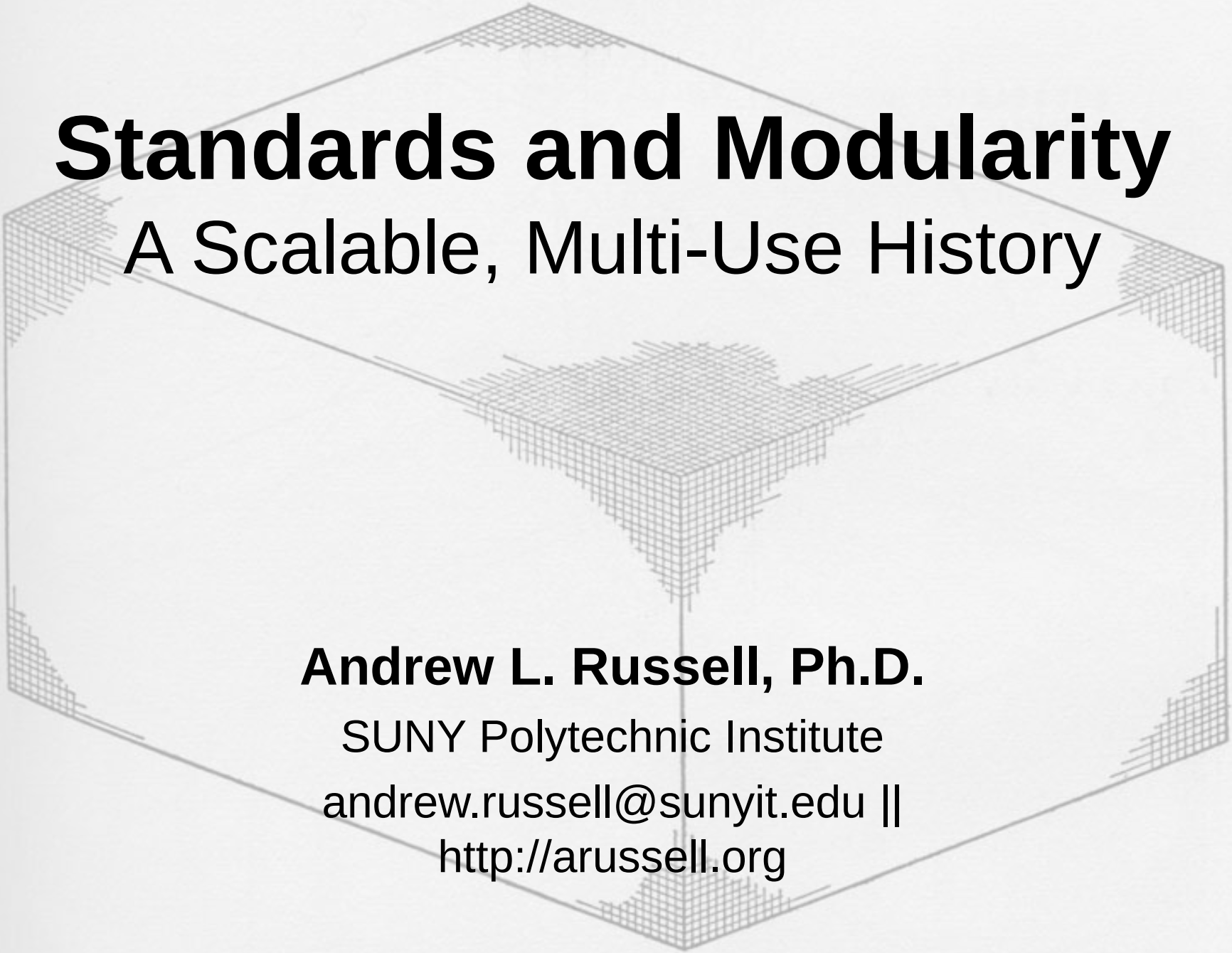


FIG. 17. THE TOTAL MATRIX OF THE HOUSE

SUNY Poly College of Engineering to Offer New Graduate Degree Program in Response to Changing Workforce and Industry Demands

BY THERESA MANCUSO · NOVEMBER 15, 2016

SUNY POLYTECHNIC INSTITUTE

State Ed approves Master's in Systems Engineering, one of few such programs offered nationwide

UTICA, NY – Continuing its mission to offer students unparalleled academic programming, SUNY Polytechnic Institute today announced that the New York State Education Department and the State University of New York have approved SUNY Poly's new Master of Science degree in Systems Engineering. The 30 credit degree program will provide students with enhanced theoretical and application-oriented skills and is designed for graduates with already-existing technical capabilities and an appreciation of engineering across multiple disciplines.

Concepts

Standards

Modular

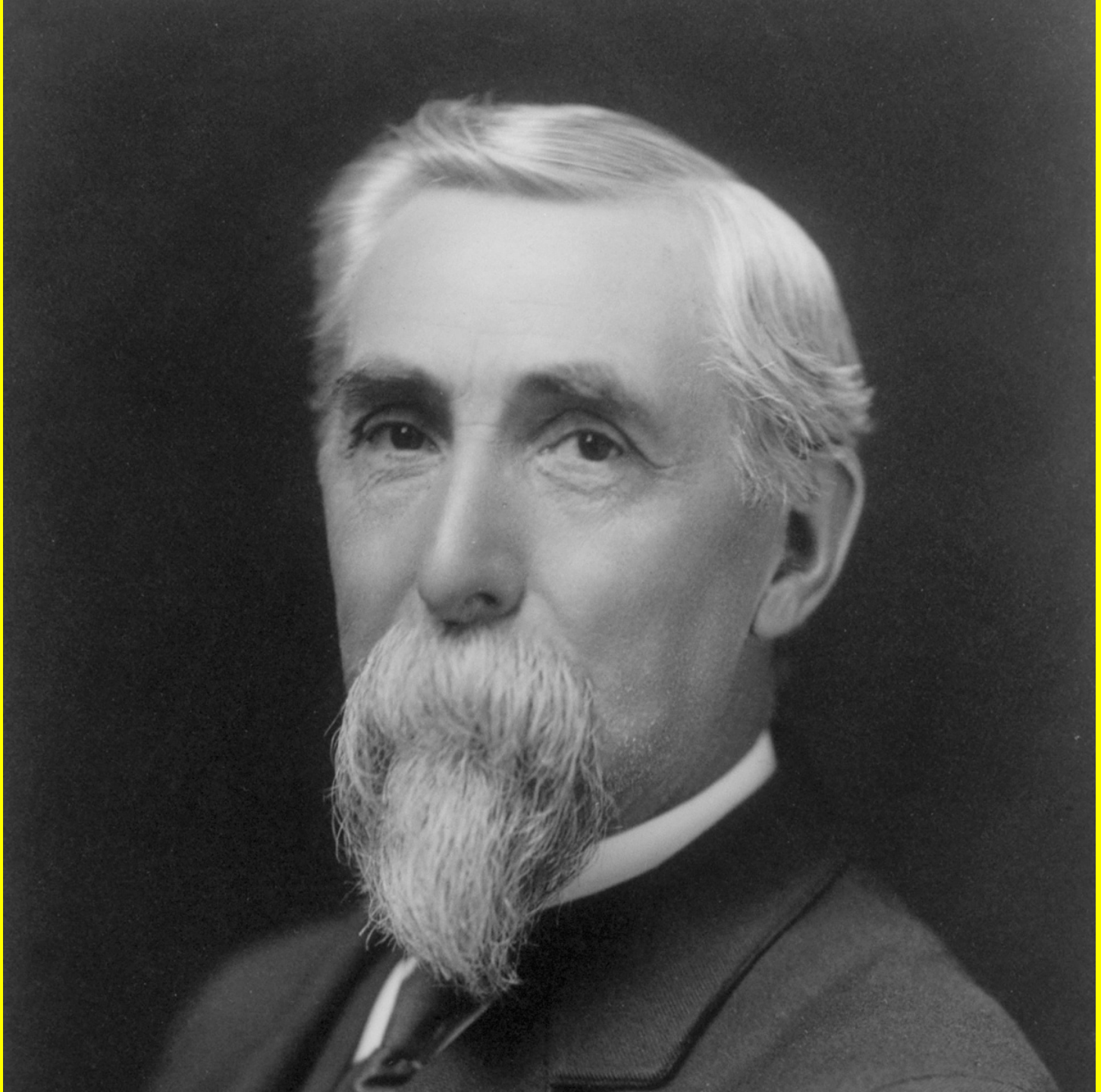
Conclusions

Concepts

- Standards
- Modularity
- Scalable & Multi-Use History

Standards

- Gribeauval, Blanc, Whitney
- Leland
- Taylor



“In the past the man has been first;
in the future the system must be first.”

Frederick Winslow Taylor
The Principles of Scientific Management
1911

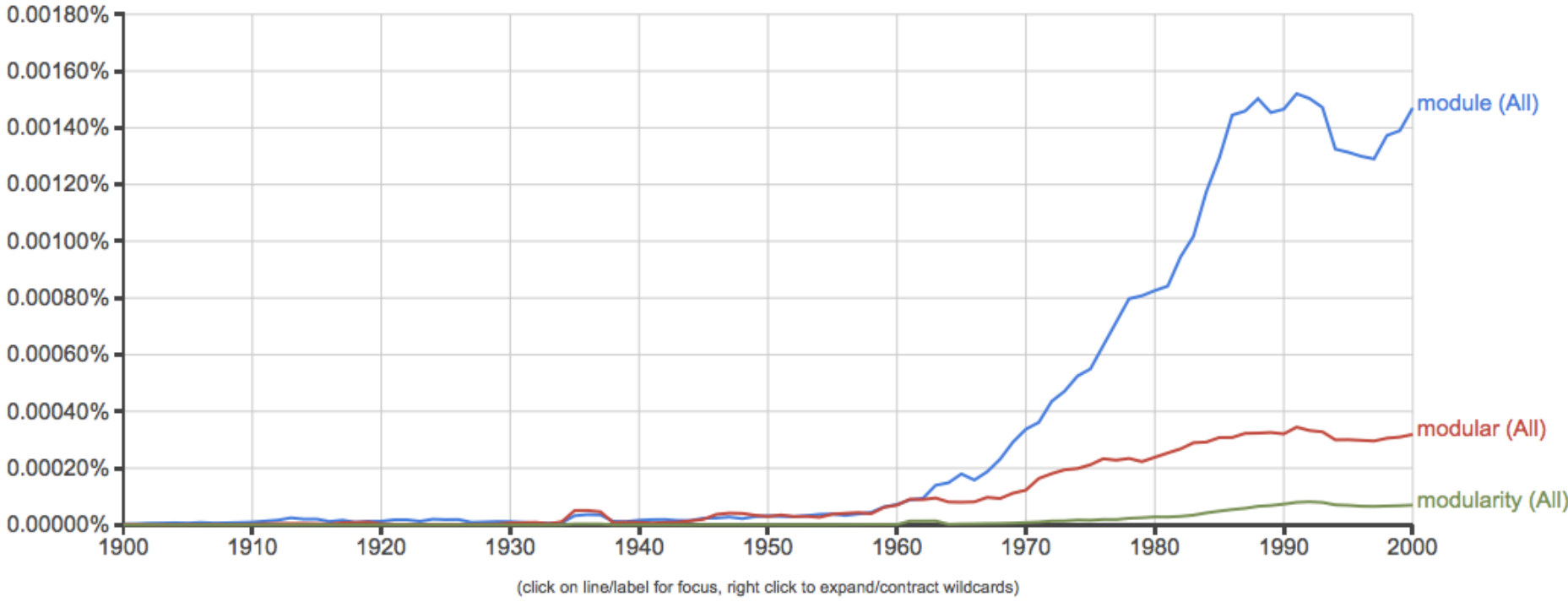
Modular

- Bemis/Corbusier
- Project Tinkertoy
- Simon

Google books Ngram Viewer

Graph these comma-separated phrases: module,modular,modularity case-insensitive

between 1900 and 2000 from the corpus English with smoothing of 1. Search lots of books



(click on line/label for focus, right click to expand/contract wildcards)

ALBERT FARWELL BEMIS
1870–1936

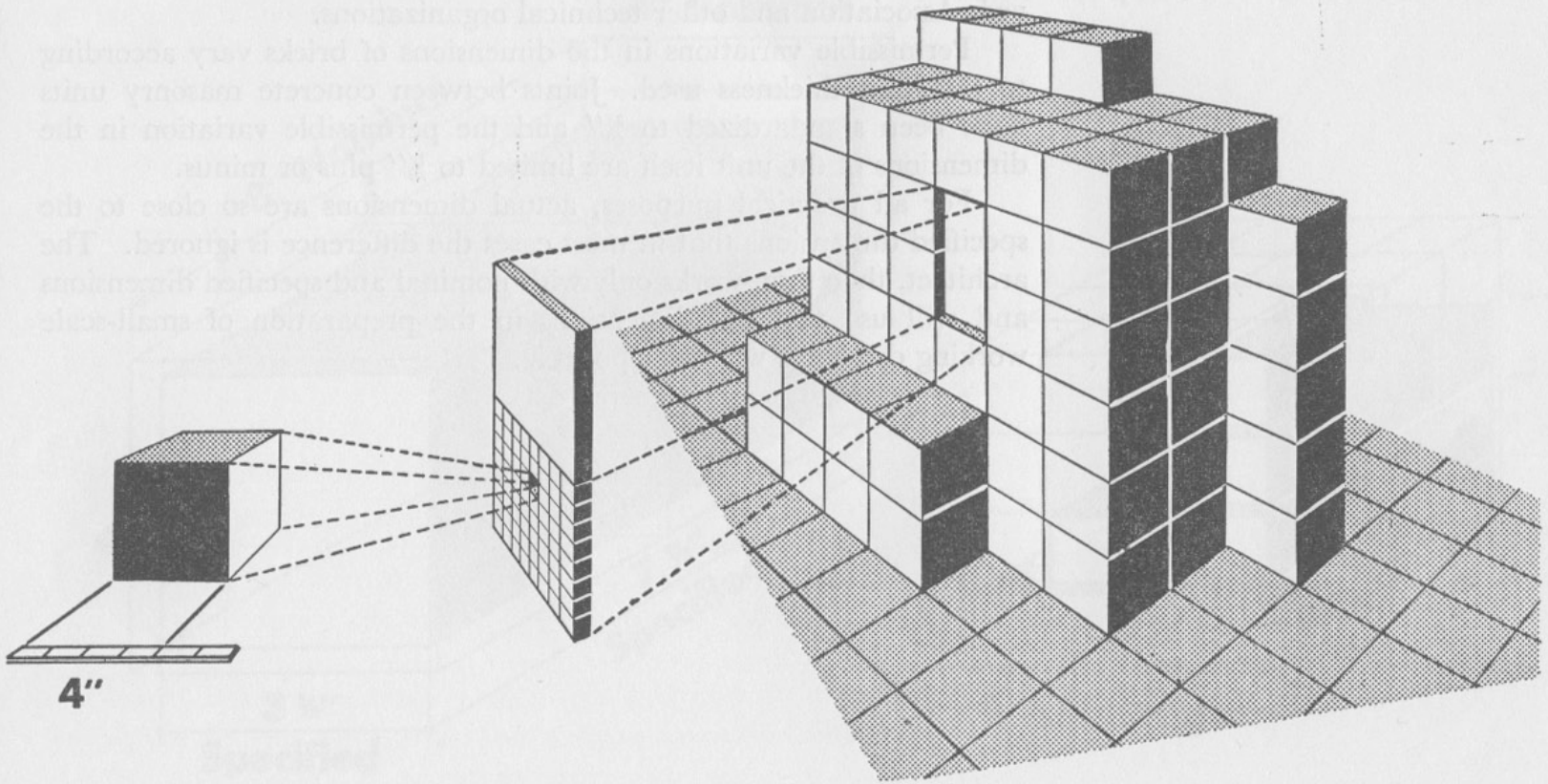
Bemis Brothers Bag Company:
- President (1909-25)
- Chairman (1925-34)
- Founder of Bemis, Tennessee (c. 1900)

Bemis Industries, Inc.:
- Holding company, housing and building industries (1920s-30s)
- Vice President: John Ely Burchard

The Evolving House **(MIT Press)**
- *Volume I: The History of The Home* (1933)
- *Volume II: The Economics of Shelter* (1934)
- *Volume III: Rational Design* (1936)

A MODULAR VOLUME

THE BEMIS CUBICAL MODULAR CONCEPT



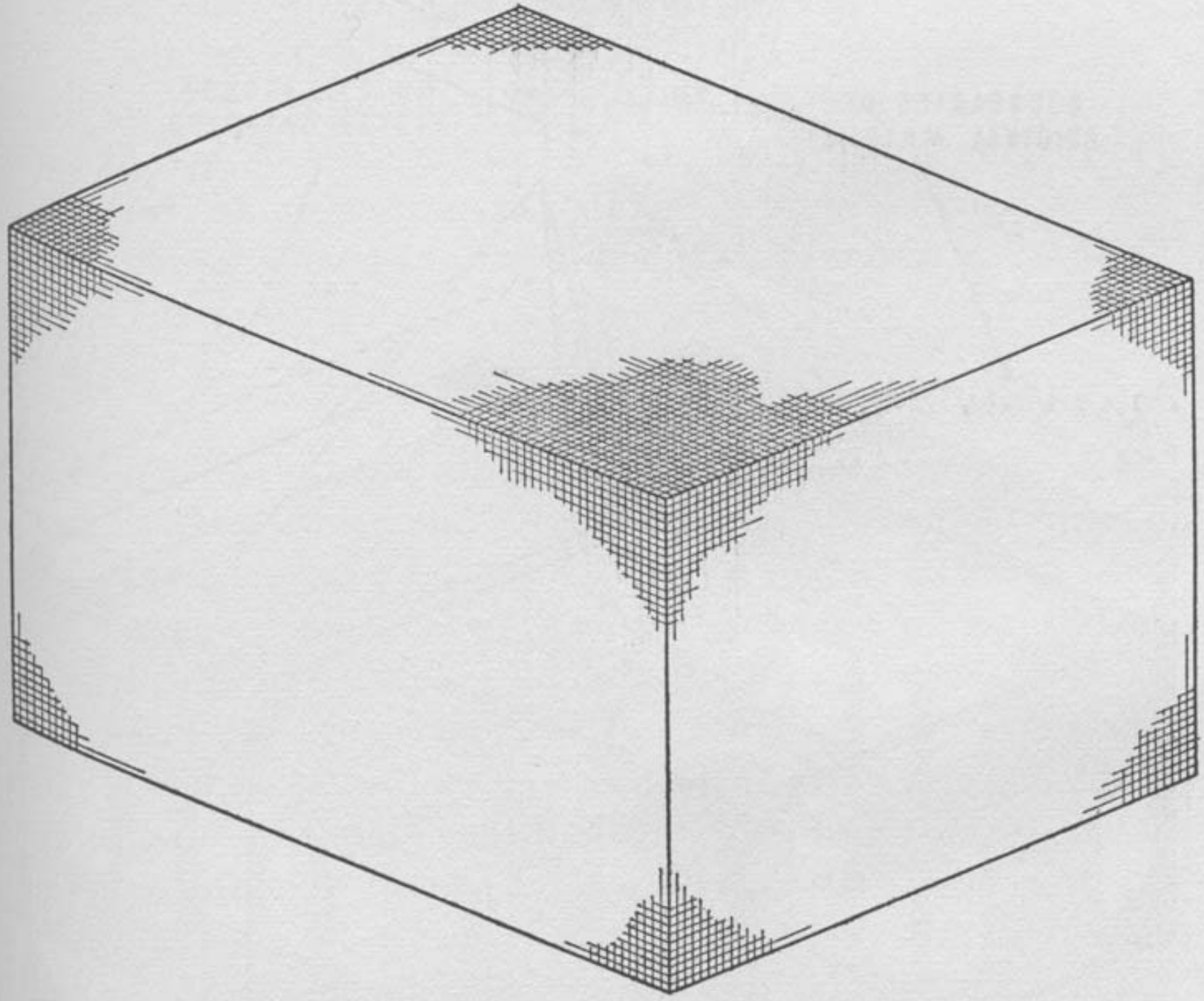


FIG. 17. THE TOTAL MATRIX OF THE HOUSE

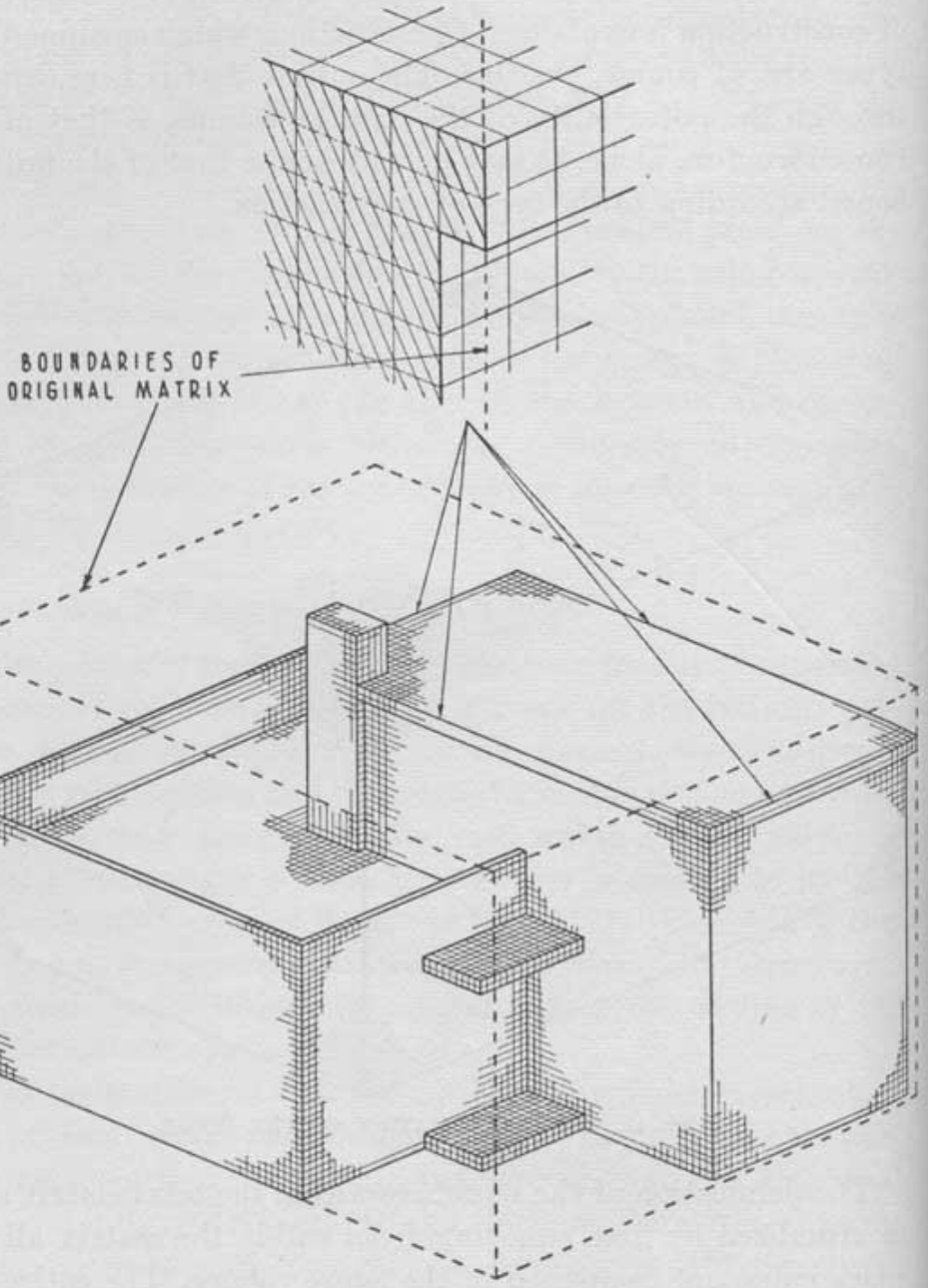


FIG. 18. THE STRUCTURAL MASS DEFINED WITHIN THE MATRIX

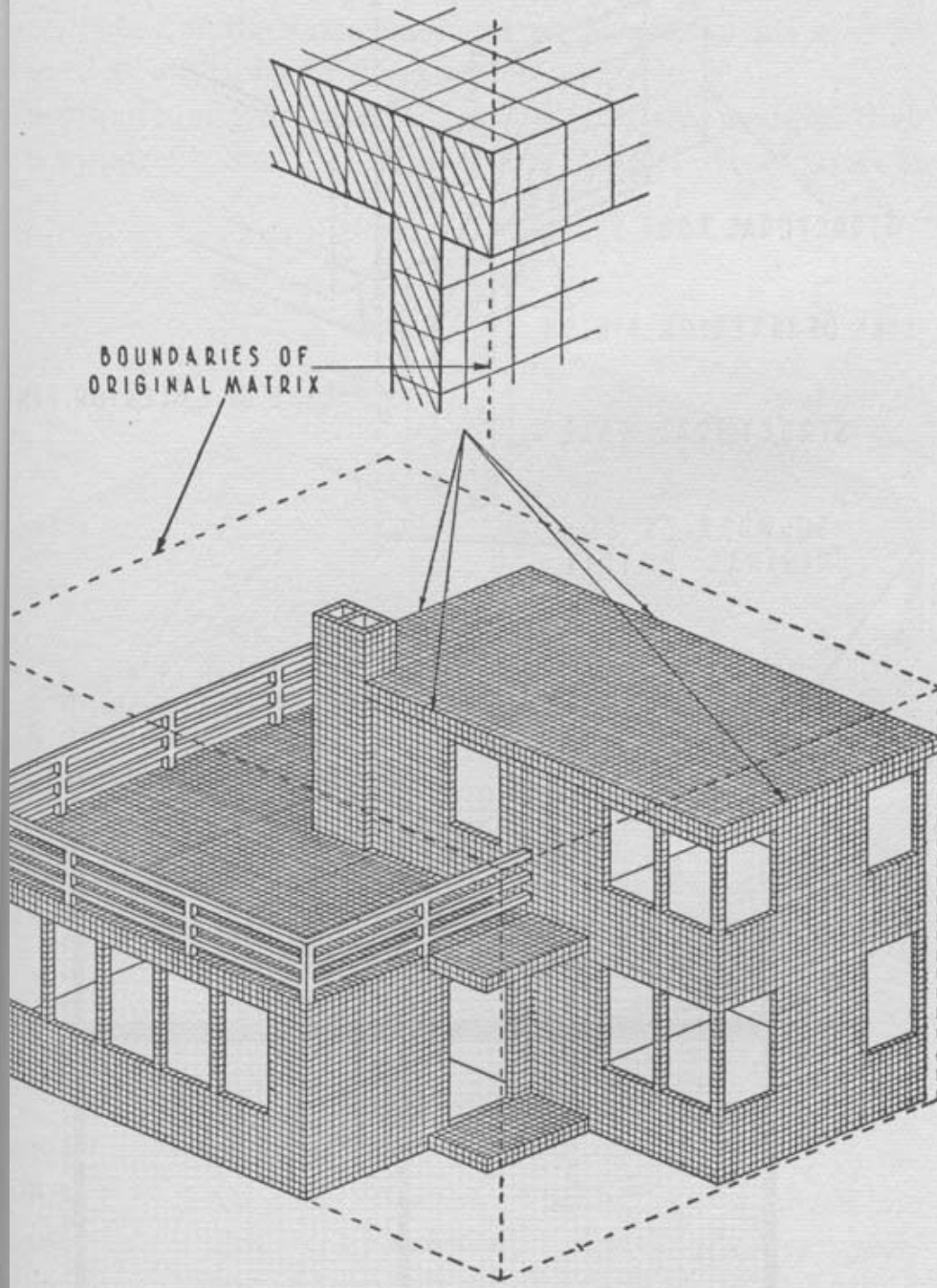


FIG. 19. THE HOUSE STRUCTURE DEFINED WITHIN THE MATRIX

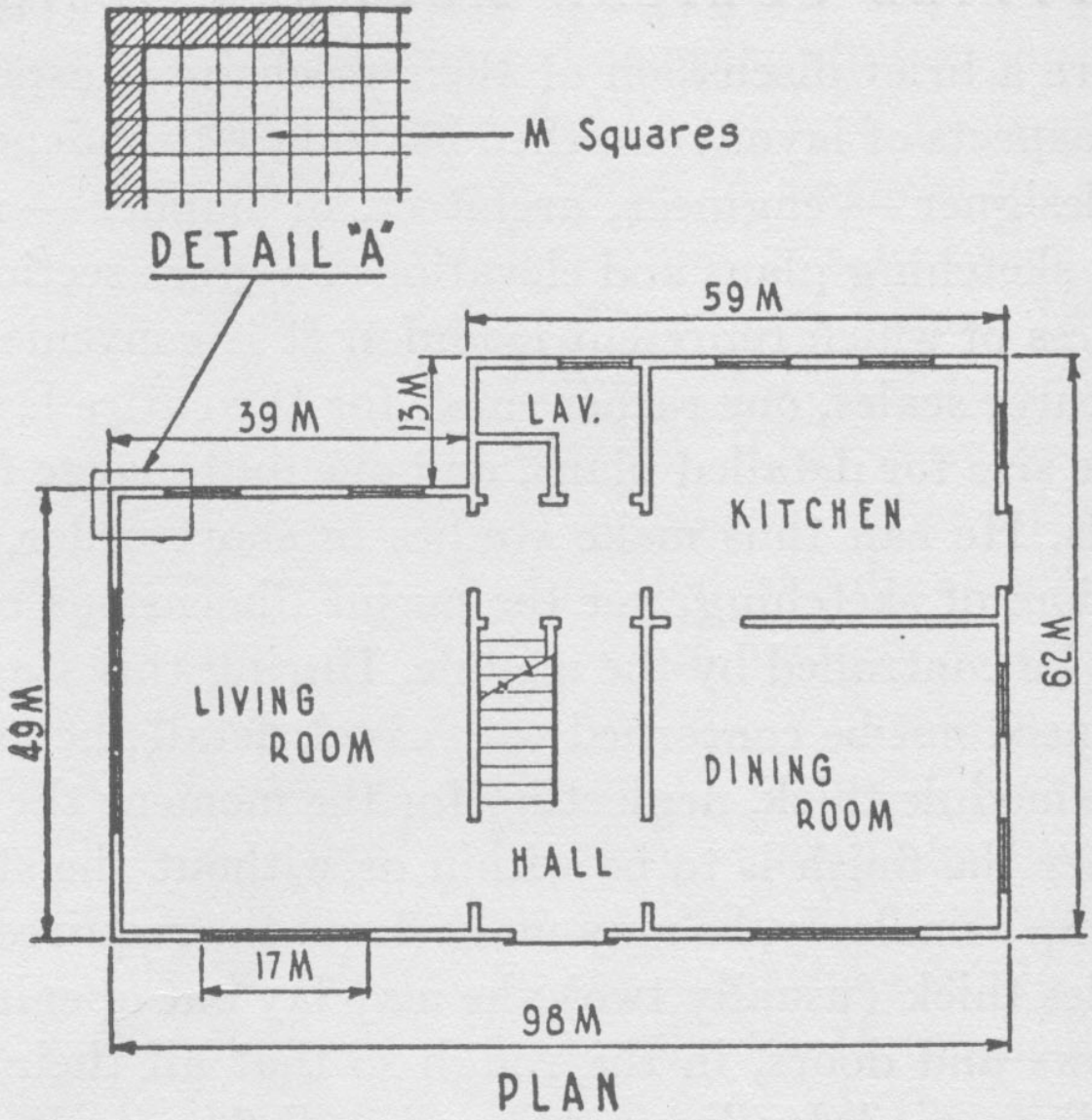


FIG. 94. PRELIMINARY SKETCH OF MODULAR HOUSE

Insets show how modularly ruled lines are used for the sketches

Bemis's contribution: ***an industry-wide conceptual shift in structural design*** would lower costs, reduce waste, and increase efficiency.

A62 GUIDE
FOR
MODULAR COORDINATION

A Guide to assist architects and engineers in applying modular coordination to building plans and details

by

MYRON W. ADAMS
AND
PRENTICE BRADLEY

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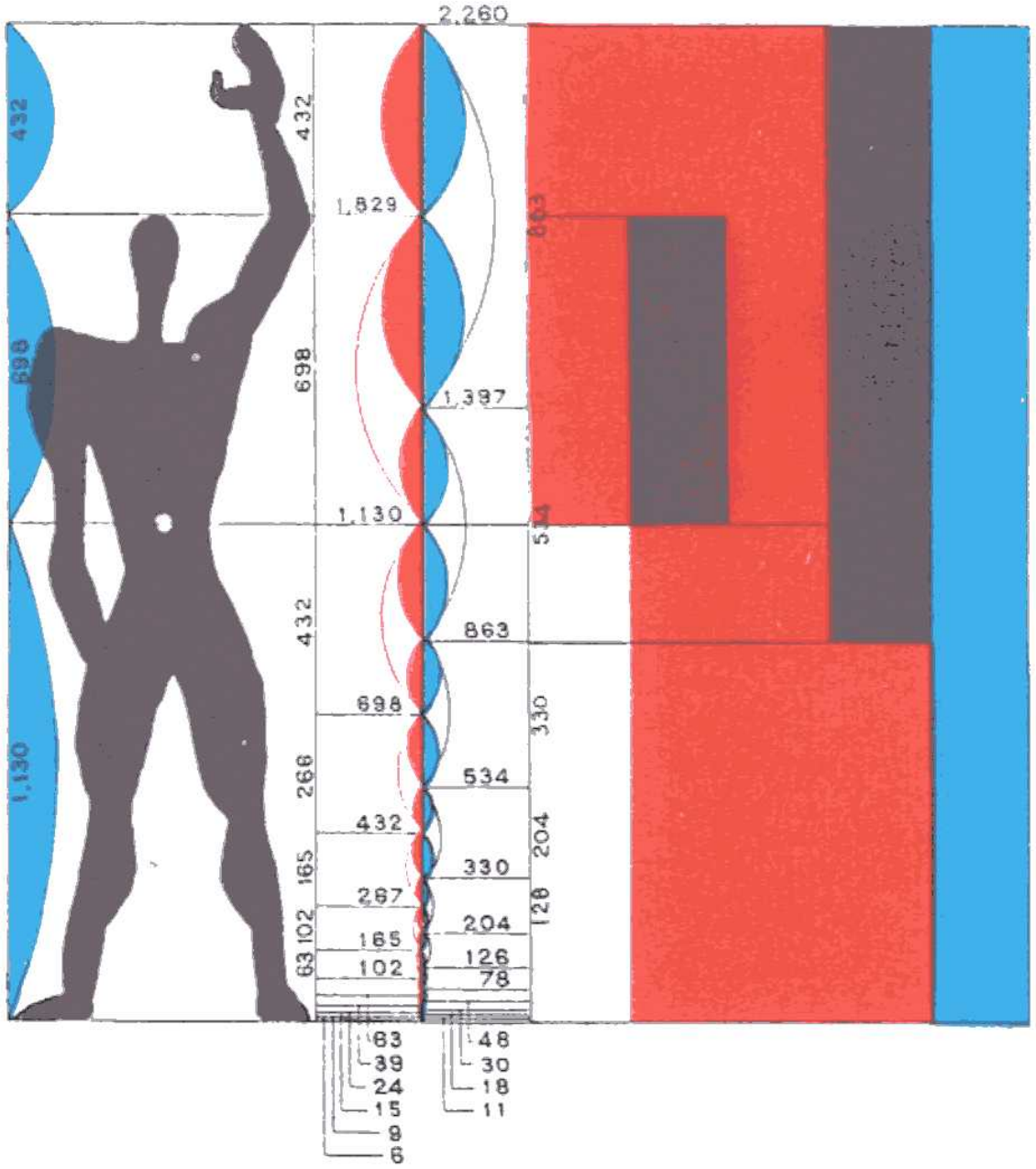
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863
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18
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266
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102
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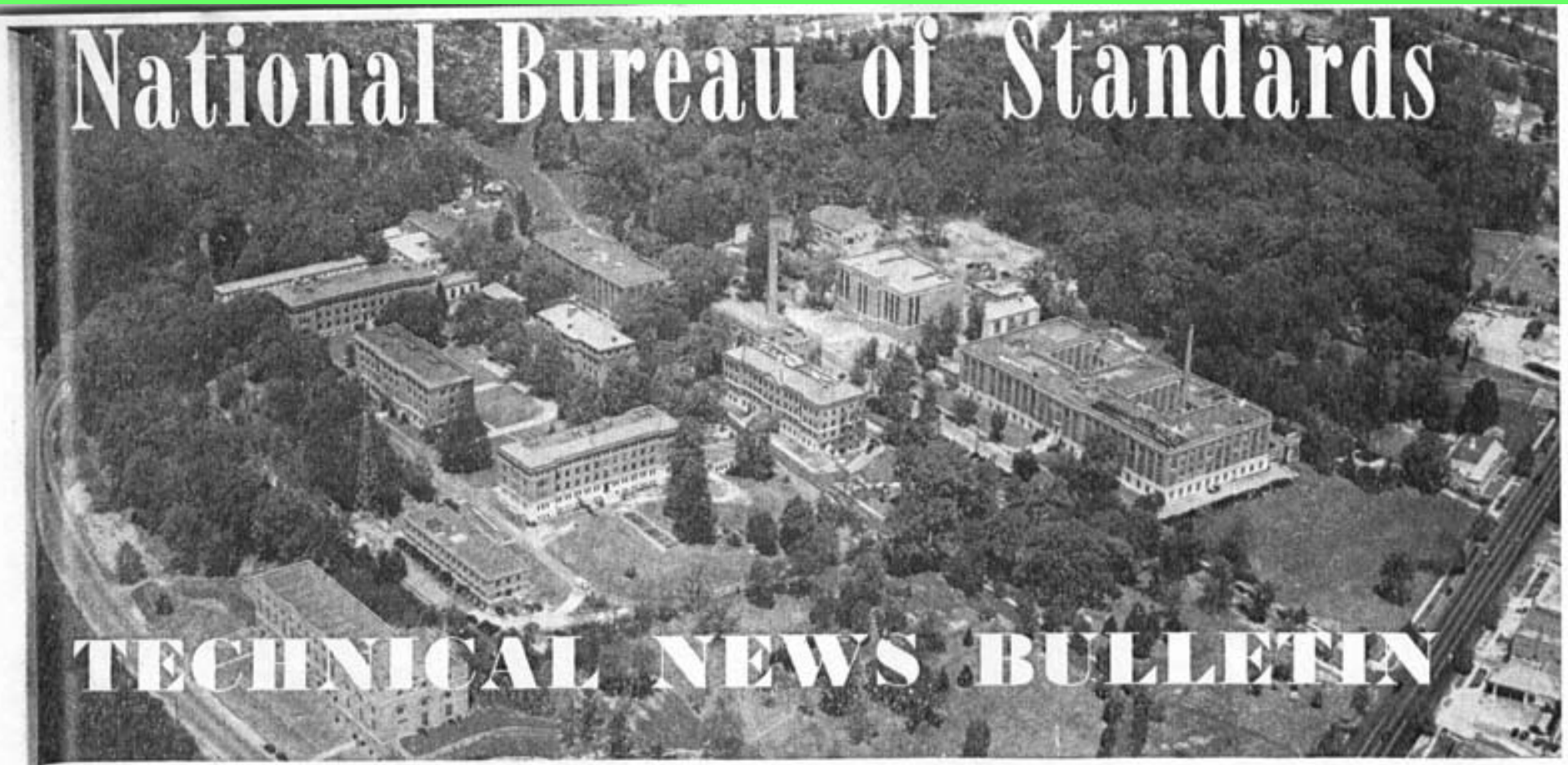
863
534
330
204
128

Modular

Bemis/Corbusier

Project Tinkertoy

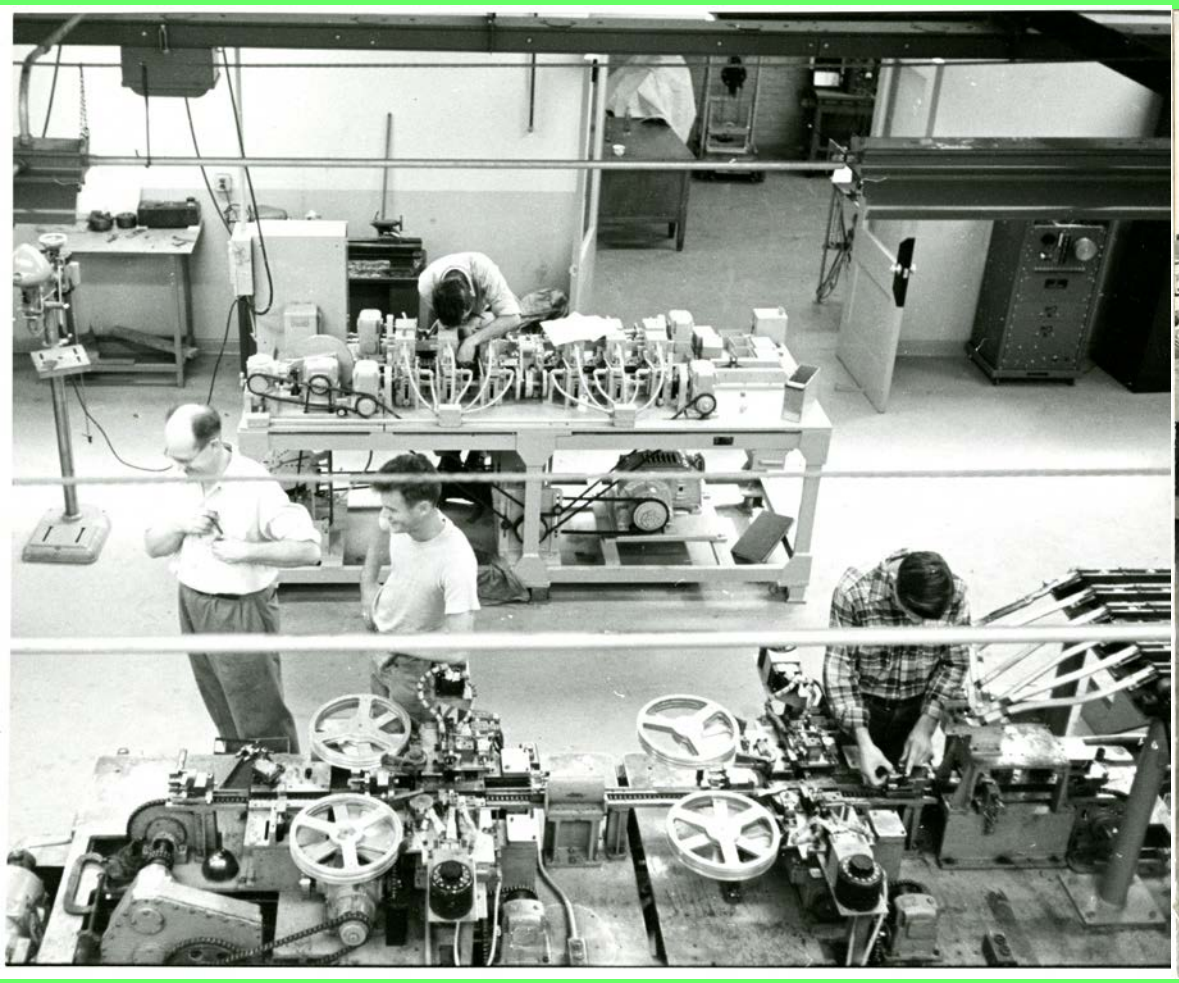
Simon

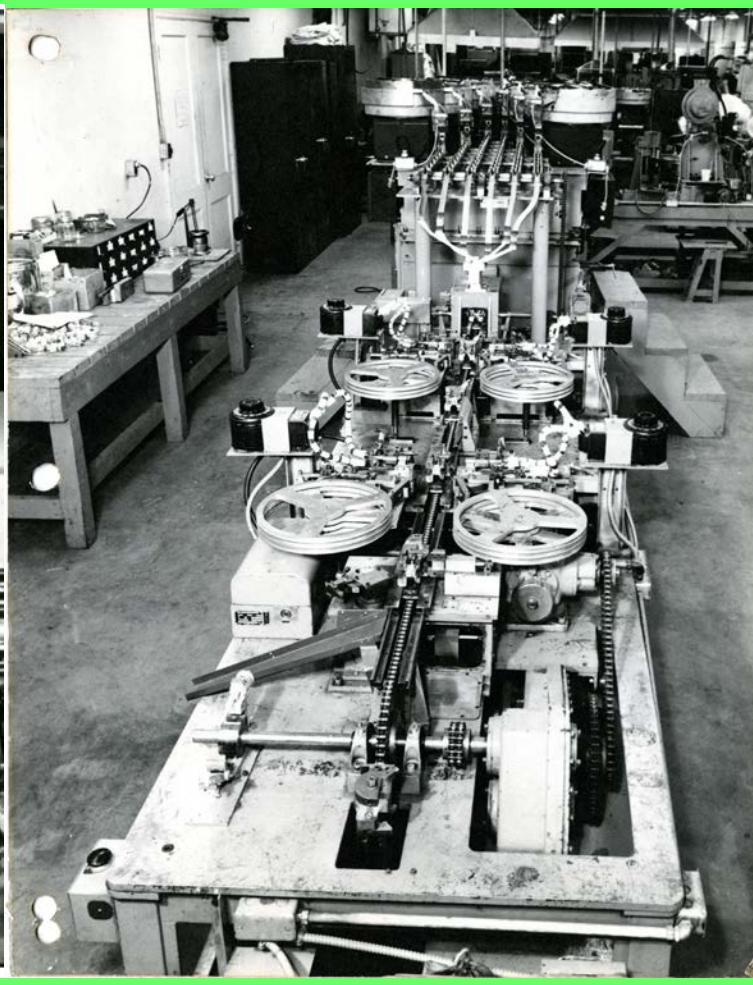


VOLUME 37 NOVEMBER 1953 NUMBER 11

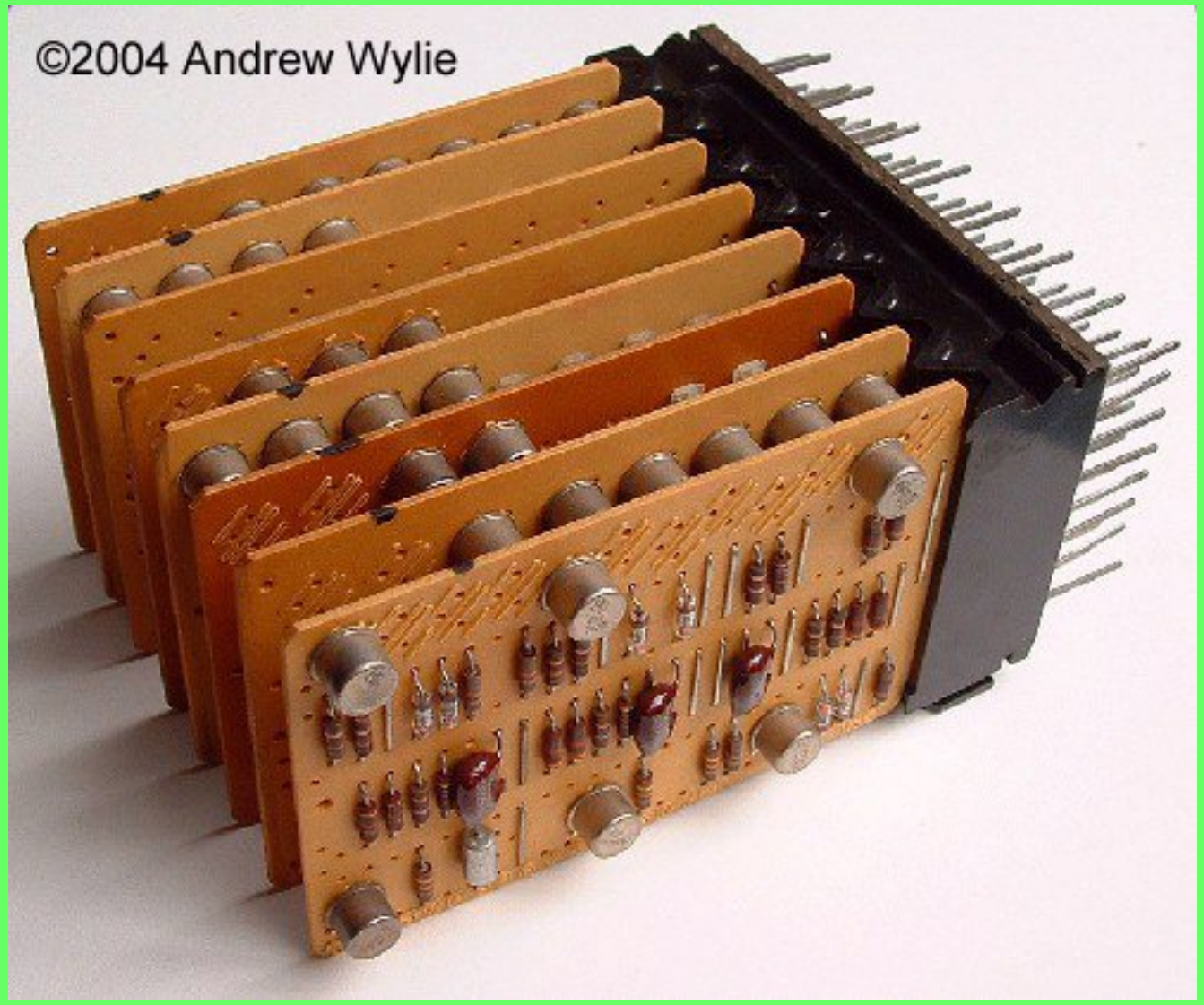
PROJECT TINKERTOY

Modular Design of Electronics and Mechanized Production of Electronics

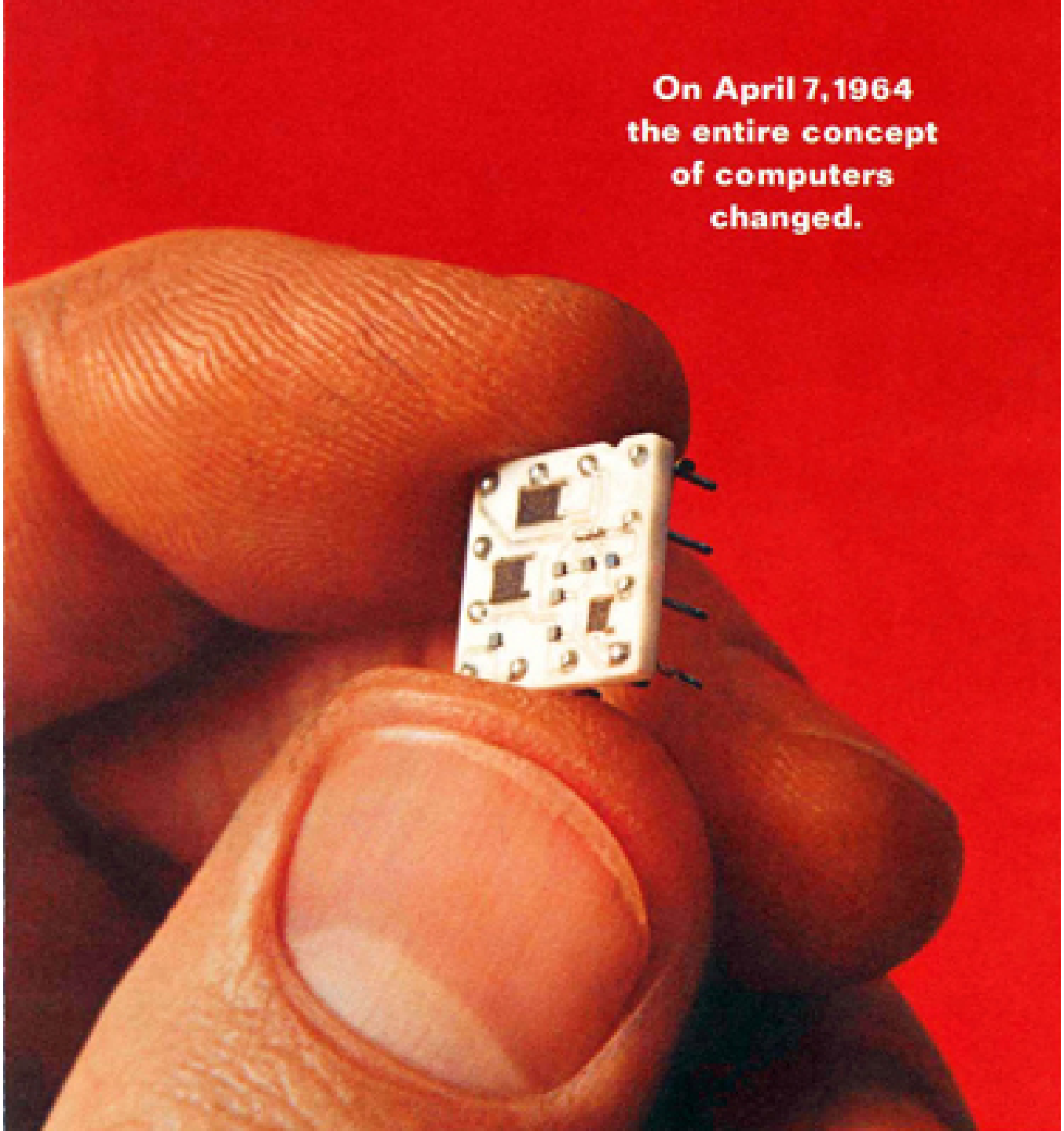


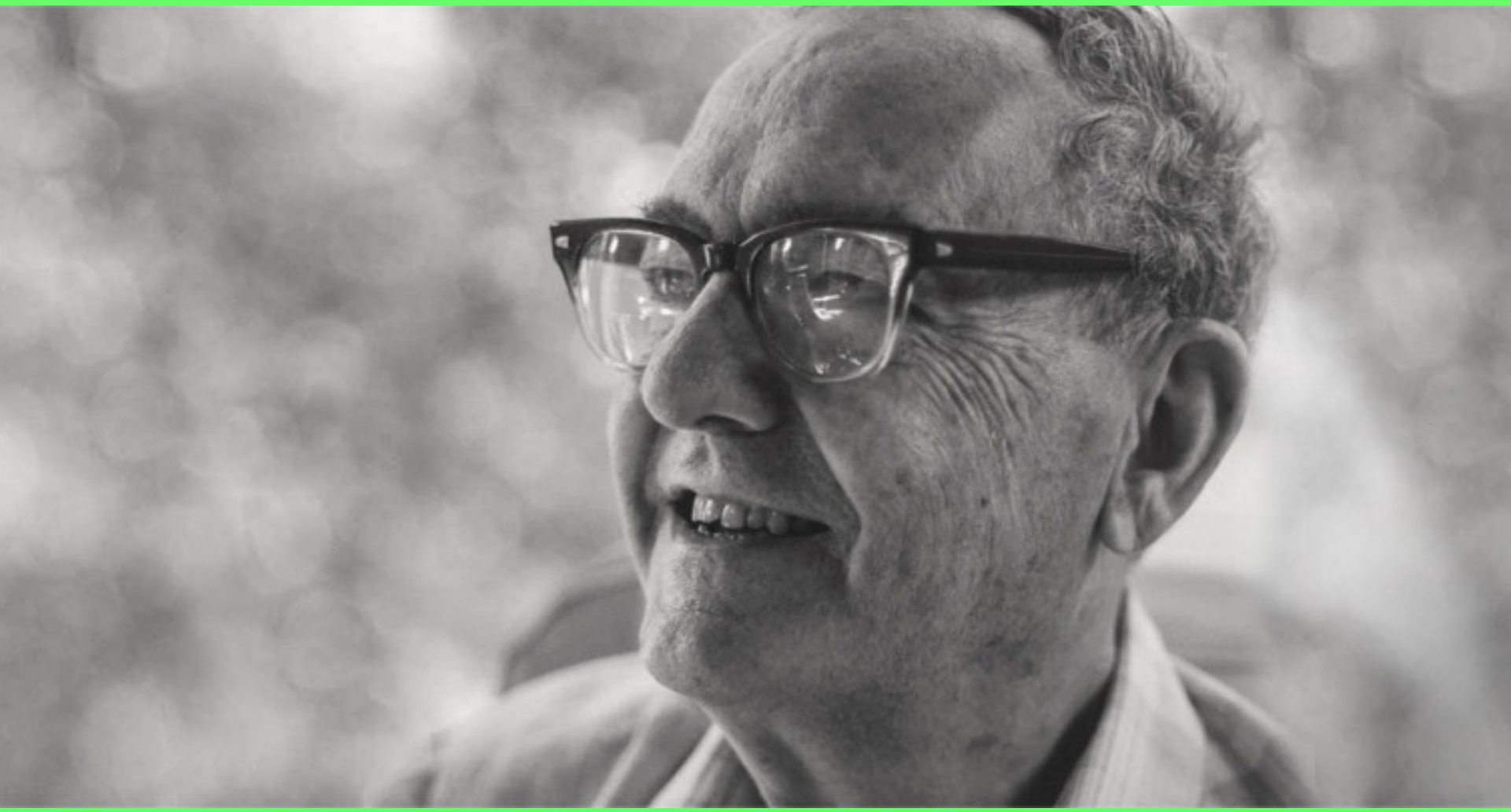


Project Tinkertoy – Mechanized Production of Electronics, c. 1950



IBM SMS (Standard Modular System) block, c. late 1950s


On April 7, 1964
the entire concept
of computers
changed.



Conclusions

- Standards & Scale
- Concepts & Contexts
- Human Costs
- Blind Spots & Sweet Spots

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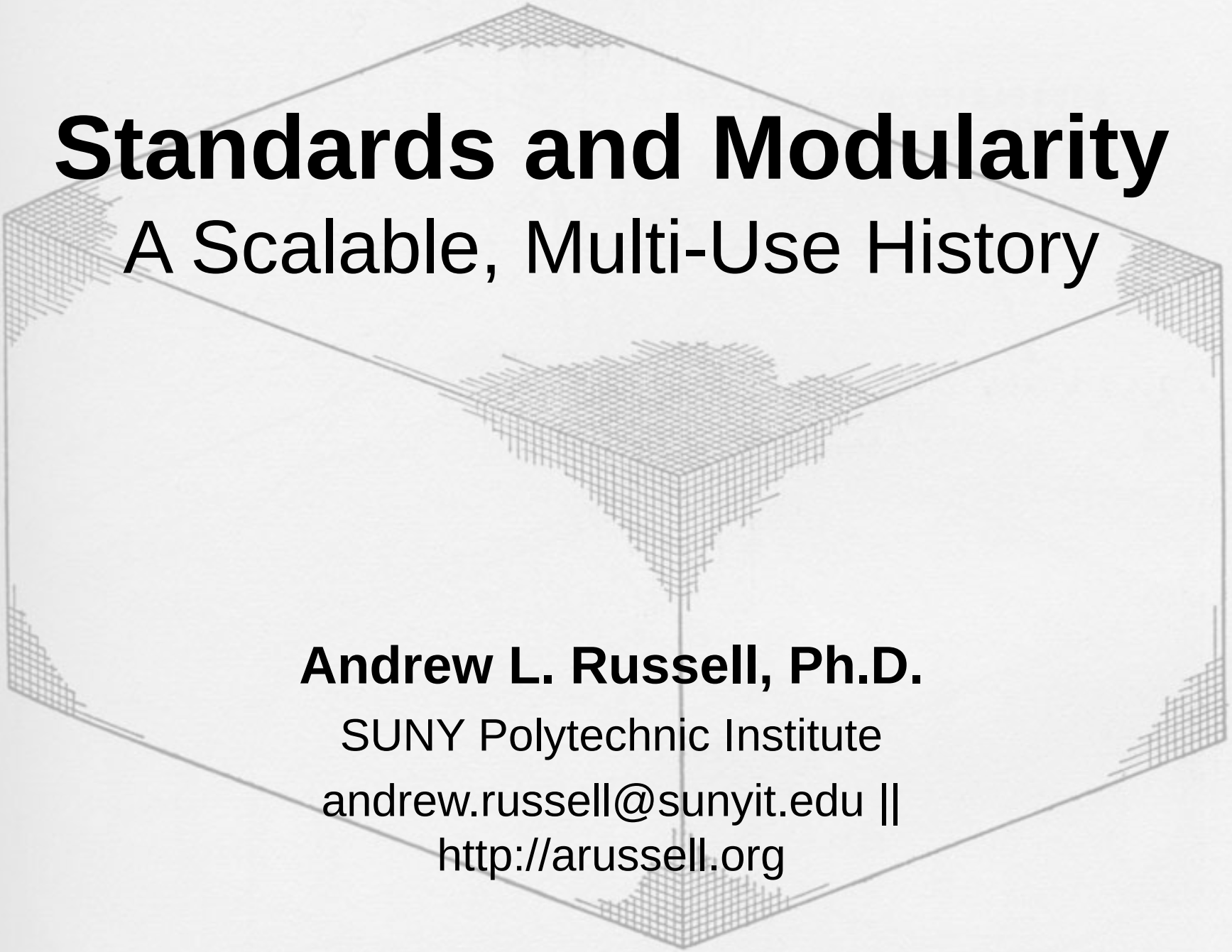

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