Making Programming masculine

a gendered history of the computing professions

Nathan Ensmenger, University of Pennsylvania

COSMOPOLITAN

April, 1967 • 50¢

Sex and the Japanese Single Girl

A Secretary Tells How a Con Man Took Her Money

Vanessa Redgrave—Zap!

Cosmopolitan Magazine (April 1967)

A woman's mustache

We're calling a mustache a mustache, so we can tell every woman how easy it is to remove every trace of facial hair with

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Published since 1886 Editorial Offices: 1775 Broadway, New York, N.Y. 10019

Advertising Offices: 959 Eighth Avenue, New York, N.Y. 10019

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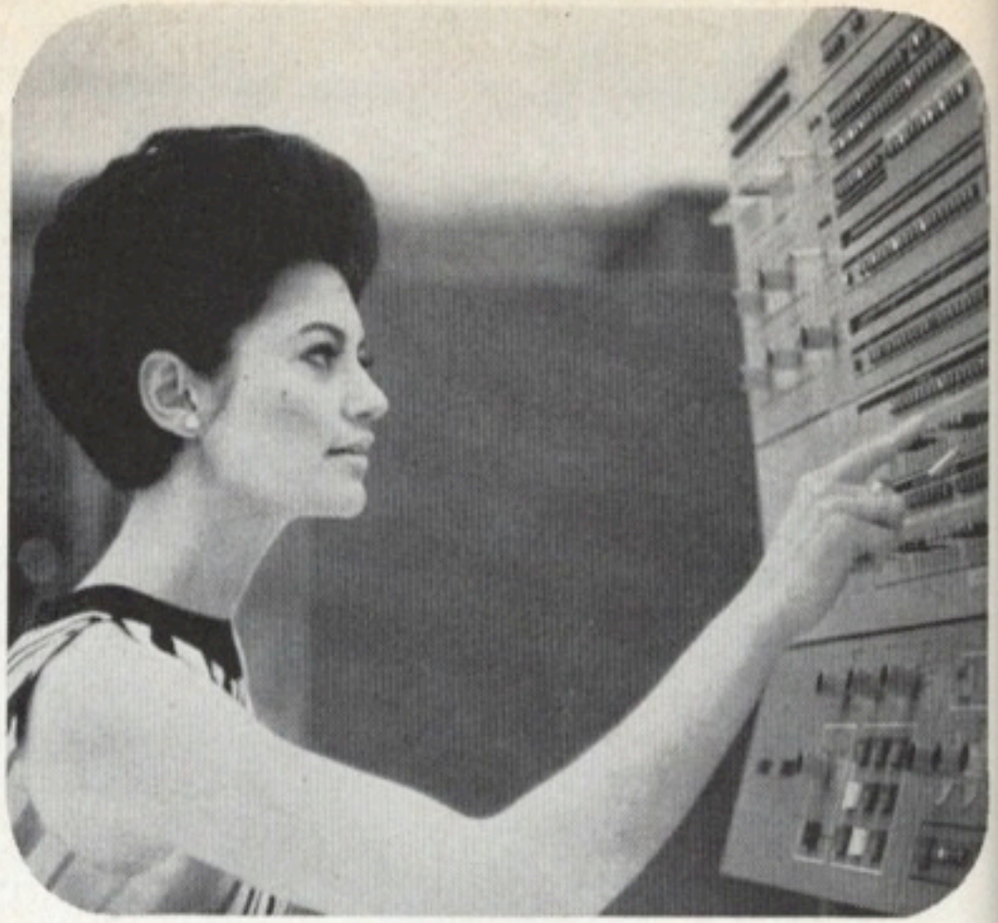

The Computer Girls

BY LOIS MANDEL

A trainee gets $8,000 a year ...a girl "senior systems analyst" gets $20,000—and up! Maybe it's time to investigate....

Ann Richardson, IBM systems engineer, designs a bridge via computer. Above (left) she checks her facts with fellow systems engineer, Marvin V. Fuchs. Right, she feeds facts into the computer. Below, Ann demonstrates on a viewing screen how her facts designed the bridge, and makes changes with a "light pen."

Twenty years ago, a girl could be a secretary, a school teacher . . . maybe a librarian, a social worker or a nurse. If she was really ambitious, she could go into the professions and compete with men . . . usually working harder and longer to earn less pay for the same job.

Now have come the big, dazzling computers—and a whole new kind of work for women: programming. Telling the miracle machines what to do and how to do it. Anything from predicting the weather to sending out billing notices from the local department store.

And if it doesn't sound like woman's work—well, it just is.

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"It's just like planning a dinner," explains Dr. Grace Hopper, now a staff scientist in systems programming for Univac. (She helped develop the first electronic digital computer, the Eniac, in 1946.) "You have to plan ahead and schedule everything so it's ready when you need it. Programming requires patience and the ability to handle detail. Women are 'naturals' at computer programming."

What she's talking about is *aptitude*—the one most important quality a girl needs to become a programmer. She also needs a keen, logical mind. And if that zeroes out the old Billie Burke-Gracie Allen image of femininity, it's about time, because this is the age of the Computer Girls. There are twenty thousand

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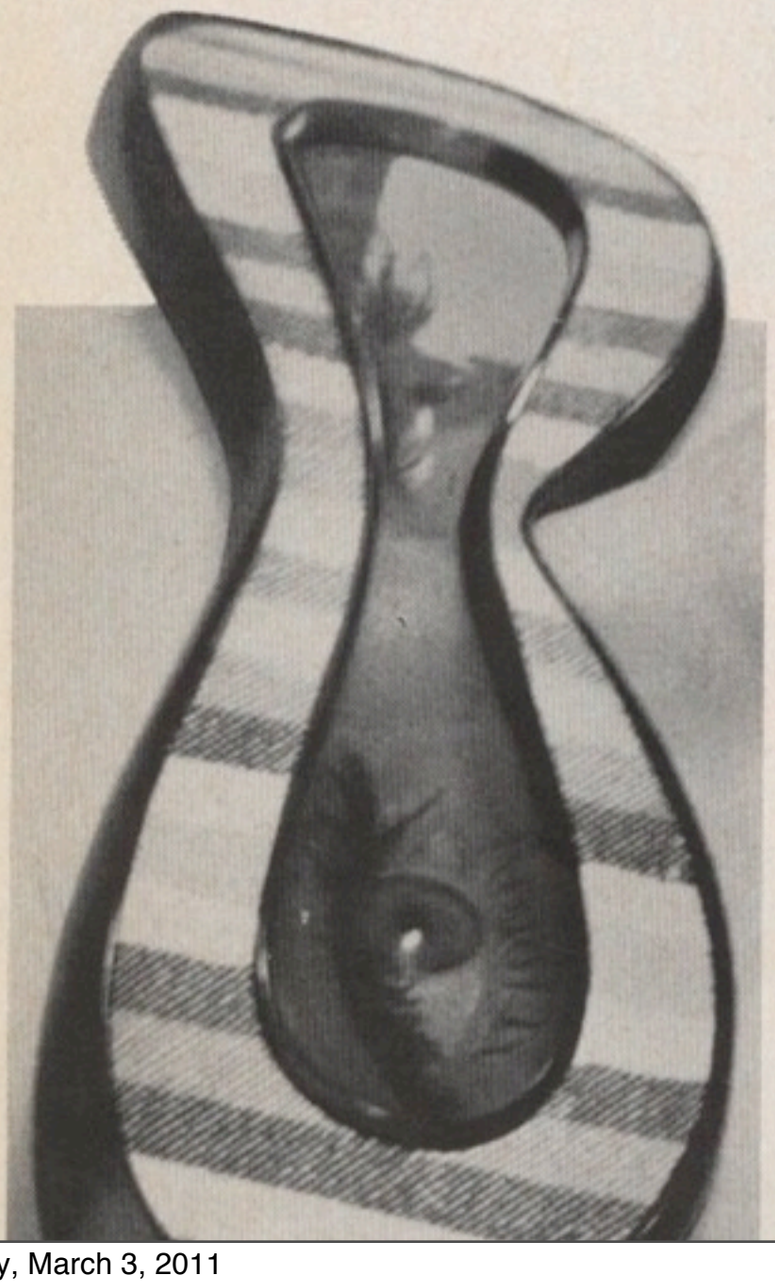
time, because this is the age puter Girls. There are twent of them in the United *(cont.*

Photos by Henry Grossman. Dress by Gino Charles.

shades
of RENAULD®



The Computer Girls (continued)

are also private data-processing schools that charge up to five hundred dollars for a six- to twelve-week course.

"These private schools vary in quality," says Stuart Longworth, Univac's manager of employee services. "People invest their time and money in these quickie courses and expect to get a high-paying job in programming when they're through. But they haven't learned that much. You need on-the-job experience. Programming is something you have to work with."

Although they do hire a number of already-trained programmers, each of the computer manufacturers trains its own people as well as the programmers who work for its customers. The training is on an earn-as-you-learn basis. "I'd never consider paying for my own training when I can get someone else to pay for it," says a girl who's learning to use Honeywell equipment. Yet some people prefer to take an introductory course in programming before applying for a job—just to make sure they'll like the work.

What about the chances of meeting men in computer work? The field is overrun with males. According to figures from the data-processing journals and the Data Processing Management Association there are some twenty thousand computer girls and one hundred sixty thousand computer men!

Why so few women in the industry?

"How many women have *heard* about it?" asks James M. Adams, Jr., director

NCR aptitude test to give you a general idea of what you're in for if you should take the test. It's in the form of a flow chart—a diagram that the programmer makes when she's preparing instructions that tell the computer what to do. (Here's a tip: The trick to working this problem is to do *exactly* what the directions tell you to do. Be careful not to read more into the problem than is really there.)

1	2	3	4	5	6	7	8
3	7	2	1	5	12	4	0

FLOW CHART—START

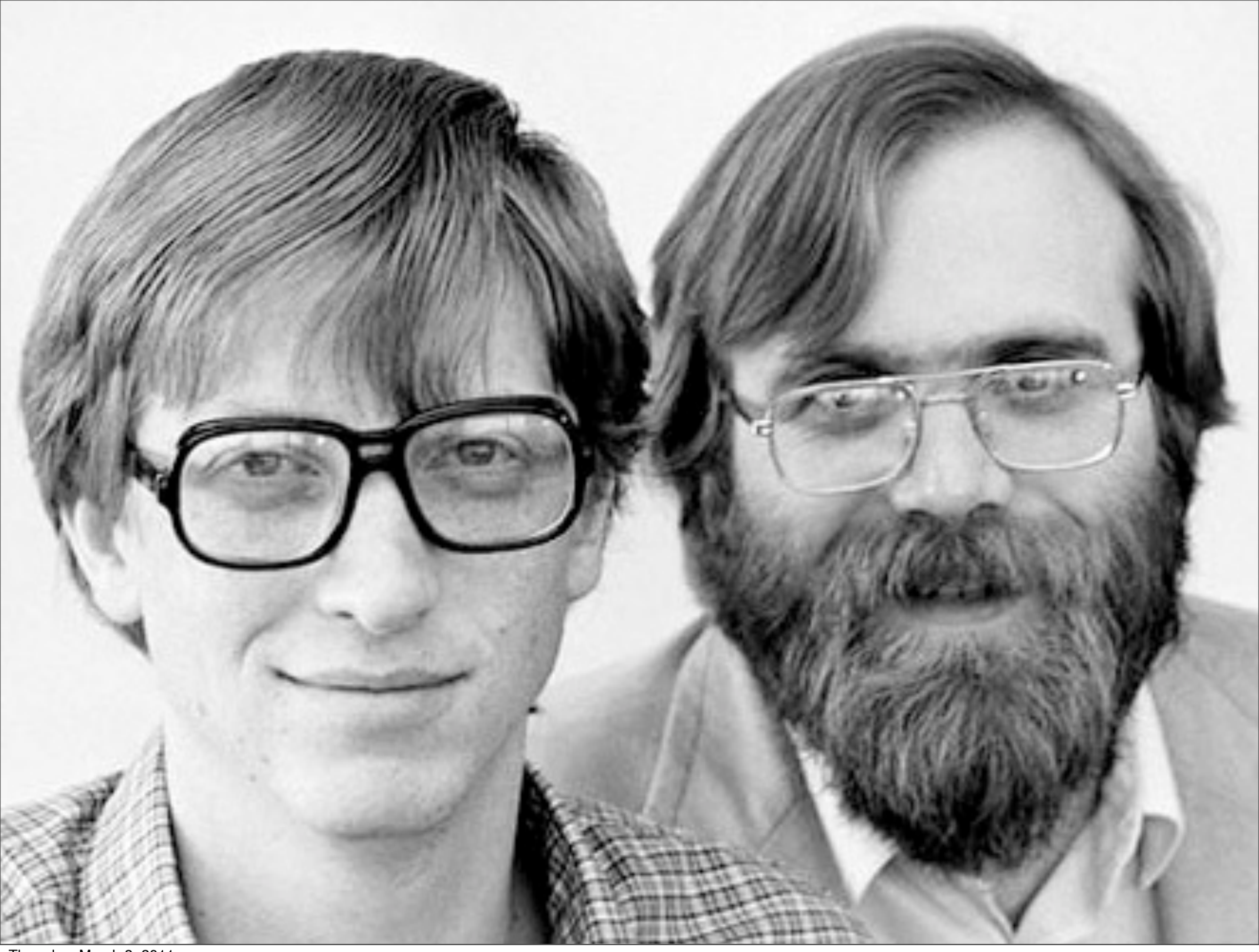
1 Replace number in box 1 with number in box 8.

2 Add: number in box 1 and number in box 2. Put result into box 1.

3 Change Instruction 2; increase the second *box number* mentioned in it (box number 2, the first time around, etc.) by 1.

Is the second *box number* mentioned in Instruction 3 greater than the number in box 7? If your answer is no, follow the start sequence again at its source

Thursday, March 3, 2011



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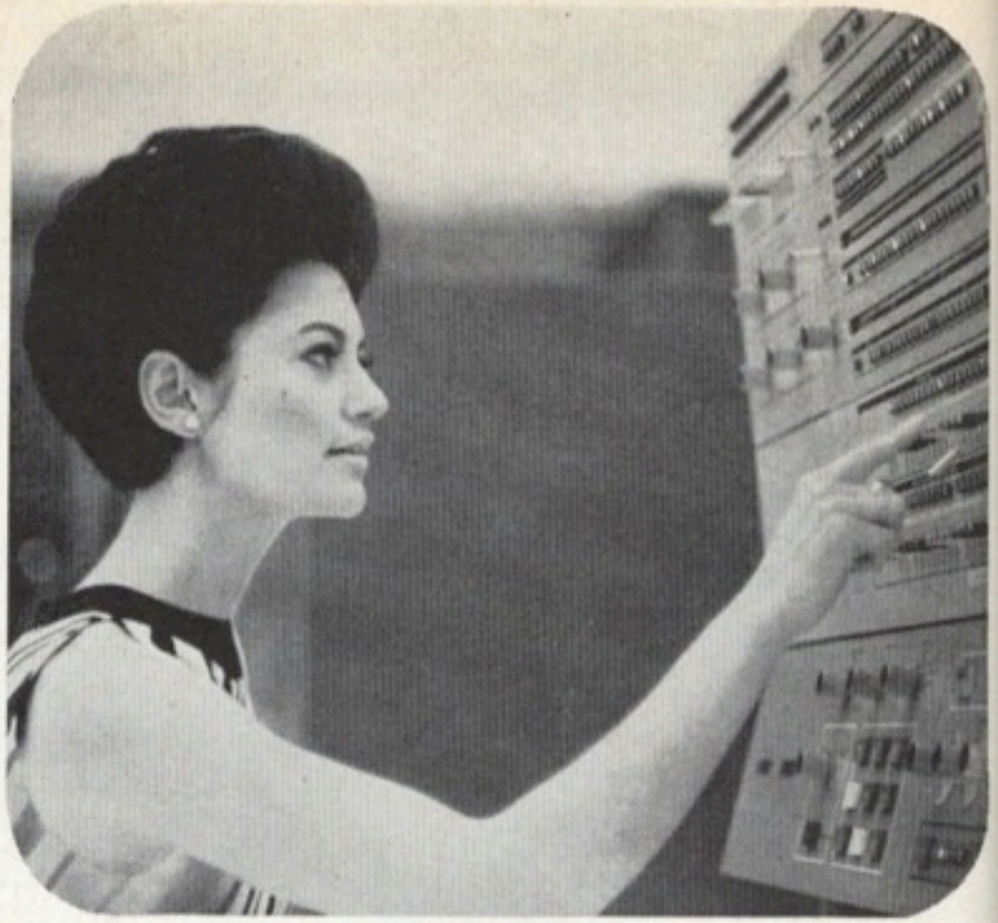

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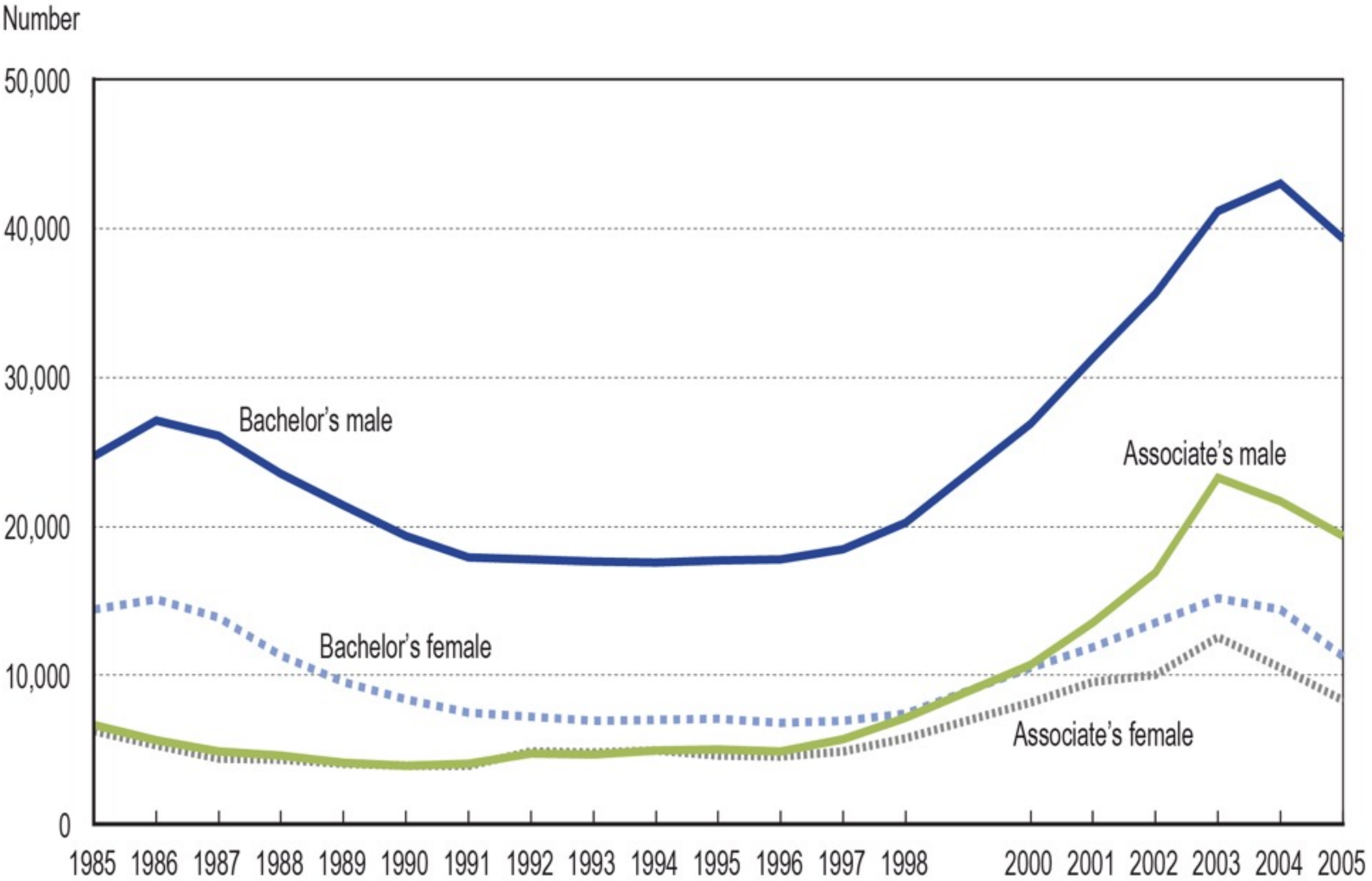
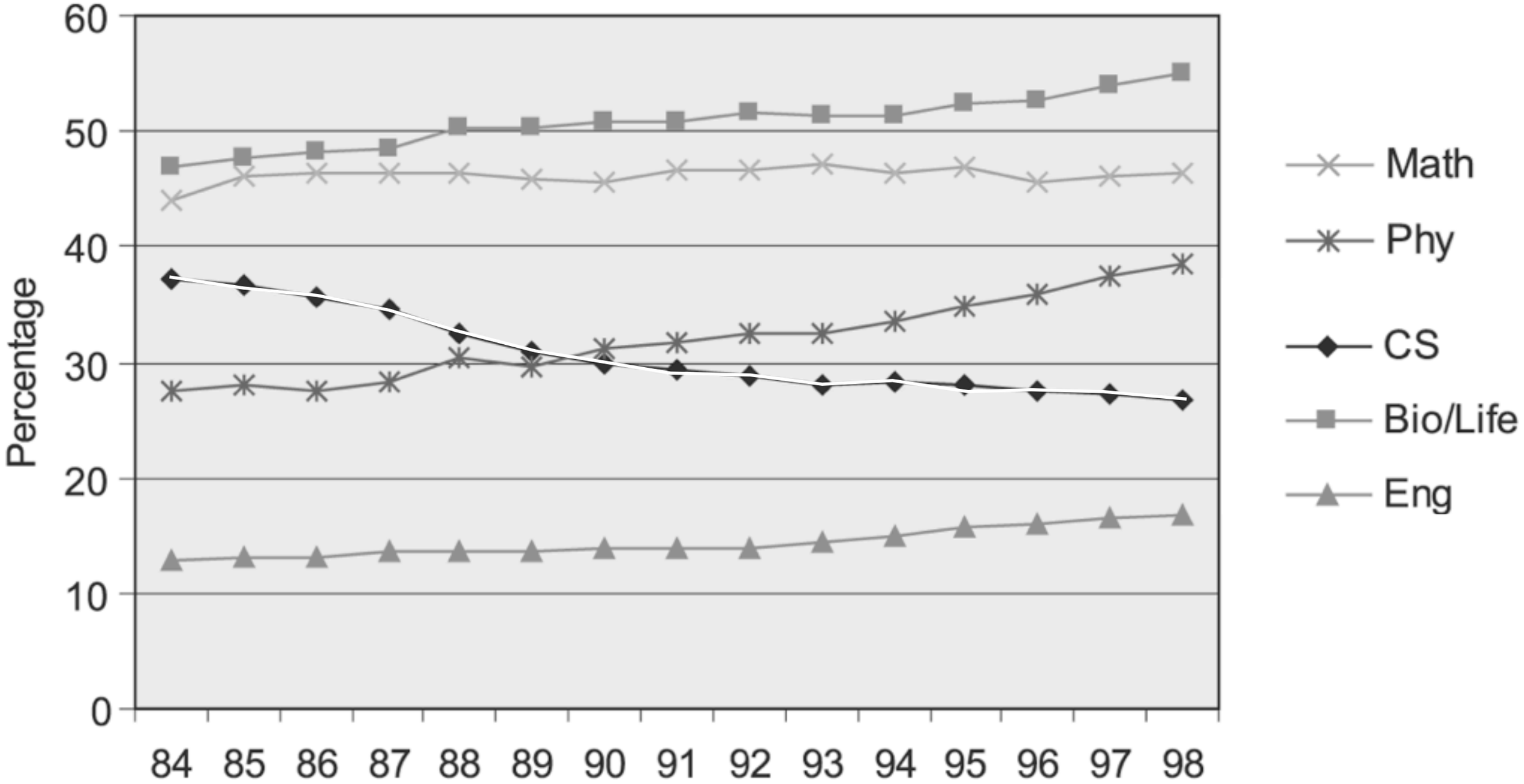
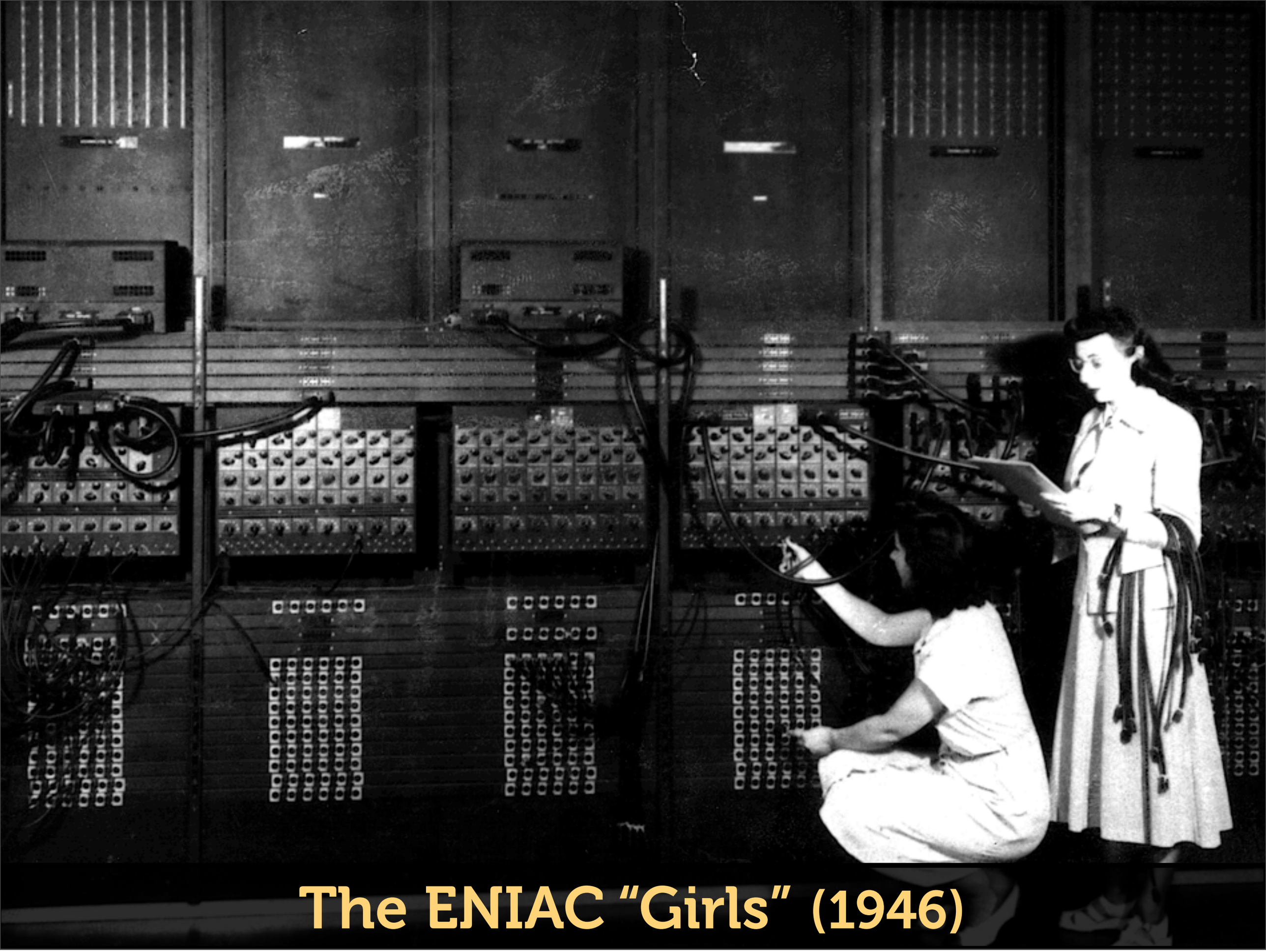
Dr. Grace Hopper



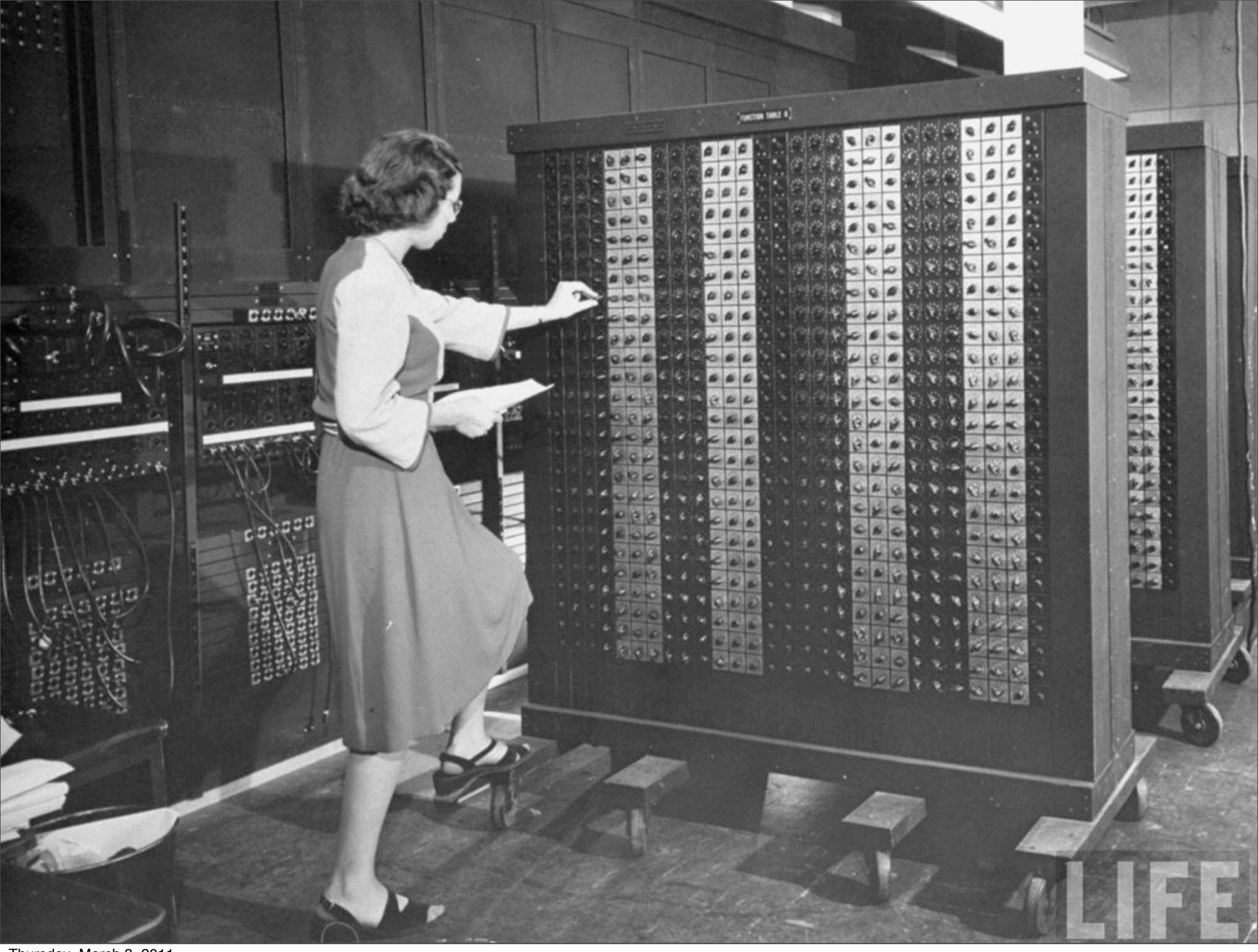
Bachelor's and associate's degrees awarded in computer sciences, by sex: 1985–2005



Percentage of Degrees Awarded to Women



The ENIAC "Girls" (1946)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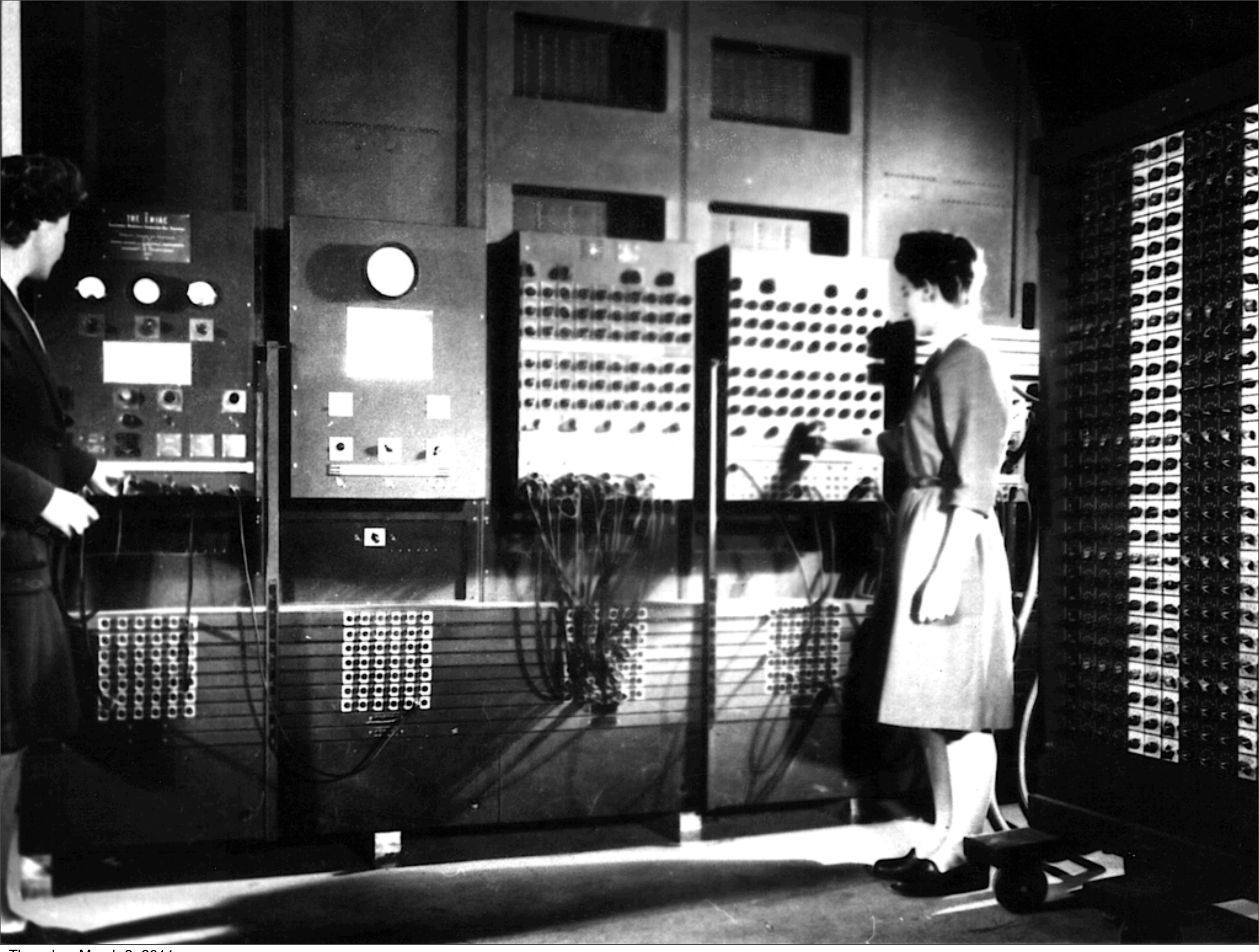
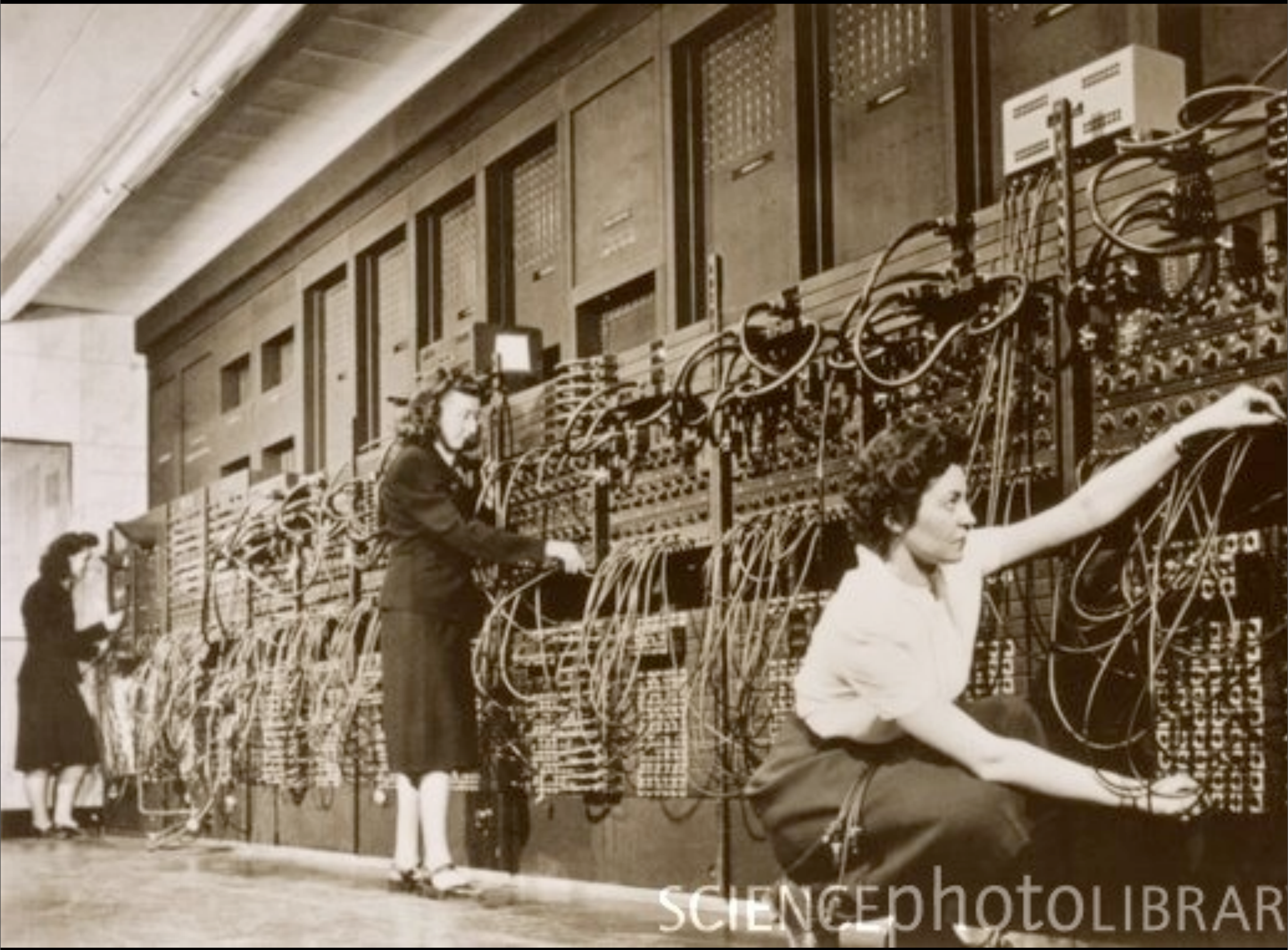
LIFE

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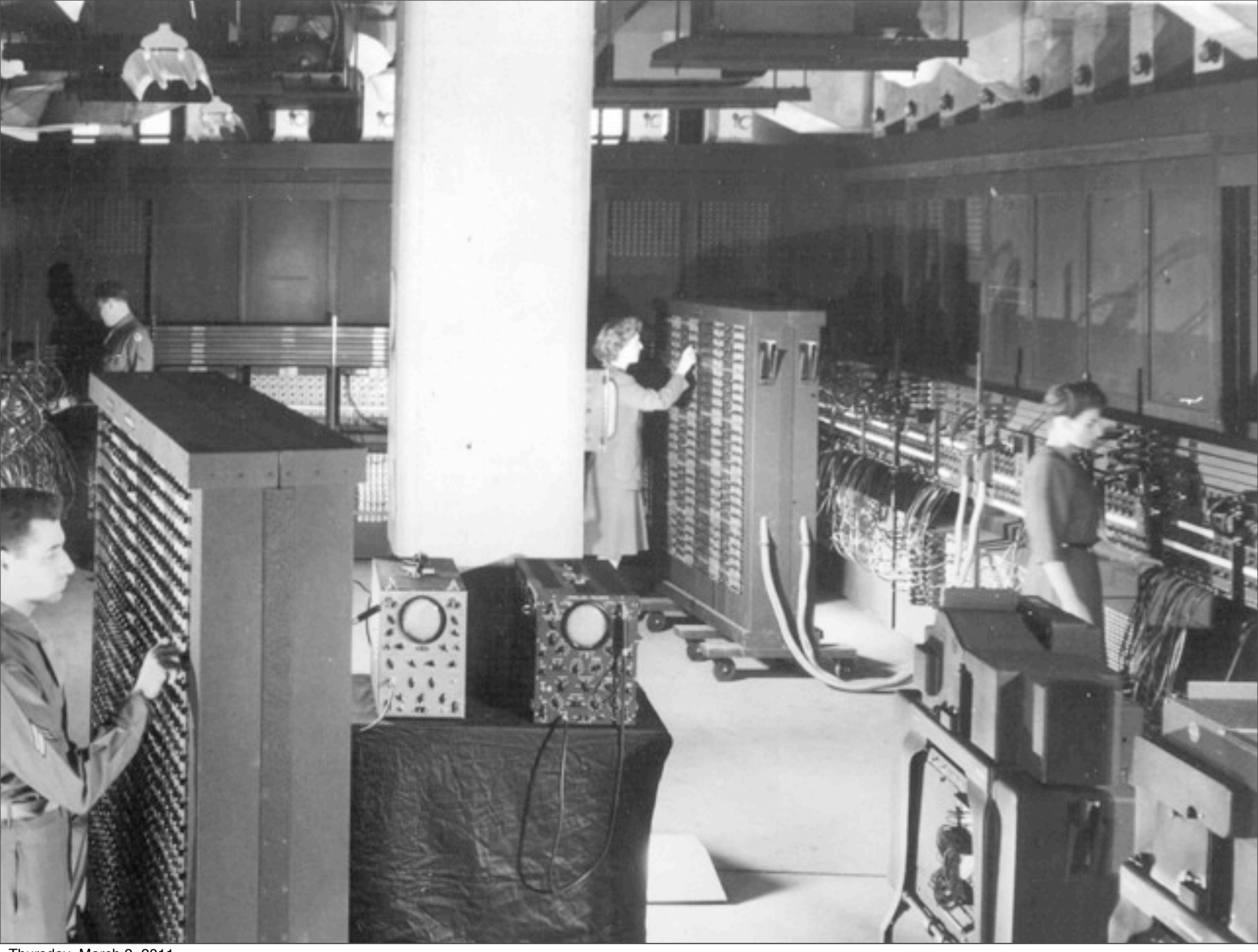
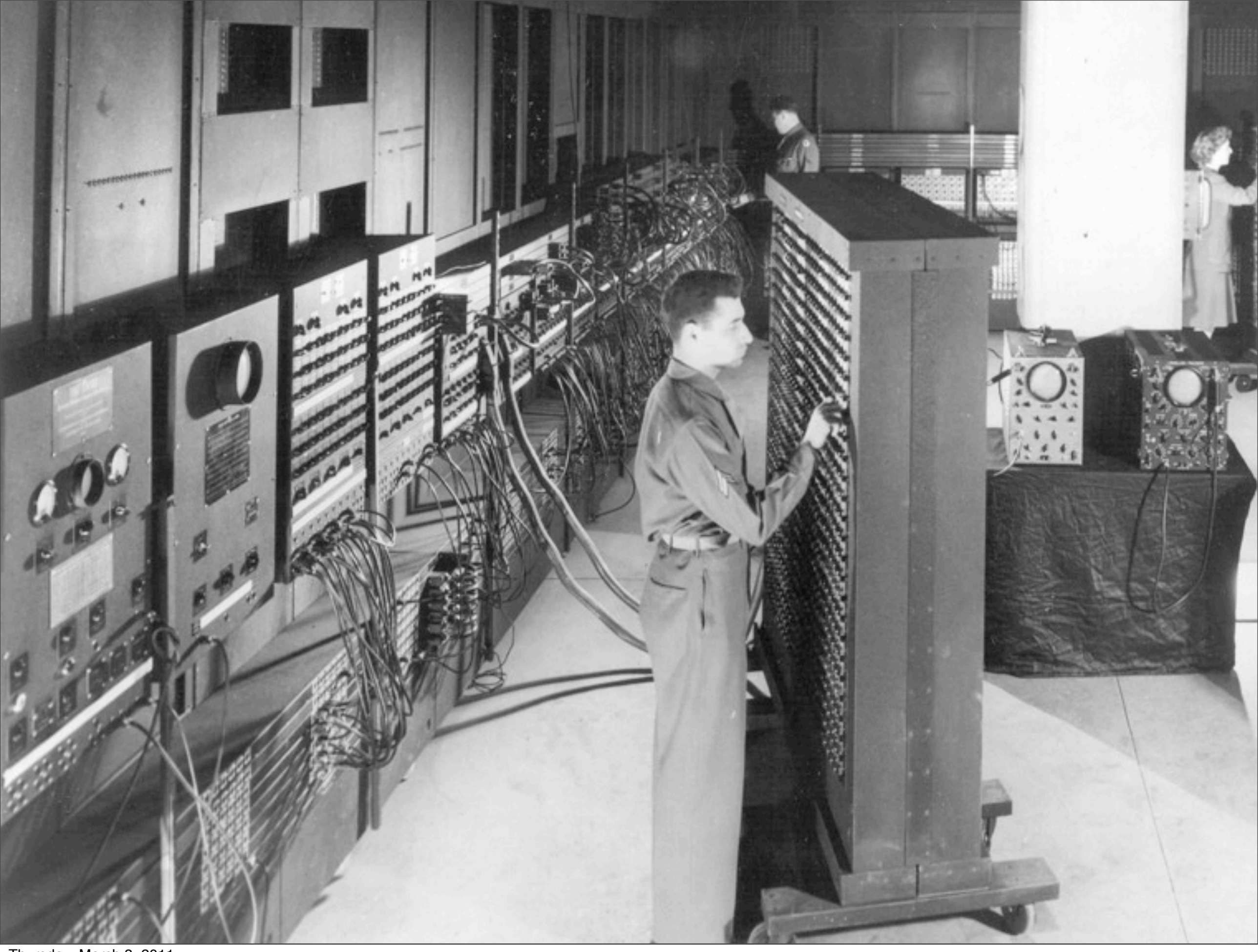
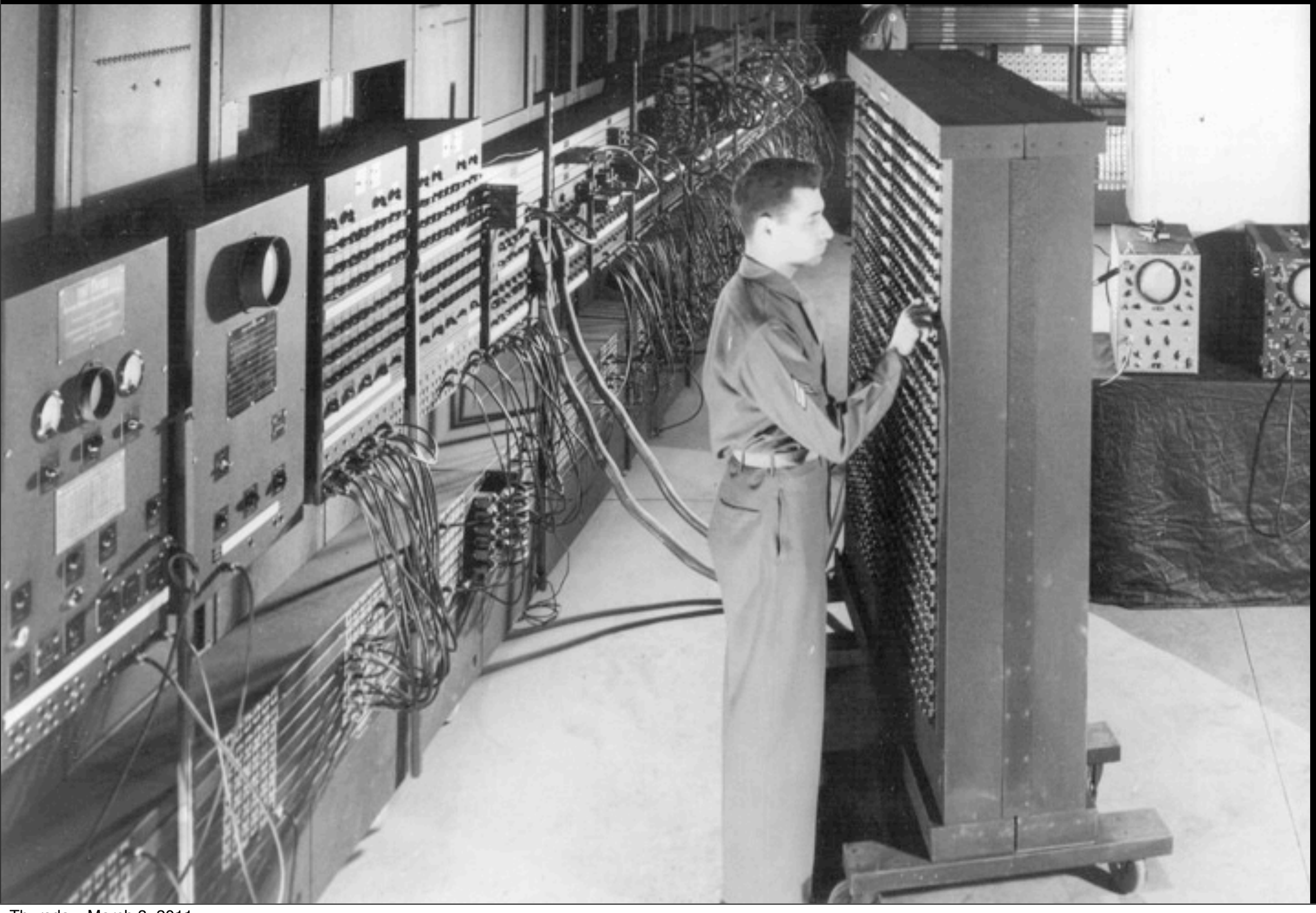
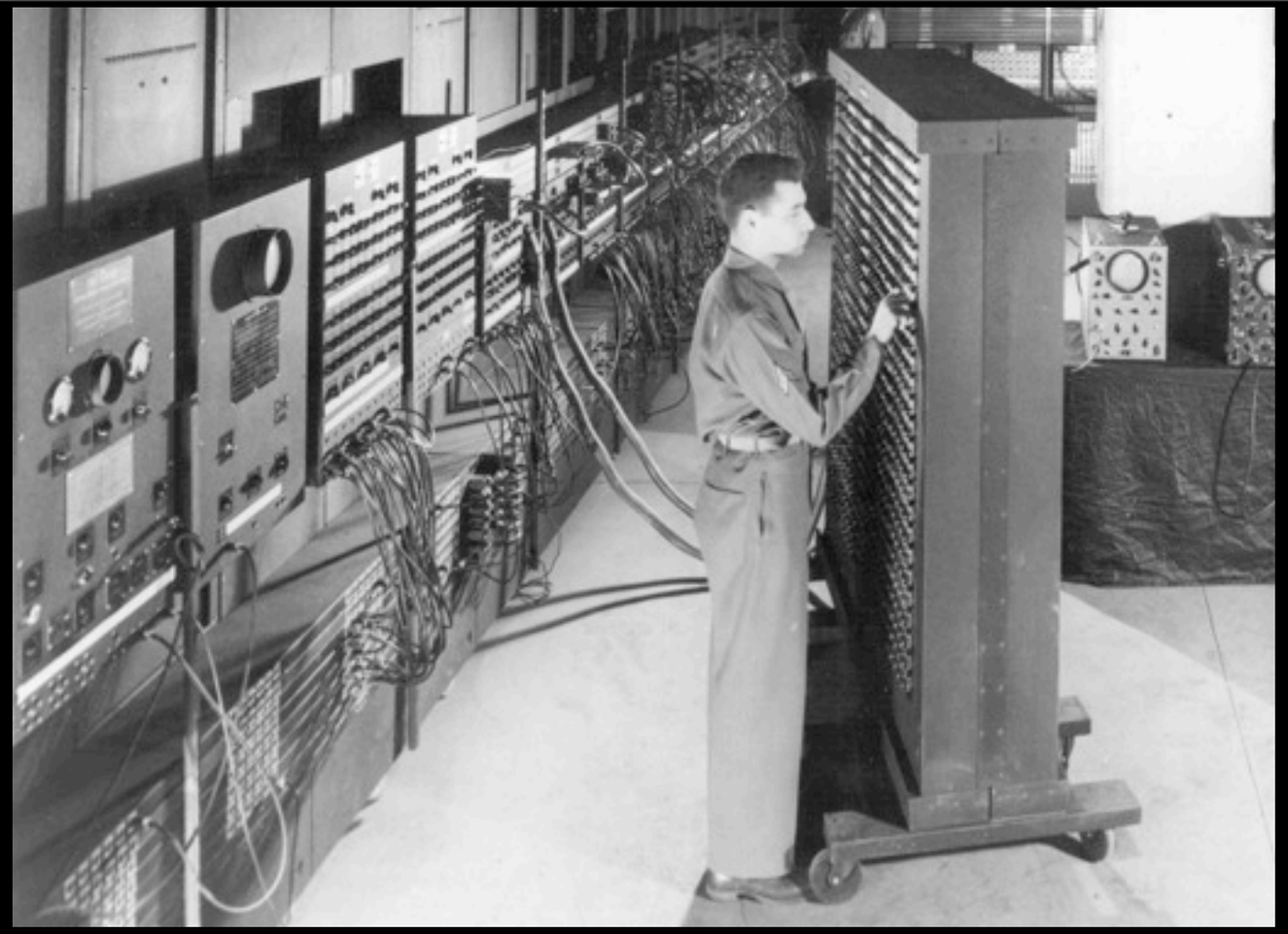
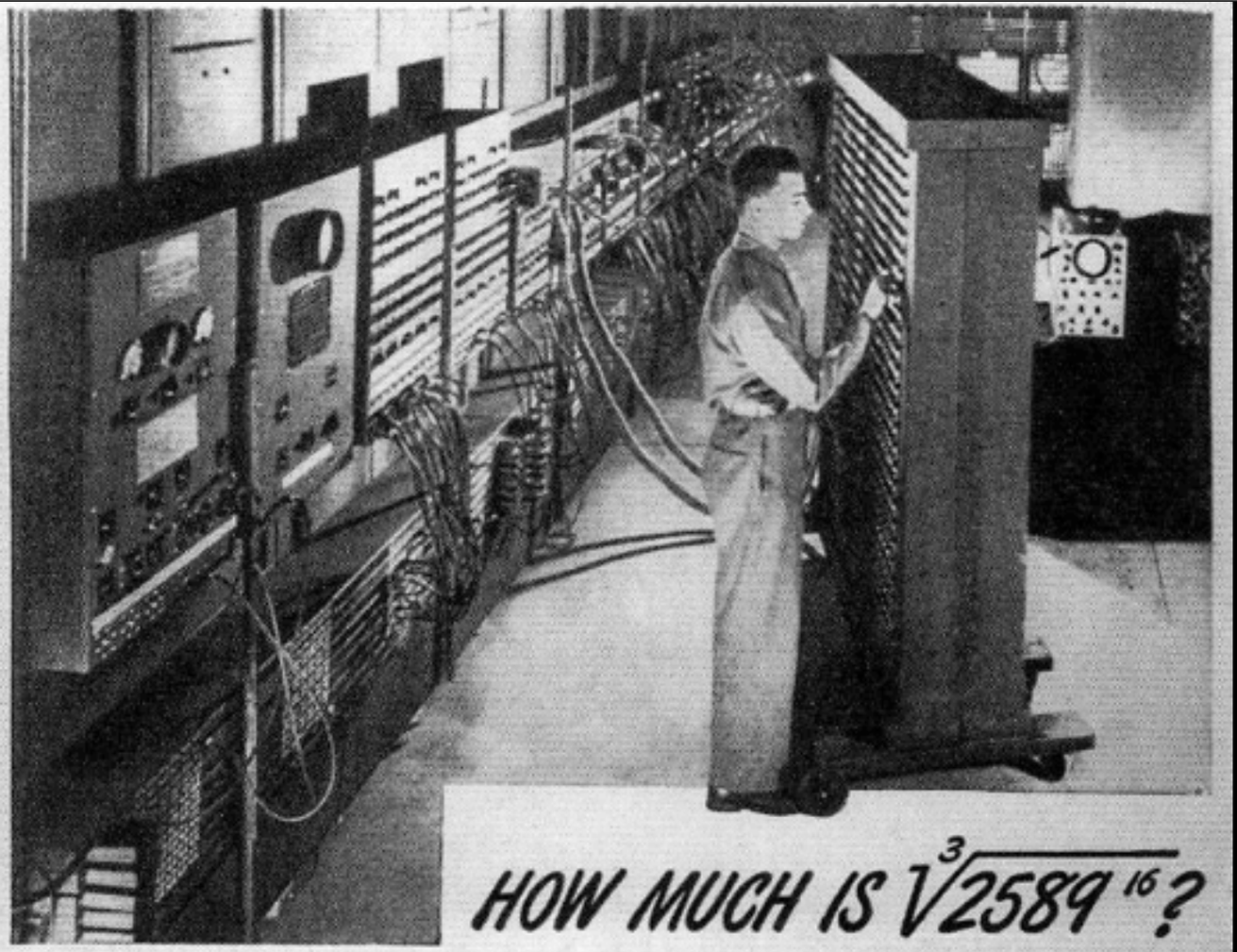










HOW MUCH IS $\sqrt[3]{2589}^{16}$?

The Army's ENIAC can give you the answer in a fraction of a second!

Think that's a stumper? You should see *some* of the ENIAC's problems! Brain twisters that if put to paper would run off this page and feet beyond . . . addition, subtraction, multiplication, division—square root, cube root, any root. Solved by an incredibly complex system of circuits operating 18,000 electronic tubes and tipping the scales at 30 tons!

The ENIAC is symbolic of many amazing Army devices with a brilliant future for you! The new Regular Army needs men with aptitude for scientific work, and as one of the first trained in the post-war era, you stand to get in on the ground floor of important jobs which have never before existed. You'll find that an Army career pays off.

The most attractive fields are filling quickly. Get into the swim while the getting's good! 1½, 2 and 3 year enlistments are open in the Regular Army to ambitious young men 18 to 34 (17 with parents' consent) who are otherwise qualified. If you enlist for 3 years, you may choose your own branch of the service, of those still open. Get full details at your nearest Army Recruiting Station.

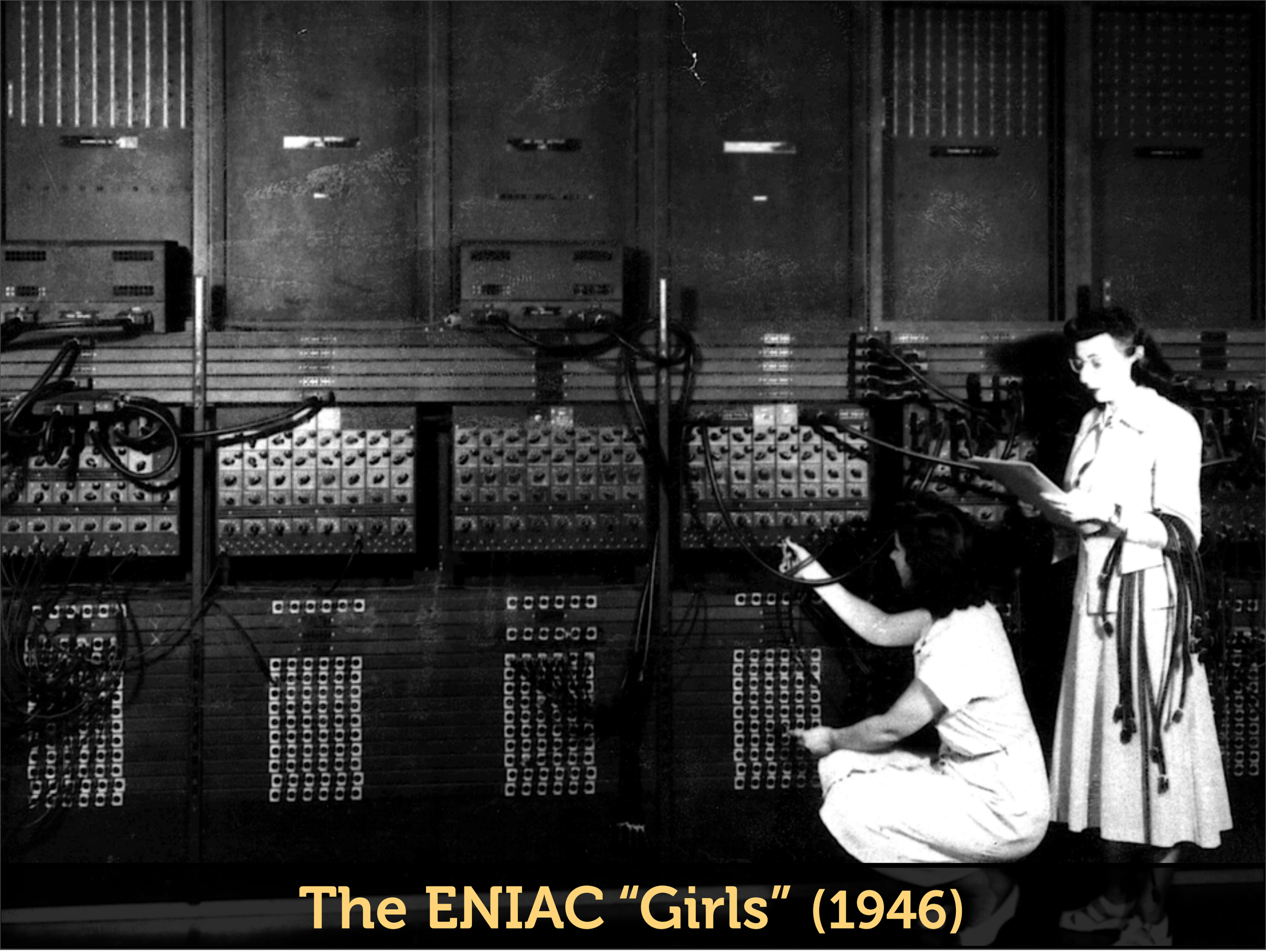
YOUR REGULAR ARMY SERVES THE NATION AND MANKIND IN WAR AND PEACE

A GOOD JOB FOR YOU

U. S. Army

CHOOSE THIS FINE PROFESSION NOW!

industrializing information



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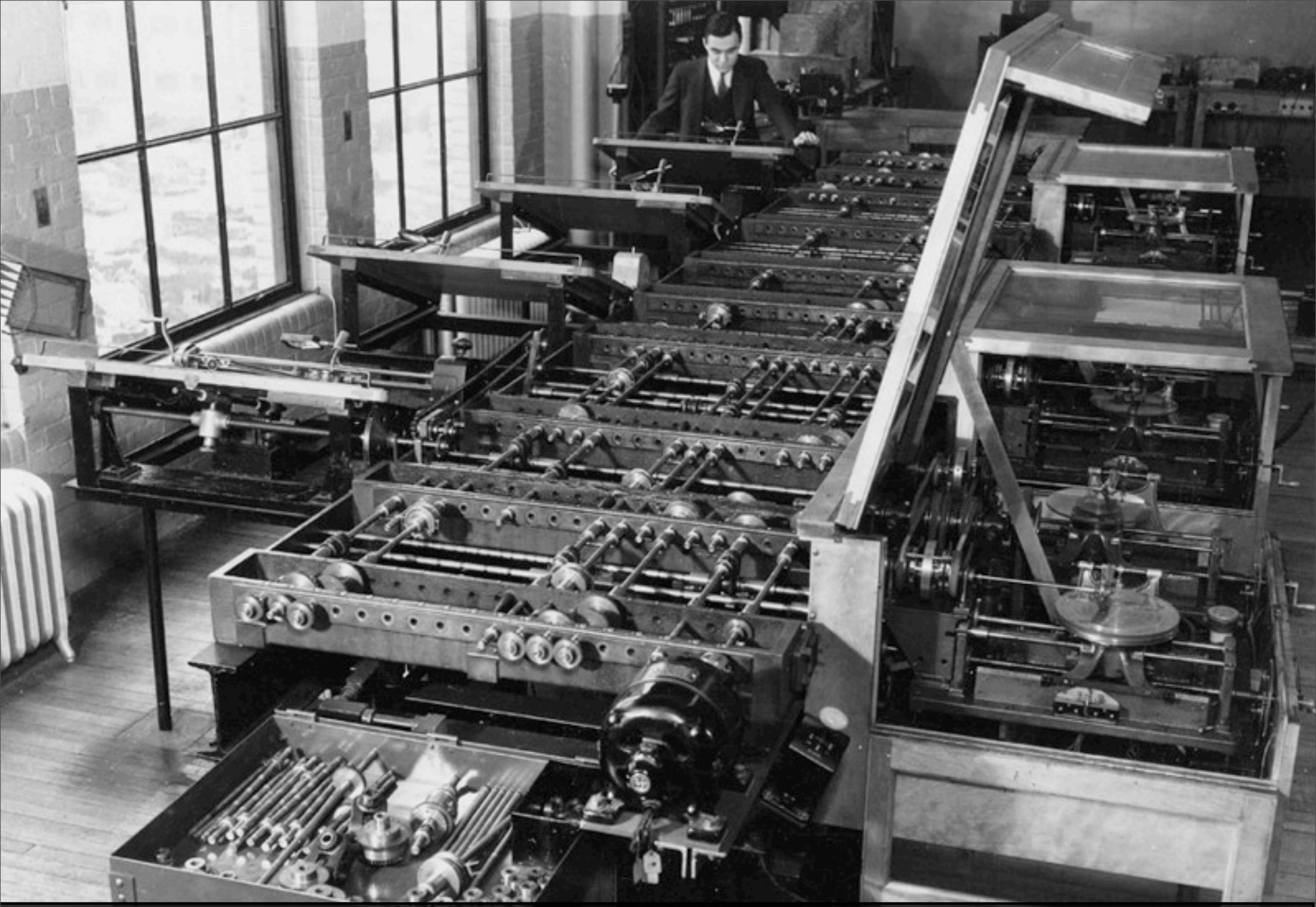


Bush-Hazen Integraph, c. 1920

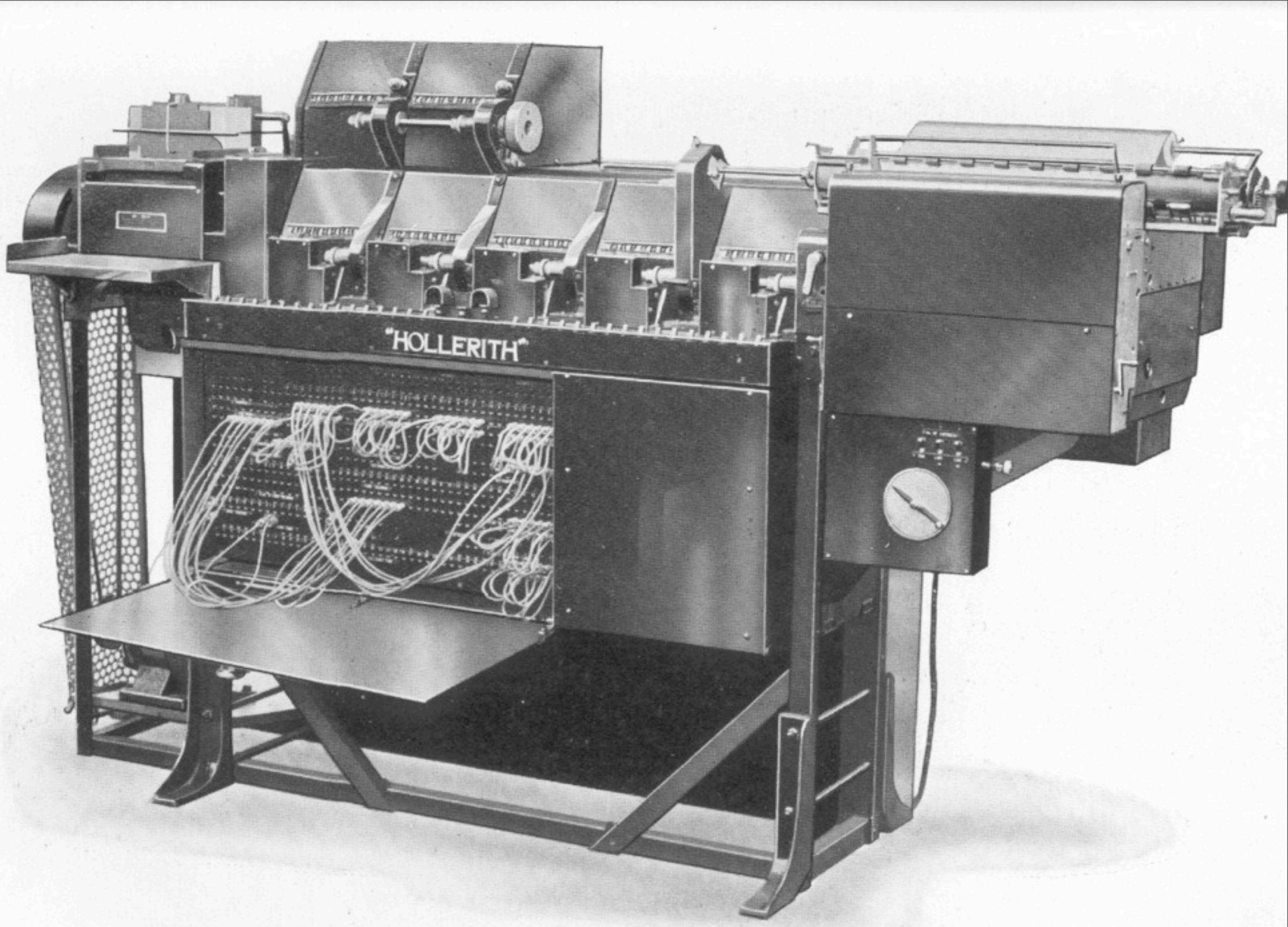
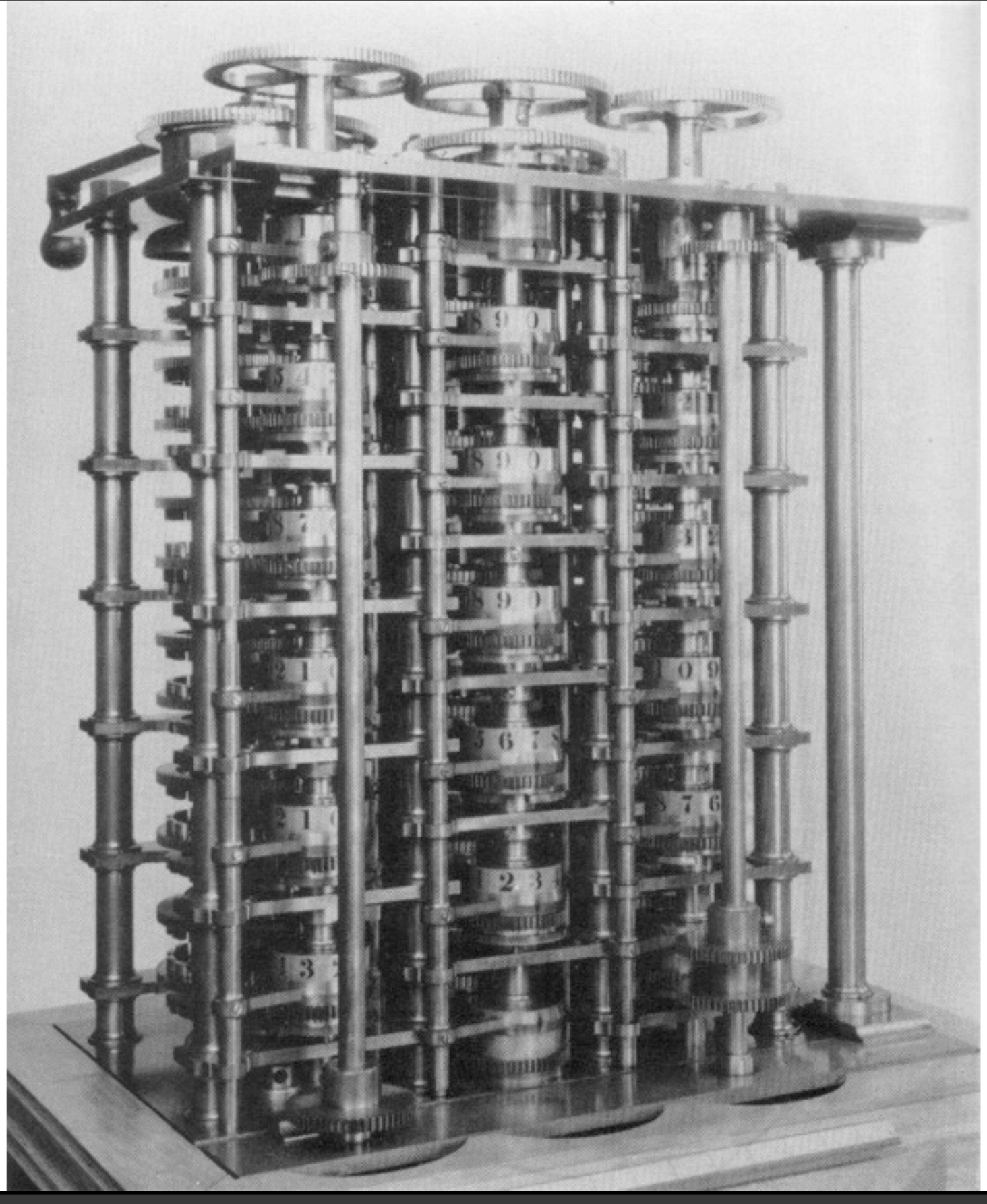


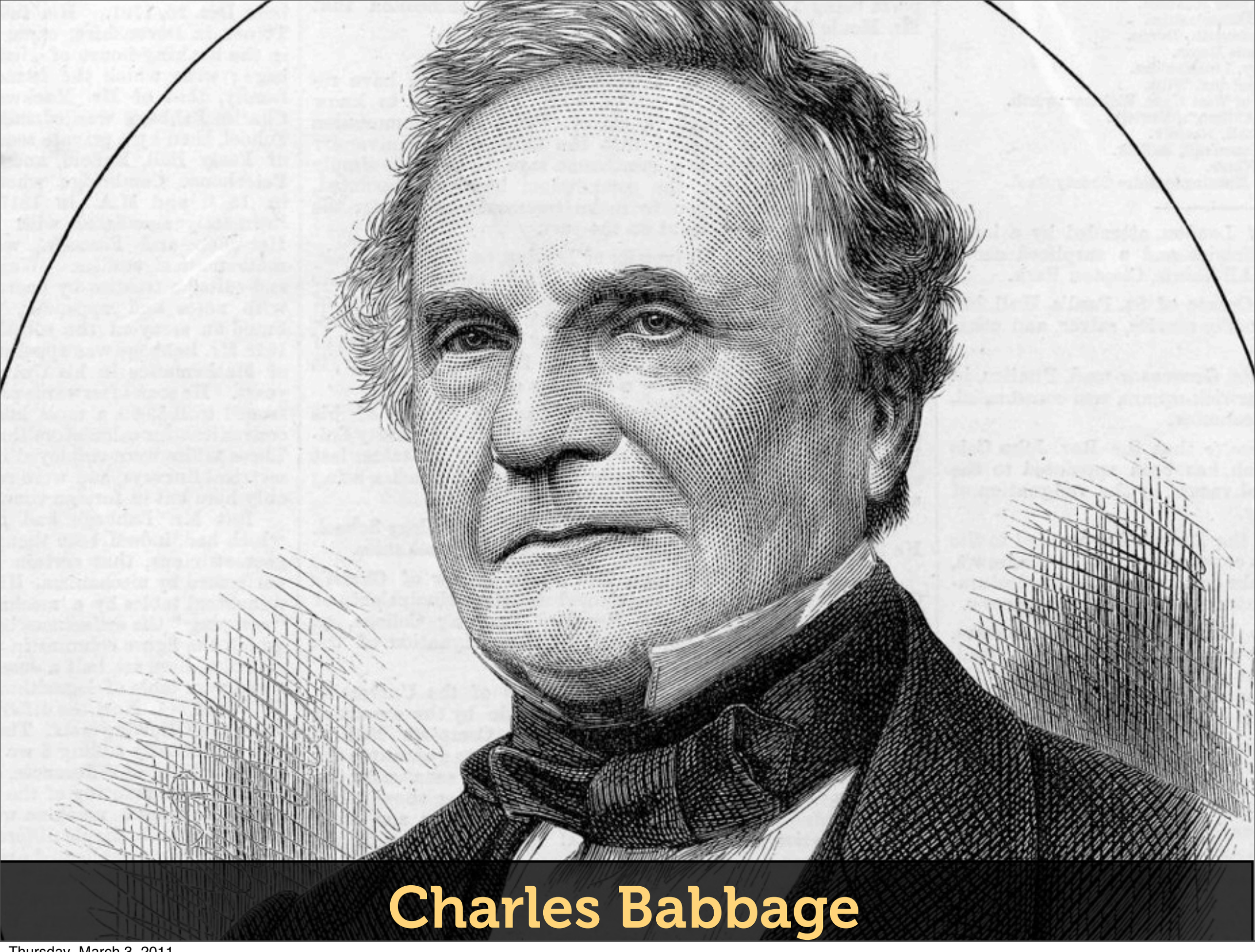
FIG. 6.—Tabulator

Hollerith Tabulating Machine

Thomas de Colvar, Arithmometer (1822)

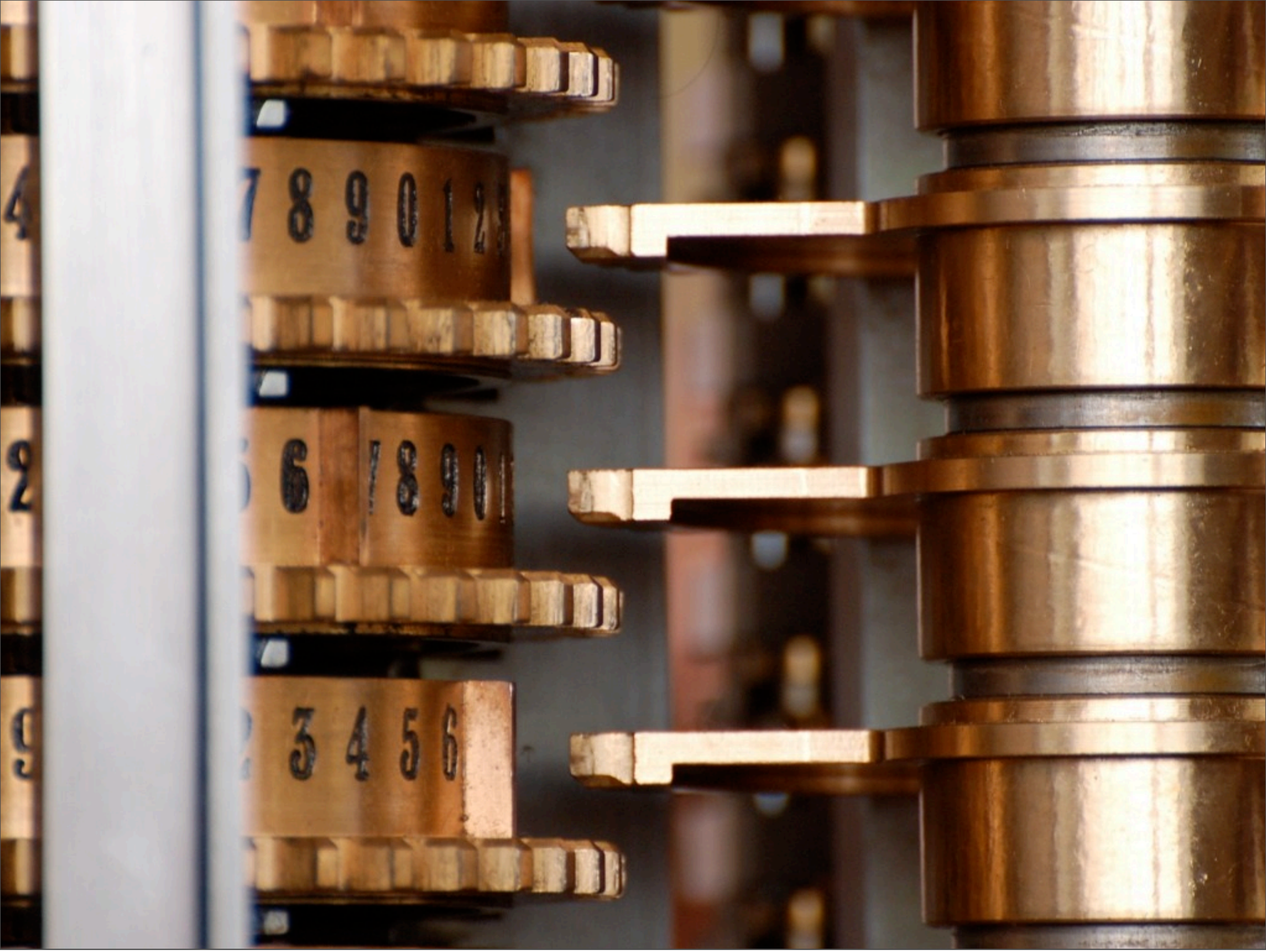


Babbage Difference Engine



Charles Babbage

Thursday, March 3, 2011



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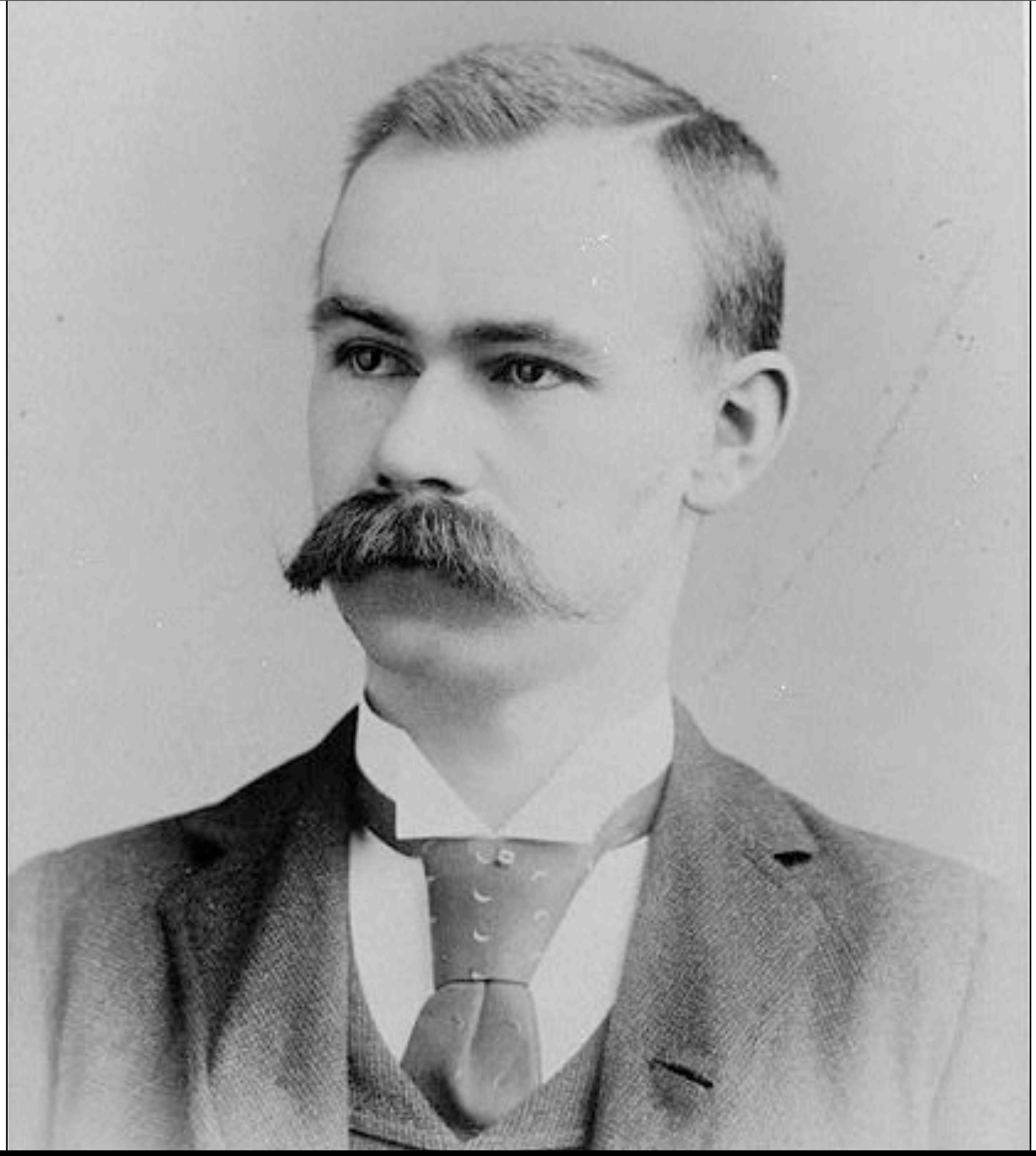
Mechanized Textile Mill (c. 1800)



Herman Hollerith

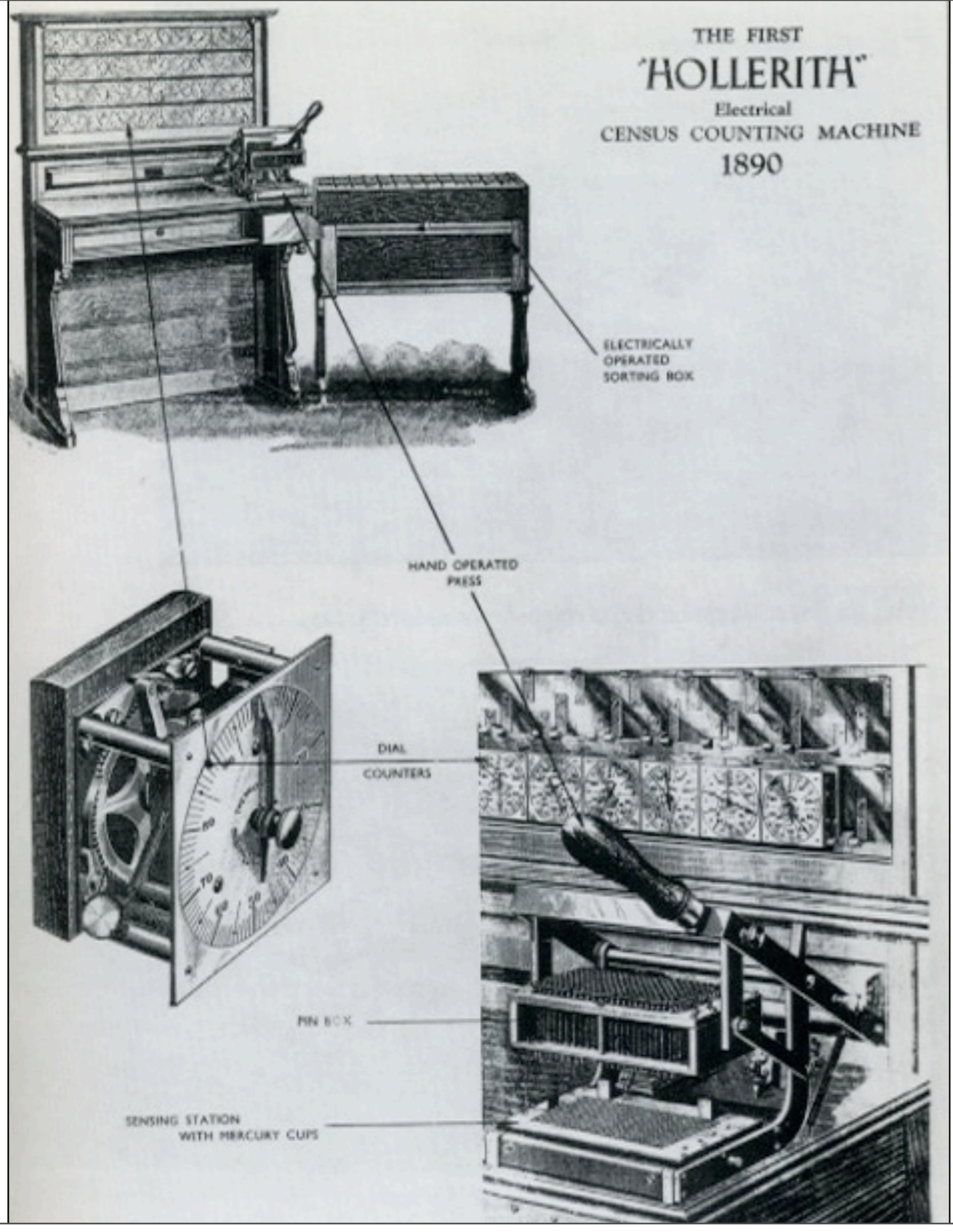
THE FIRST

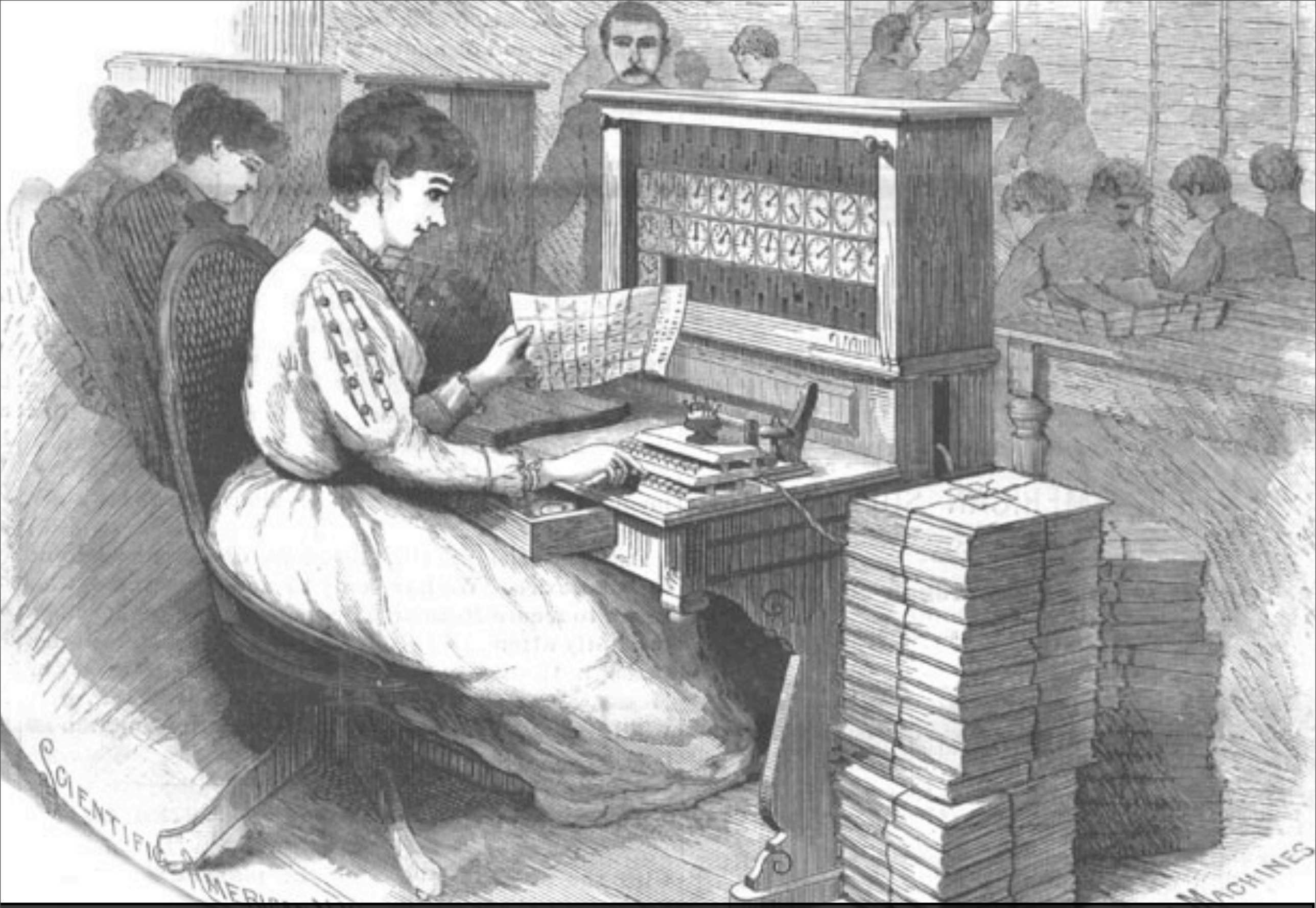
"HOLLERITH"

Electrical

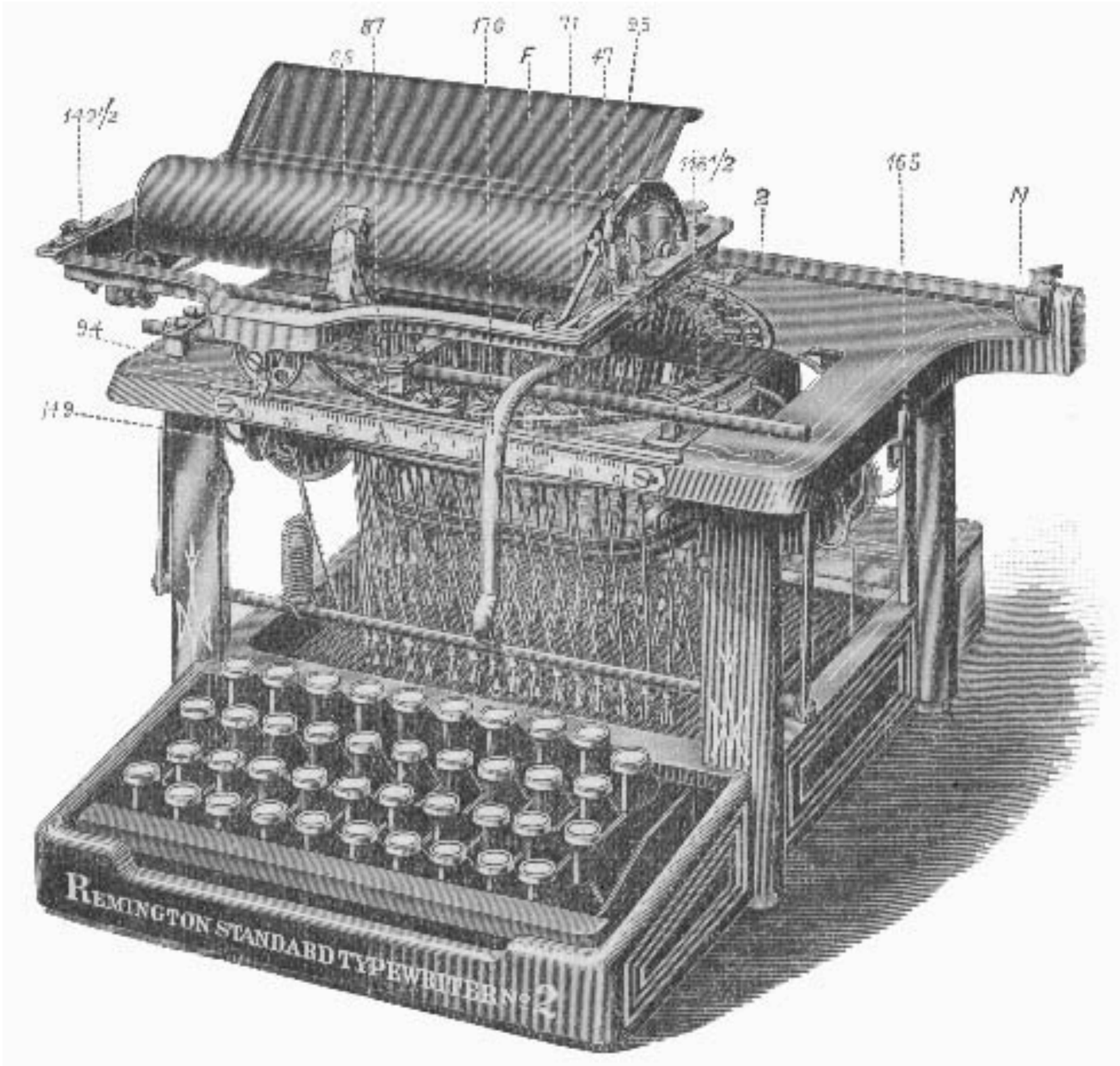
CENSUS COUNTING MACHINE

1890





Hollerith Punch Card Operators



Remington Typewriter, 1878

Miss Remington (1908)

Transcription Class

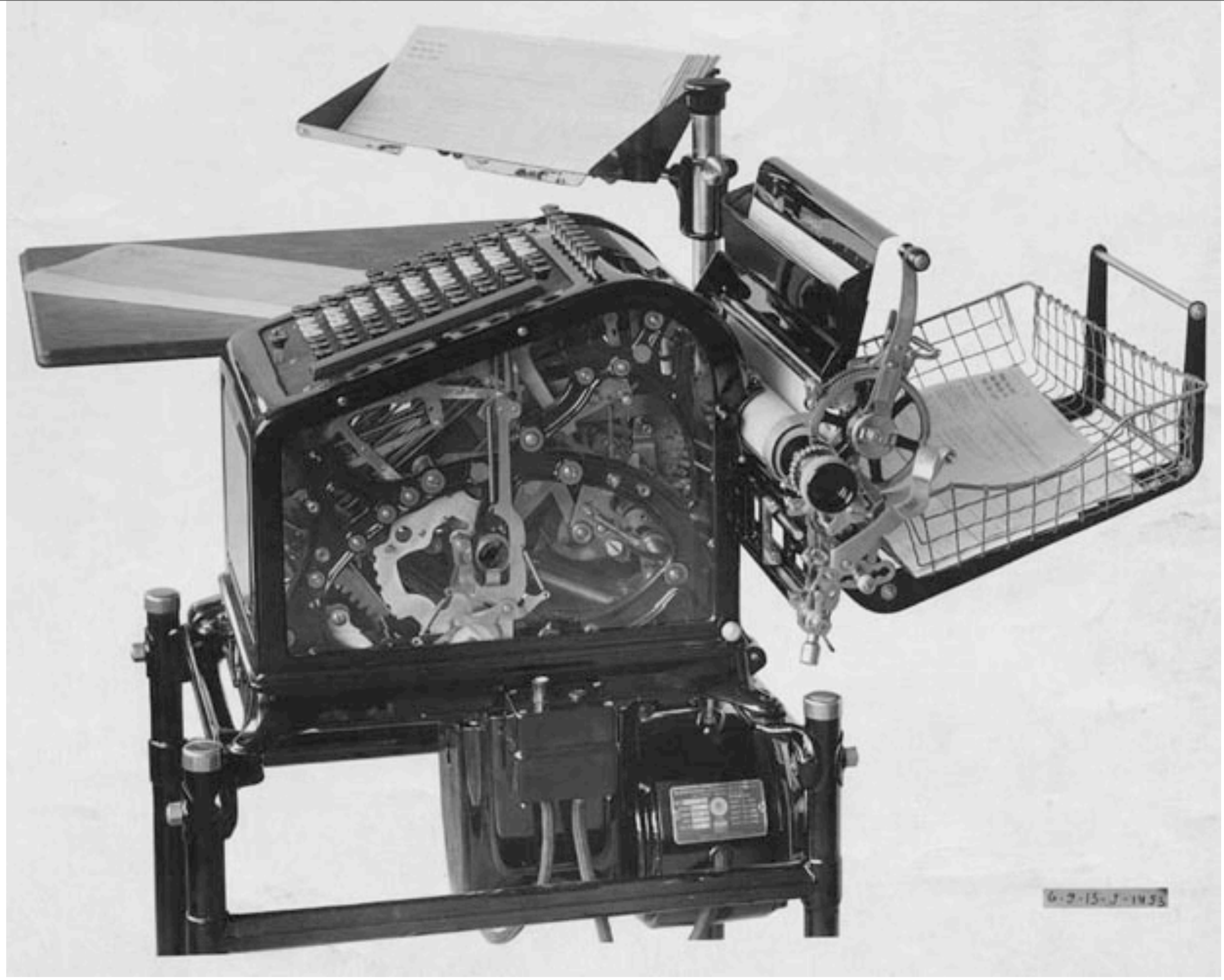
Filing Section, Metropolitan Life, 1920

The Wooton desk, patented in 1874, represents the information processing needs of a small office. It is a one-man office, with room enough for one person to read, write, and file papers.

Office reformers hated desks like this, which seemed to encourage the hoarding of information. Frank Gilbreth, one of the most famous of the scientific managers, urged the businesses that hired him to

In 1907 the Metropolitan Life Insurance Company built a new office building in New York City to house its office bureaucracy. The Metropolitan used every up-to-date technology. Most important of all was the filing system: some 20,000 file boxes held 20 million insurance applications, and there were 61 employees who did nothing but maintain these files. Also on file were 700,000 accounting books and 500,000 death certificates.

Metropolitan Life, 1907

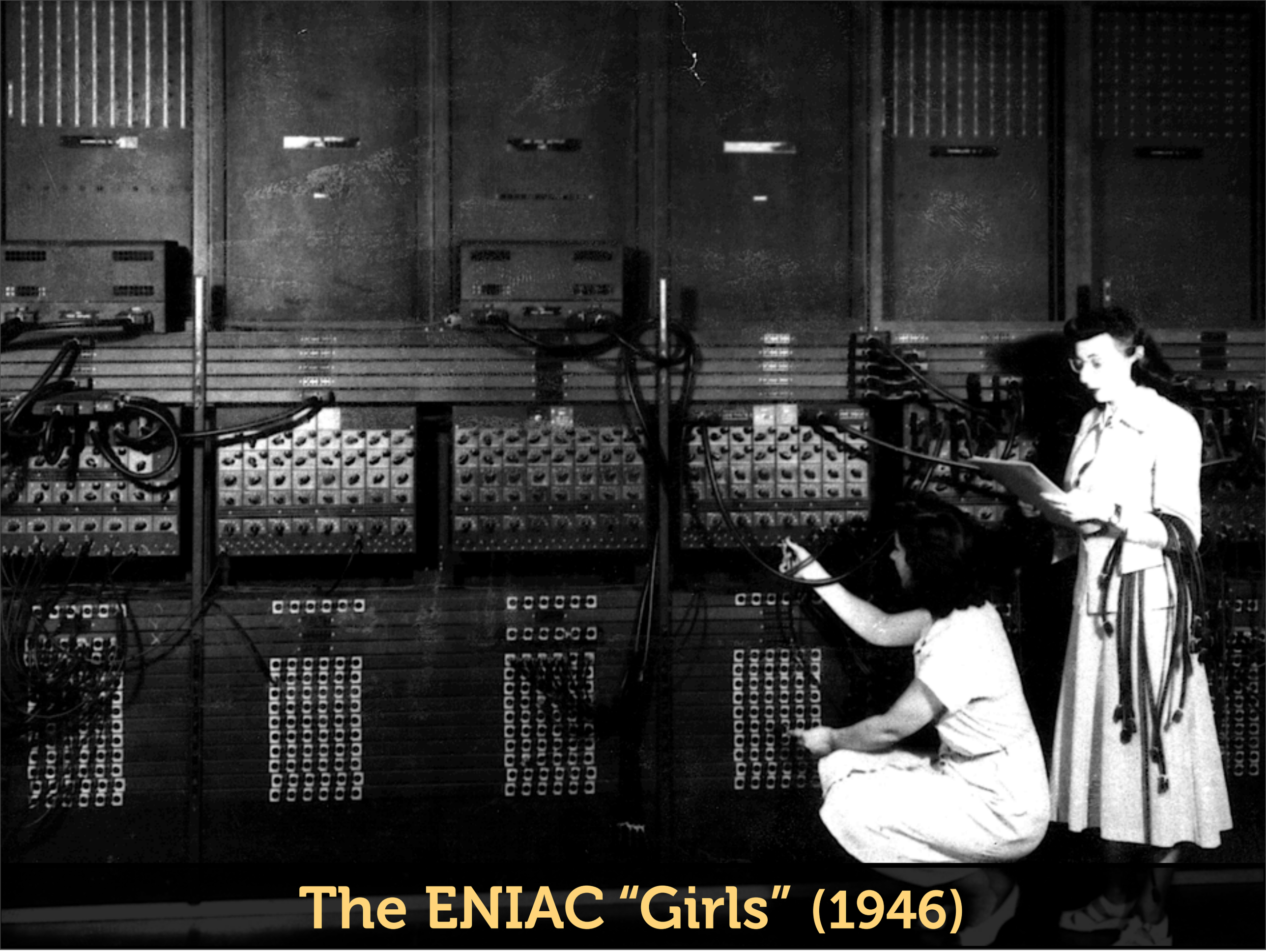


Burroughs Gas & Electric Billing Machine, 1915

Thursday, March 3, 2011

Sears Roebuck Data Division (1913)

US Army Computing Divising (1919)



The ENIAC "Girls" (1946)

software is hard

Programming in the 1950s was a black art, a private arcane matter ...

... the success of a program depended primarily on the programmer's private techniques and invention.

John Backus, **Programming in the 1950s**

Are YOU the man

to command electronic giants?

From the recent advance of electronic digital computers has emerged an exciting new job—creating instructions that enable these giant computers to perform logical operations for a variety of tasks in business, science and government.

You could be eligible for a position in computer programming. Because it is a new and dynamic field, there are no rigid qualifications. Do you enjoy algebra, geometry or other logical operations? Can you do musical composition or arrangement? Do you have an orderly mind that enjoys such games as chess, bridge or anagrams . . . finally, do you have a lively imagination?

If you do, *you* can qualify. You will receive training (at full pay) and work at IBM's Engineering Laboratories—among the most modern in the world. For more information, write to: G. W. Woodsum, Dept. 203, International Business Machines Corp., Research Laboratory, Poughkeepsie, N. Y.

DATA PROCESSING
ELECTRIC TYPEWRITERS
TIME EQUIPMENT
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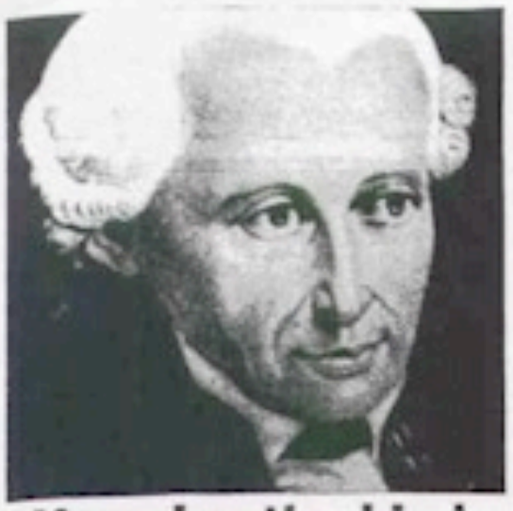
INTERNATIONAL
BUSINESS MACHINES
CORPORATION

New York Times, May 1956



If you're the kind of systems programmer who has a mind that's deep enough for Kant,

broad enough for science fiction,

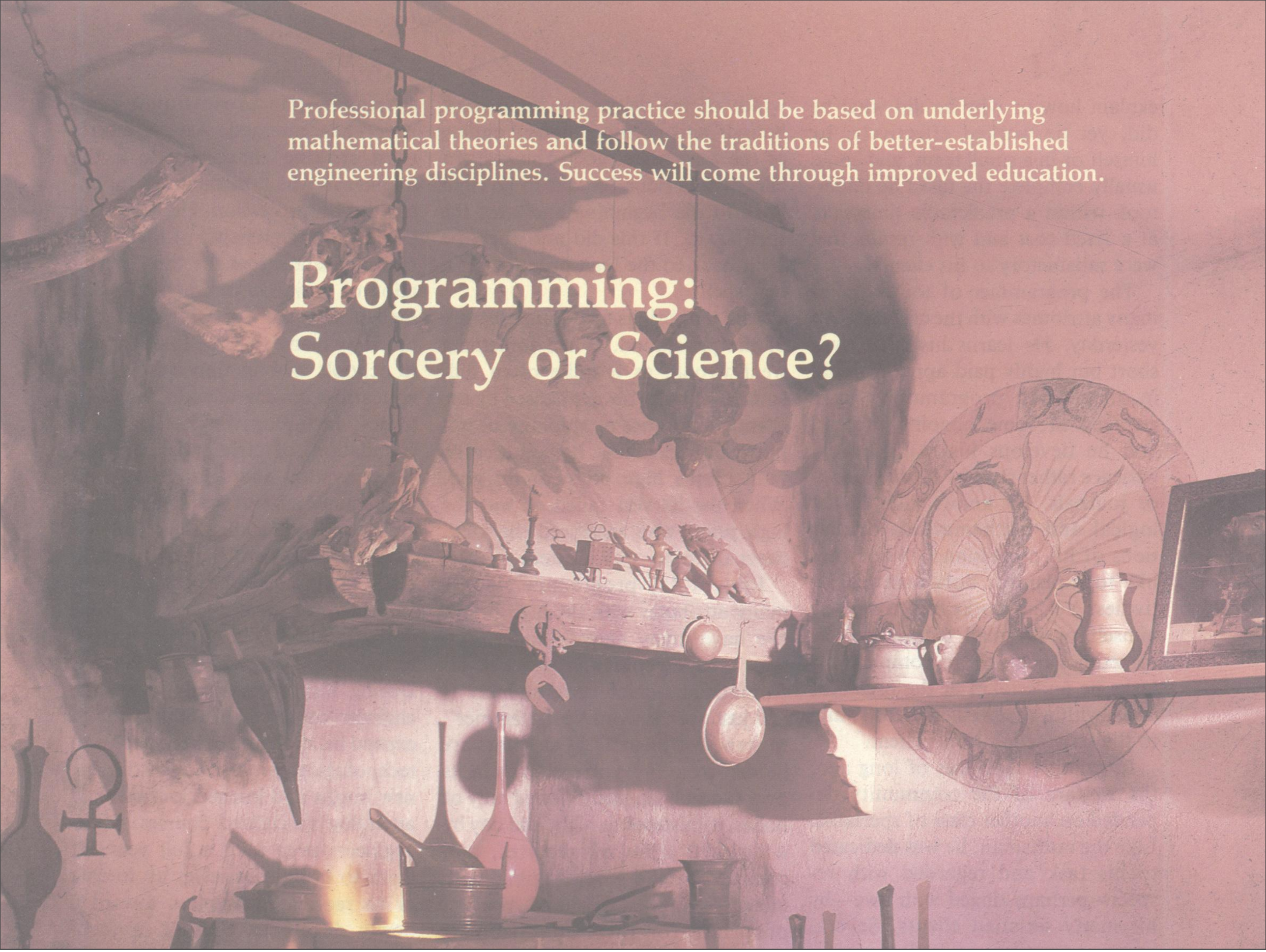
and sufficiently precise to enjoy the esoteric language of the computer,

look into RCA. You're our kind of man.

Datamation (1967)

Professional programming practice should be based on underlying mathematical theories and follow the traditions of better-established engineering disciplines. Success will come through improved education.

Programming: Sorcery or Science?



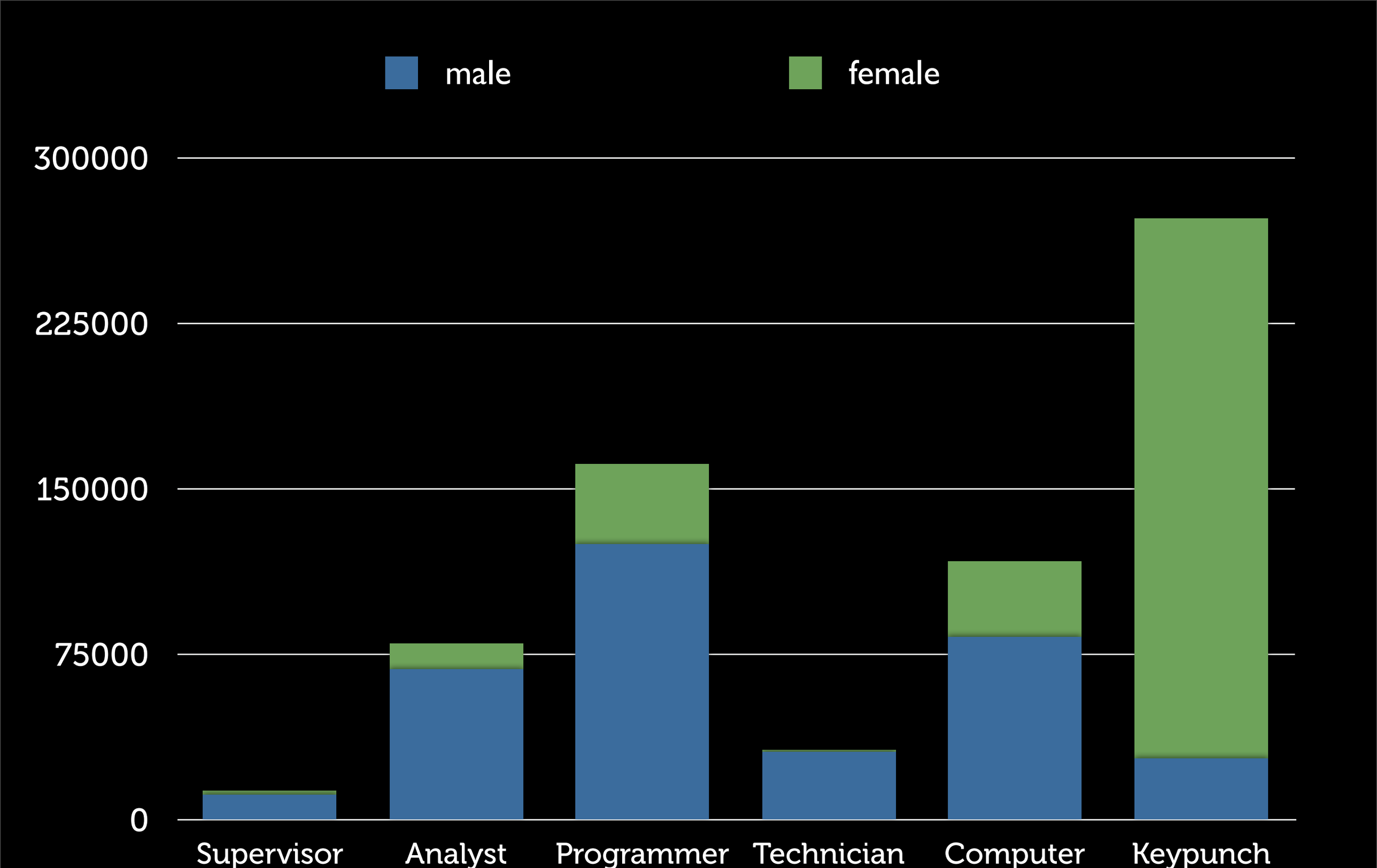
When a programmer is good, he is very, very good.

But when he is bad, he is horrid.

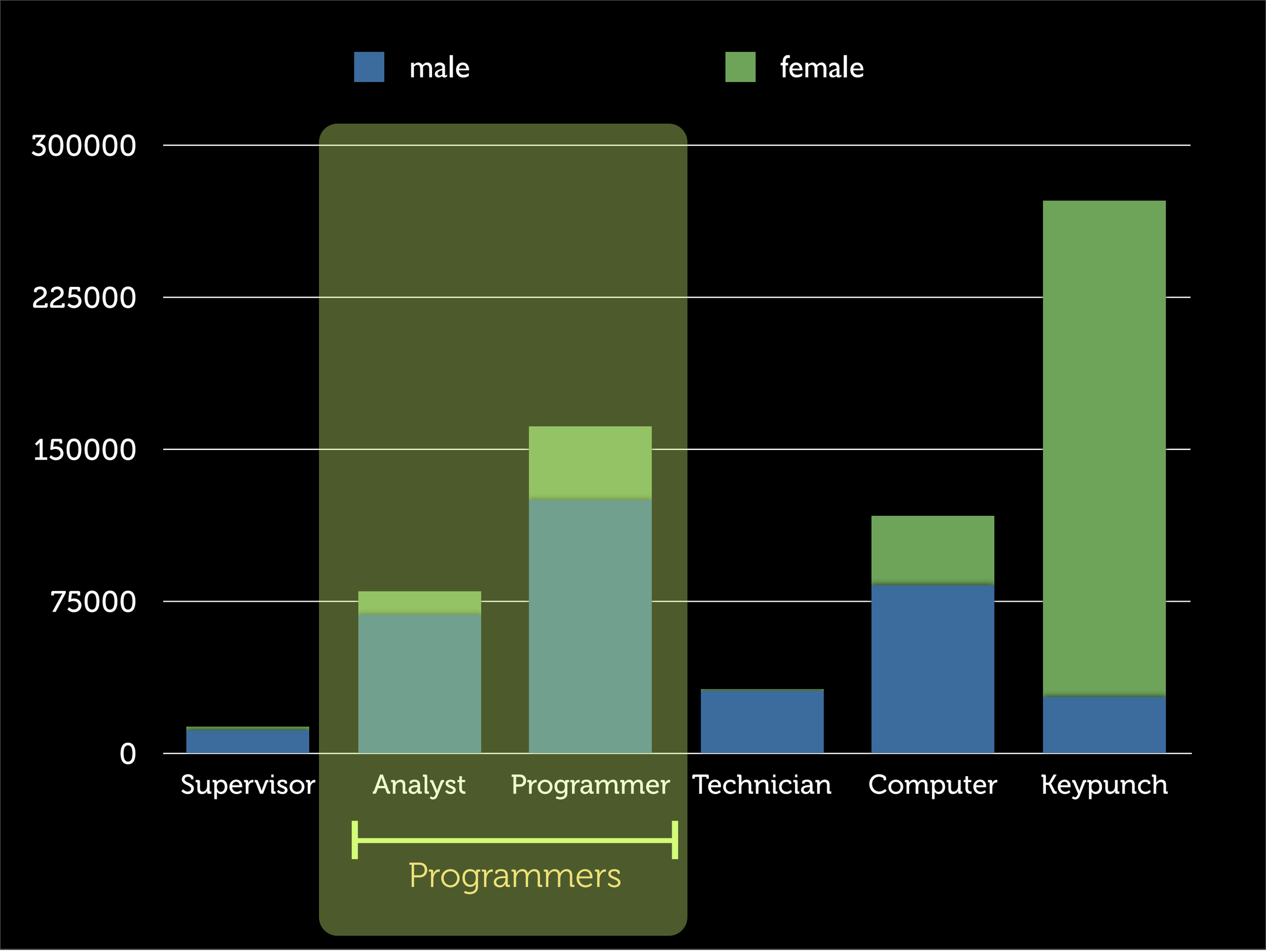
IBM Study of Programming Performance

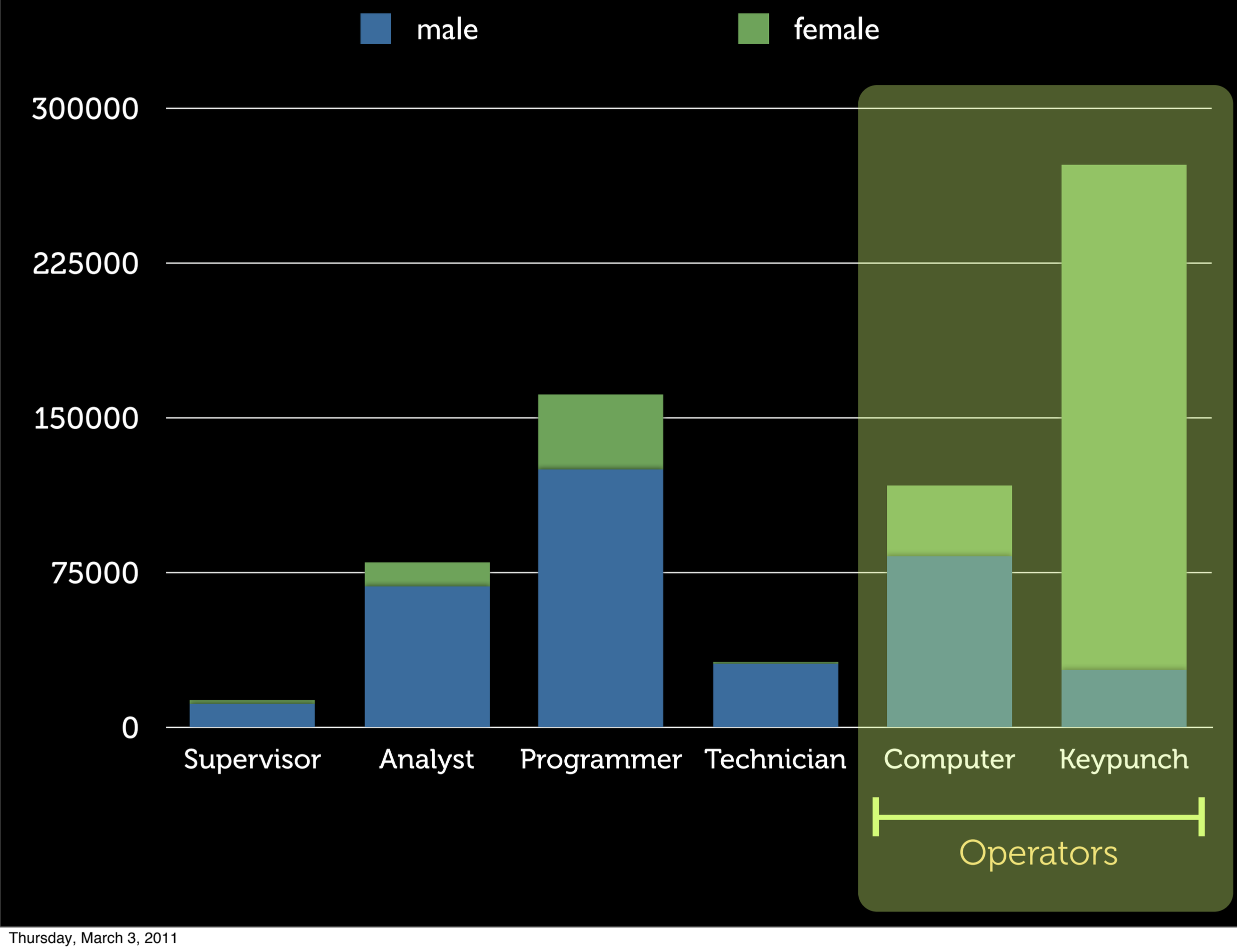
the hidden labor of electronic computing

IBM
System 360



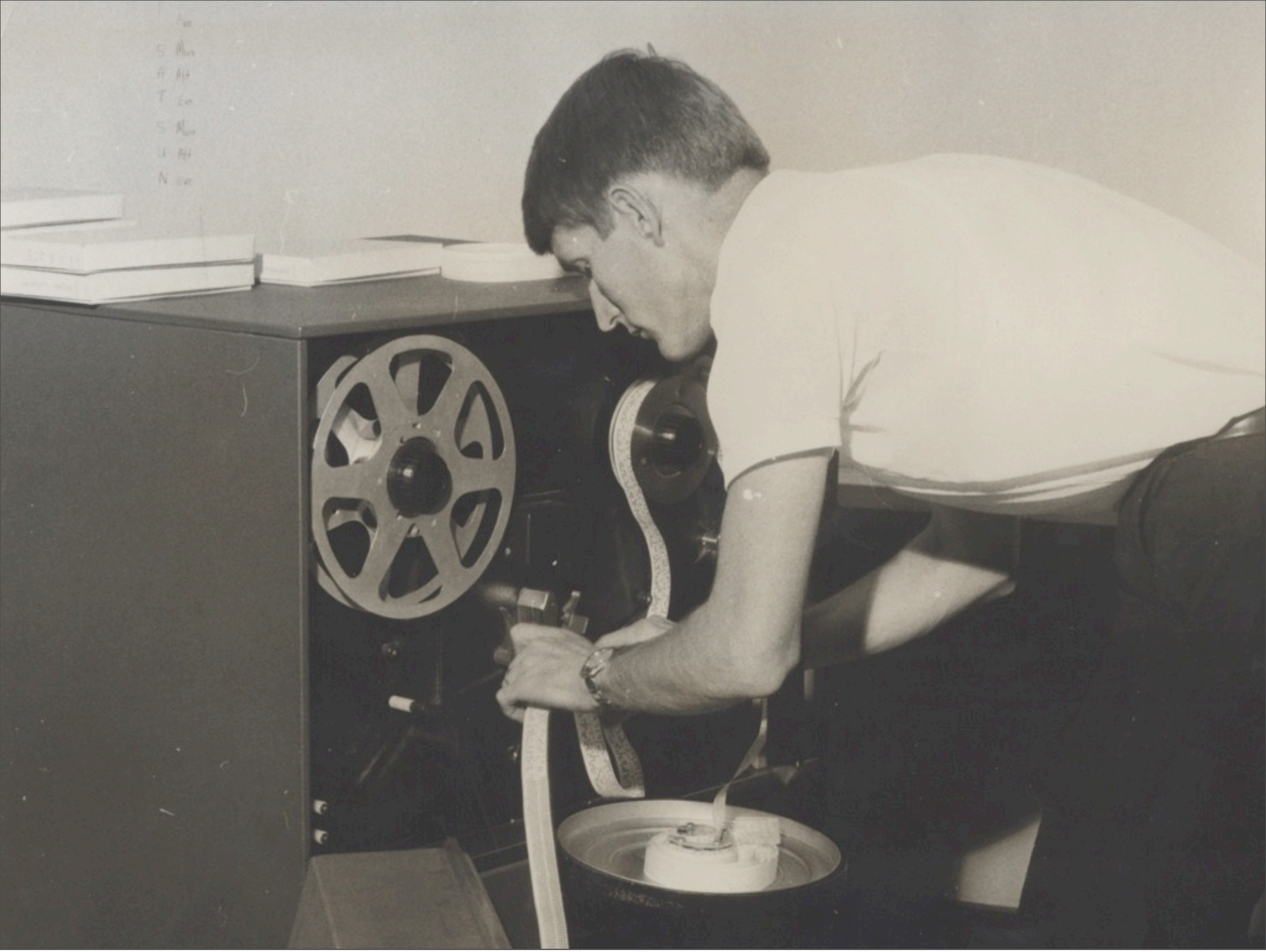
1970 Census Summary for Computer Related Occupations


male
female
300000
225000
150000
75000
0
Supervisor
Analyst
Programmer
Technician
Computer
Keypunch
Programmers


male
female
300000
225000
150000
75000
0
Supervisor
Analyst
Programmer
Technician
Computer
Keypunch
Operators

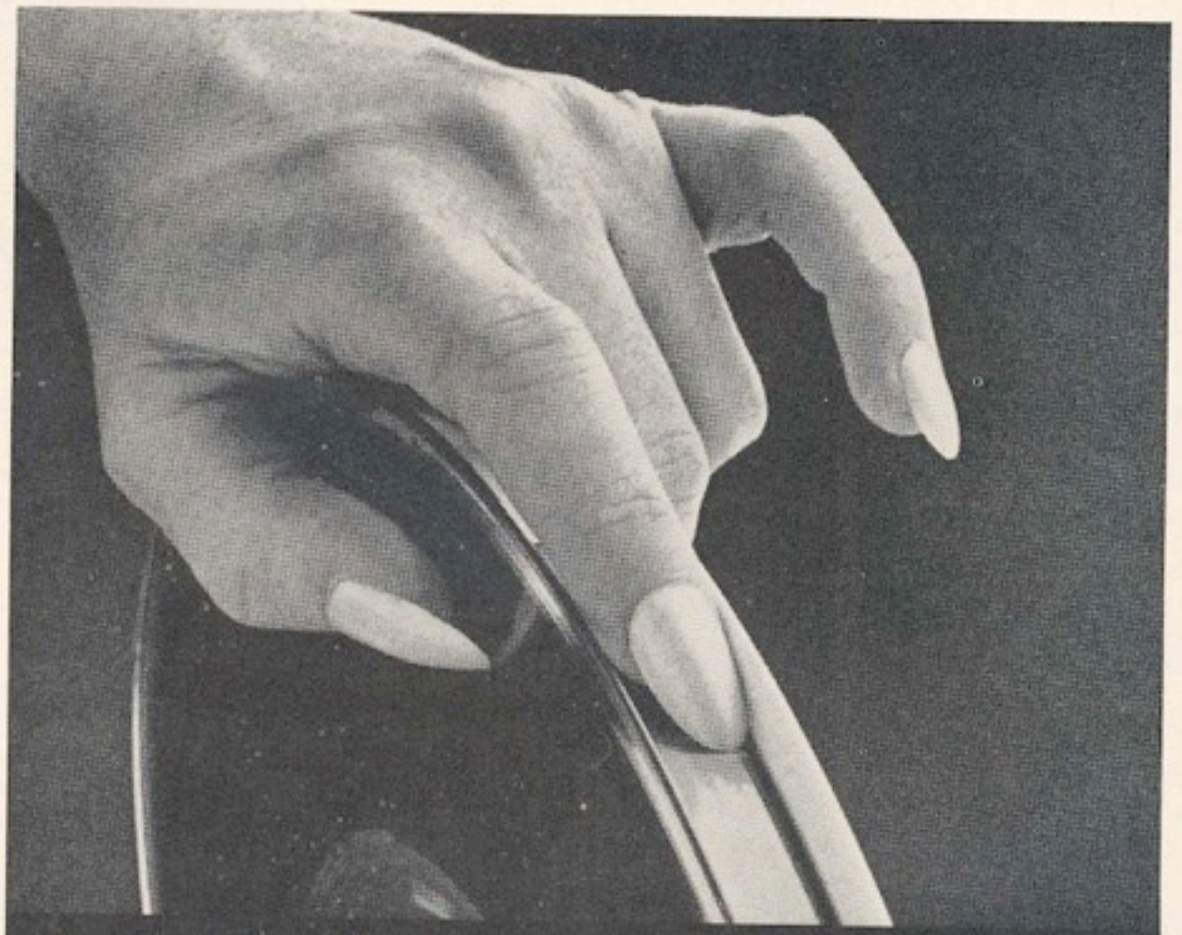
IBM
DATA PROCESSING SYSTEM

DATA PROCESSING SYSTEM



Thursday, March 3, 2011

The deadly female.

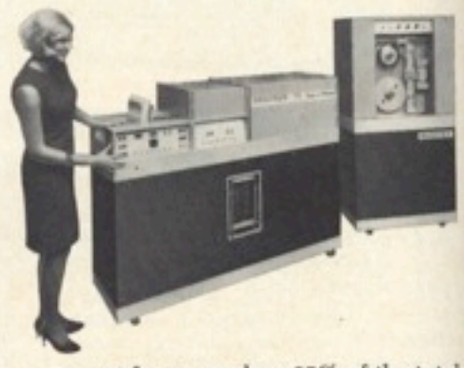


A male operator's fingers, run carelessly over the surface of computer tape, can mar it. But the female of the species is far deadlier.

Scratches caused by her fingernails can result in drop-outs.

Moral: Keep your fingers off the tape.

What has sixteen legs, eight waggly tongues and costs you at least $40,000 a year?



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Our machine reads upper and lower case characters in intermixed, standard type fonts. It can handle intermixed sizes and weights of paper, including carbon-backed sheets.

An ordinary computer program tells our reader what to do . . . to add, subtract, edit, check or verify as it reads. Lets you forget format restrictions, leading and trailing zeros, skipped fields, and fixed record lengths. And our reader won't obsolete any of your present hardware because it speaks the same output language as your computer.

Our Electronic Retina Computing Reader can replace all—or almost all—of your keypunch operators. At least that's what it is doing for Perry Publications.

If you have a volume input application, it can do the same for you. Tell us your problem and we'll tell you how.

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Our machine reads upper and lower case characters in intermixed, standard type fonts. It handles intermixed sizes and weights of paper, including carbon-backed sheets.

An ordinary computer program tells our reader what to do . . . to add, subtract, edit, check, or verify as it reads. Lets you forget format restrictions, leading and trailing zeros, skipped fields, and fixed record lengths. And our reader won't obsolete any of your present hardware because it speaks the same output language as your computer.

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(Well, almost.)

It can't take maternity leave. Or suffer from morning sickness. Or complain of being tired all the time. But it *can* read. And gobble data at the rate of 2400 typewritten (or hand printed) characters a second. And compute while it reads. And reduce errors from a keypunch operator's one in a thousand to an efficient one in a *hundred* thousand.

Our machine reads upper and lower case characters in intermixed, standard type fonts. It can handle intermixed sizes and weights of paper, including carbon-backed sheets.

An ordinary computer program tells our reader what to do . . . to add, subtract, edit, check or verify as it reads. Lets you forget format restrictions, leading and trailing zeros, skipped fields, and fixed record lengths. And our reader won't obsolete any of your present hardware because it speaks the same output language as your computer.

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Poor little Millie McIntyre is about to try feeding a computer.

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Or are you the kind of a guy who can just sit there and watch a woman cry?

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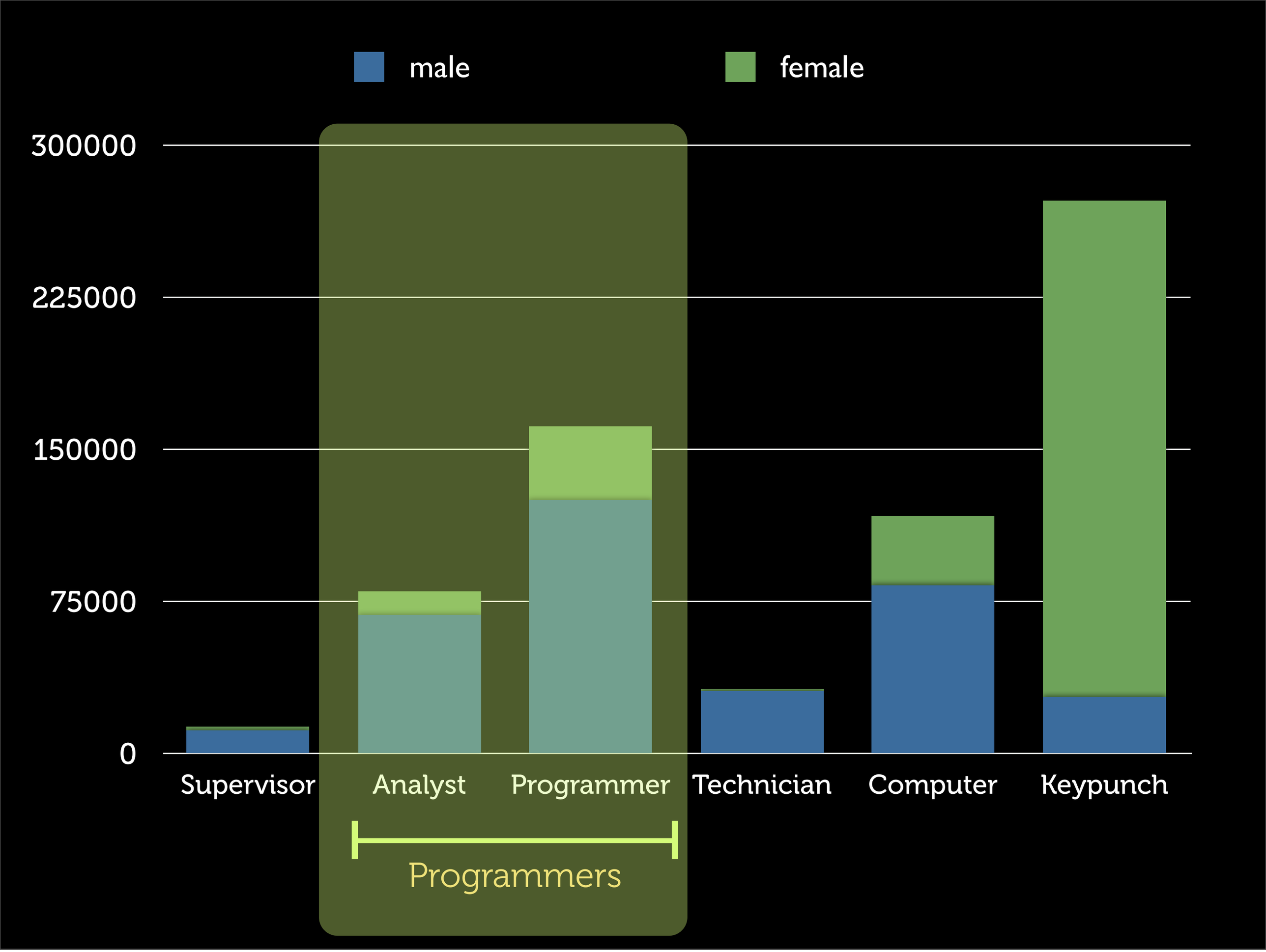
CIRCLE 67 ON READER CARD

Thursday, March 3, 2011


male
female
300000
225000
150000
75000
0
Supervisor
Analyst
Programmer
Technician
Computer
Keypunch
Programmers

the right man for the job

Wanted: 500,000 Men to Feed Computers

You don't have to be a college man to get a good job in computer programing—today even high-school grads are stepping into excellent jobs with big futures

By Stanley L. Englebardt

IF YOU know how to "talk to computers," chances are you've got it made. If you don't, you may be missing out on a great job opportunity.

People who talk to computers are called programers. They instruct data-processing machines on how to perform specific jobs. Today there are about 40,000 of these specialists at work. In six years, experts say, 500,000 more will be needed. Many will require a bachelor's, master's, or even doctor's degree. But close to 50 percent will move into this new profession with only high-school diplomas.

Here's why there's such a tremendous demand for programers.

Computers are really very stupid multimillion-dollar collections of wires and transistors. Plug one in and it does nothing. Yell at it, curse, kick it—and still it remains mute. The reason: no instructions.

But once *people* write instructions, the computer becomes a marvelous tool. It can tell the exact moment at which an astronaut should fire his retrorockets, or identify an obscure disease and prescribe a course of treatment. It can keep watch over huge inventories and write reorders when the stock gets low. Computers can prepare your paycheck, update accounts-receivable files—even print out past-due notices when you're late in paying bills.

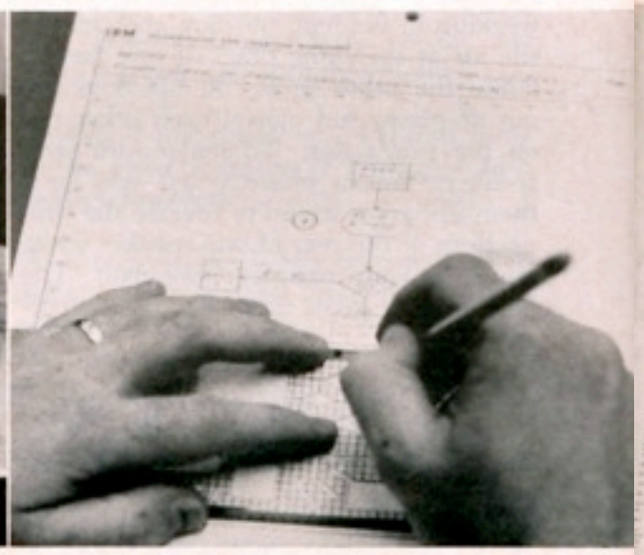
Thousands of new computers are installed each year to do these jobs. Each one must be programed before it can start processing. This means anywhere from 1 to 100 people sitting down to figure out every possible step in a particular operation. These steps are translated into machine language, punched into cards, and fed into the computer. There they are stored for use during the solution of a problem.

Do you have what it takes to be a programer?

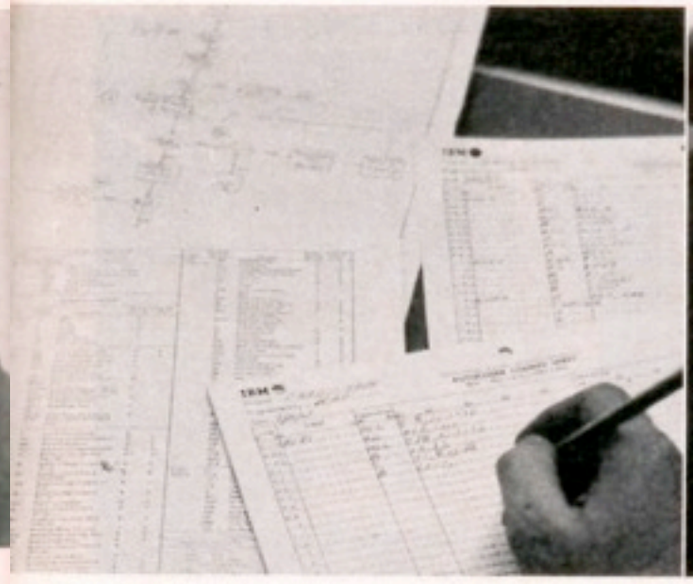
Education is important, but most important is a quick mind, with the ability

The computer programer's daily work

1 From his boss, a systems analyst, the programer receives his assignment to work out a program for one section of a job planned on a flow chart.



2 First step: Draw a block diagram showing basic data-handling and logic operations computer must perform. Standard symbols are used in the diagram.



3 Consulting a special dictionary, programer spells out instructions in a "programing language"—a code describing standard sequences of machine operations.

4 Coded instructions, now punched into cards, are fed into a computer, which automatically translates steps into precise instructions it can follow.

The advent of faster, more versatile computers has set off a frantic hunt for people who can write the instructions that make the machines work.

Help Wanted: 50,000 Programmers

by Gene Bylinsky

Many companies that have invested in the latest-model computers find themselves increasingly frustrated by the discrepancy between the fantastic potential of the machines and their own ability to use them with maximum effectiveness. Within a short twenty years computer electronics has gone through a phenomenal revolution: vacuum tubes have given way to transistors, which in turn are being displaced by micro-miniaturized solid-logic circuitry, dramatically boosting computation speeds and the size of computer memories. But these leaps in technology have outdistanced the techniques of organizing and directing the work of the lightning-fast machines. One consequence is an acute shortage of the people who prepare the instructions, or programs, without which the electronic "brains" won't run or do useful work.

Computer programmers have been in short supply "from Day One," as one man puts it. But today the shortage is

encompasses not only "application" programs, which present a business or scientific problem in a form a computer can understand, but also the great variety of detailed and voluminous instructions stored in computer memory to organize and automate the work of the machine—instructions that make it possible for a computer to be a problem-solving machine in the first place. The tools of software are the various computer languages, or codes, as well as the programs that translate these codes into more basic machine instructions. In short, the programmer deals, in one way or another, with all the functions and techniques of computer operation that depend directly and intimately on human participation.

What precisely, [illegible] does has always been [illegible] people. The jargon of the trade, with its loose use of ill-defined terms, has been in part responsible for the confusion. But there is

Fortune Magazine (1967)

How about a pro mmi reer in
advertising
aviation
banking
broadcasting
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drugs
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and
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Systems Analyst/Manufacturing Specialist
Must have degree in production management or industrial engineering with advanced math and/or programming experience desirable. 5 years' experience in production planning and control
PROGR
ANALYS
and
Management Systems

PRODUCTION

Software gap—a growing crisis for computers

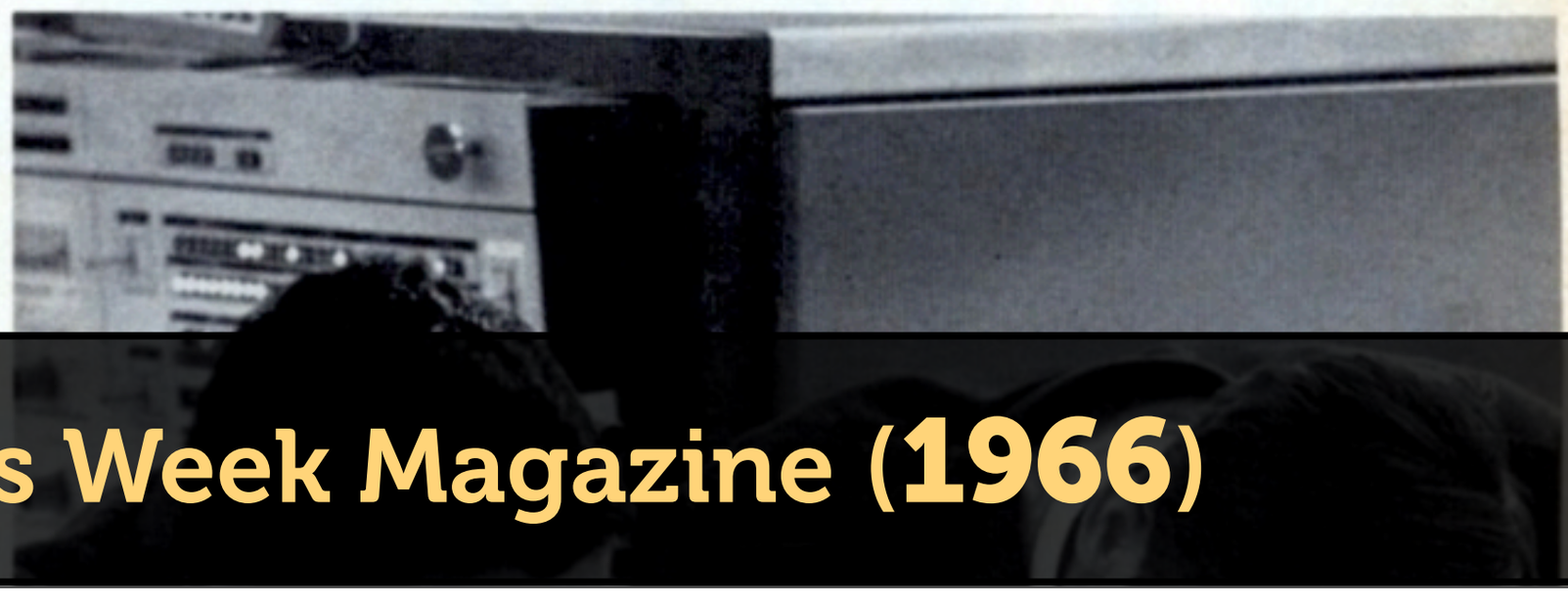
Shortage of programmers—and the fruits of their solitary art—is stunting growth of computer use and costing industry hard cash

Flow-chart shows the program steps computer will perform.

The computer, man's most complex industrial product, can be cranked out in quantity by mass-production techniques. But it is powerless to solve problems, sort data, or store information without instructions.

The process of writing instructions—or programs—is a new human intellectual art, not a mechanical or electronic skill. And this factor is setting limits on the usefulness of the computer far below those imposed by electronic

David B. Hertz, a consultant at McKinsey & Co., summed up the



Business Week Magazine (1966)

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Wednesday ..... October 22 12:30 PM 6:30 PM
Thursday ..... October 23 12:30 PM 6:30 PM
Friday ..... October 24 12:30 PM 6:30 PM
Saturday ..... October 25 1:00 PM

DOWNTOWN
[illegible]
Monday ..... October 20 12:15 PM
Tuesday ..... October 21 12:15 PM
Wednesday ..... October 22 12:15 PM
Thursday ..... October 23 12:15 PM 6:15 PM

Bronx TN 7-2950
FORDHAM UNIVERSITY
[illegible]
Tuesday ..... October 21 6:30 PM
Wednesday ..... October 22 6:30 PM
MANHATTAN COLLEGE
[illegible]
Monday ..... October 20 12:15 PM
Wednesday ..... October 22 6:00 PM
Thursday ..... October 23 12:15 PM

Queens TN 7-2950
[illegible]
Tuesday ..... October 21 6:00 PM
Wednesday ..... October 22 6:00 PM
Thursday ..... October 23 6:00 PM

Nassau County (516) 248-6624
GARDEN CITY
[illegible]
Monday ..... October 20 6:15 PM
Wednesday ..... October 22 6:15 PM
Thursday ..... October 23 6:15 PM
Saturday ..... October 25 11:15 AM
Monday ..... October 27 6:15 PM
PLAINVIEW
[illegible]
Tuesday ..... October 21 6:15 PM
Saturday ..... October 25 11:15 AM
NORTH SHORE
[illegible]
Wednesday ..... October 22 6:15 PM
Sunday ..... October 26 11:15 AM
SOUTH SHORE
[illegible]
Sunday ..... October 19 5:15 PM
Thursday ..... October 23 6:15 PM

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Please send me a free sample aptitude test and information about day and evening classes.

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I have a high school diploma (or equivalent) YES ☐ NO ☐

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"IF A MAN IS BRILLIANT, AND CANNOT COMMUNICATE,

YWCA CENTRAL BRANCH

Computer Programing Schools Offer Both Opportunity and Risk

MANY JOBS OPEN IN THE INDUSTRY

But a Prospective Trainee Is Advised to Use Care in Selecting a Course

Continued From Page 1

same paper, he comes across ads for schools that offer to teach people to be programers. The course takes less than six month, its cost is not exorbitant and the opportunity is open to anyone who can pass an aptitude test. He can even go at night.

Then and there, Len decides to become a computer programer—whatever that may be.

QUICK ADVERTISING: Match book carries ad for computer programing school. Such advertising has sprung up to meet the increasing shortage of computer programers, a shortage that may go as high as 500,000 by 1970.

New York Times (1967)
Thursday, March 3, 2011

Could you answer these test questions?

Sample these questions given to applicants for computer-programer training by Honeywell Inc. for a hint as to whether you have the aptitude to be an electronic-brain feeder.

1 An electronic-parts distributor has some transformers in one of his stockrooms. They all look alike but he knows that a mistake has been made and that there are two types of transformers (types A & B) in the room, and that there are four of each type for a total of eight. He receives a rush order from a customer for either two type-A transformers, *or* two type-B transformers. The customer has the equipment to tell the difference between the transformers, but the parts distributor does not. Since the transformers are very expensive to ship, the distributor ships the minimum number necessary. How many does he ship?

2 If the statement, "There are more dogs in the U.S. than there are hairs on any one dog in the U.S.," is true, then is the statement, "There are at least two dogs in the U.S. with exactly the same number of hairs," true or false? And why?

3 If a brick balances evenly with three-quarters of a pound weight plus three-quarters of a brick, what is the weight of the whole brick?

4 A light flashes once every five minutes; another light flashes once every 14 minutes. If they both flash together at 1:00 p.m., what time will they next flash together?

5 Alice is as old as Betty and Christine together. Last year Betty was twice as old as Christine. Two years hence Alice will be twice as old as Christine. Their ages?

6 A man and his wife live on the fifth floor of an apartment building and have no phone. Frequently, when he comes home from work at night, his wife asks him to run an errand before dinner, but of course not the same errand every night. So, in order to save himself a trip up the stairs every evening, she puts a light in each of the four windows that can be viewed from the street. What is the most number of errand messages his wife can choose from, at any one time?

Answers: (1) 3. (2) True. The number of dogs exceeds the possible variations in the number of hairs they have. (3) 3 pounds. (4) 2:10 p.m. (5) 8, 5, and 3. (6) 15, assuming that four dark windows are not a signal for an errand.

Sample Questions, Honeywell Aptitude Test

1	2	3	4	5	6	7	8
3	7	2	1	5	12	4	0

FLOW CHART—START

1 Replace number in box 1 with number in box 8.

2 Add: number in box 1, and number in box 2. Put result into box 1.

3 Change Instruction 2; increase the second *box number* mentioned in it (box number 2, the first time around, etc.) by 1.

4 Is the second *box number* mentioned in Instruction 2 greater than the number *in* box 7? If your answer is no, follow the arrow and start sequence again at its source.

END What number is now in box 1? ———

The answer is 10. Here's what your flow chart should look like now:

Cosmo Quiz (1967)

Datamation Magazine (1968)

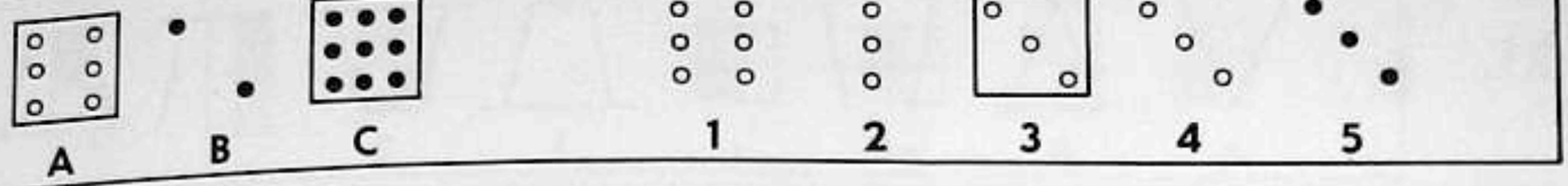
In one inquiry it was found that a successful team of computer specialists included an ex-farmer, a former tabulating machine operator, an ex-key punch operator, a girl who had done secretarial work, a musician and a graduate in mathematics.

The last was considered the least competent.

H. A. Rhee, **Office Automation in Social Perspective** (1968)

PART II (Cont'd)

11.



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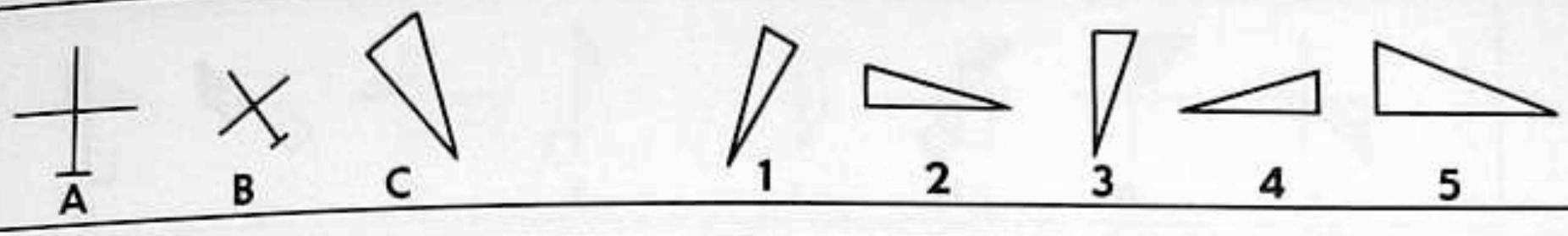

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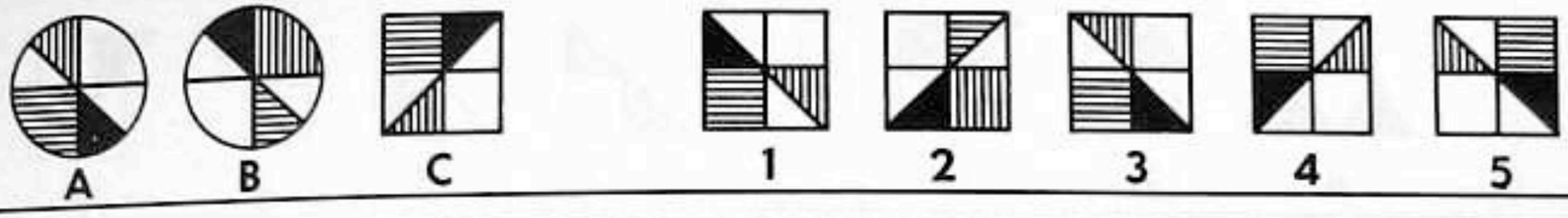

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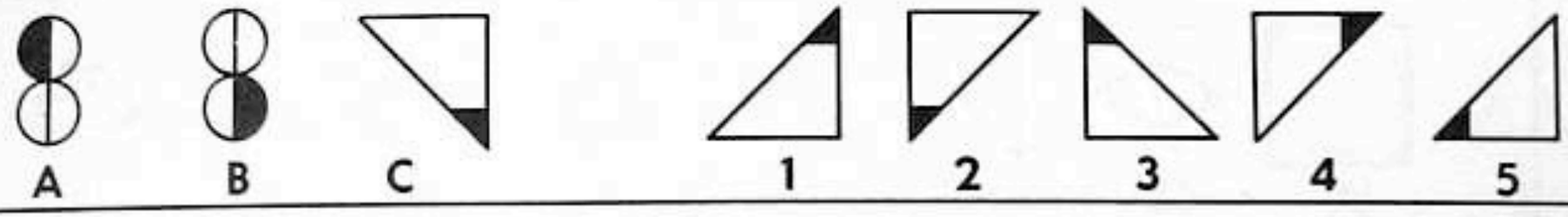

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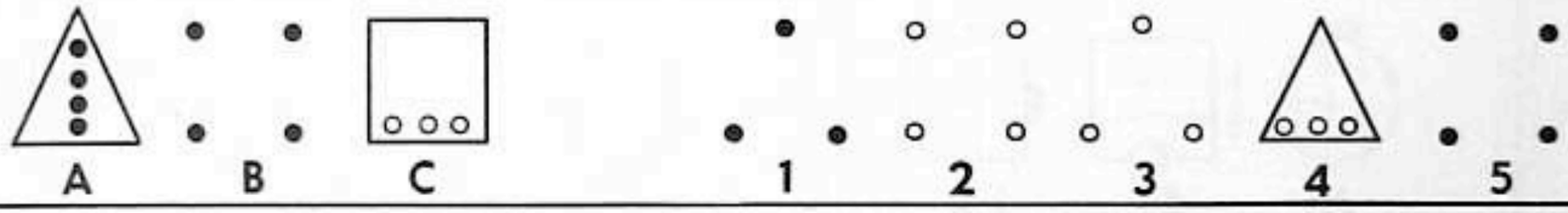


IBM Programmer Aptitude Test

INSTRUCTIONS FOR PART III

On the next several pages you will be given some problems in arithmetical reasoning. After each problem there are five answers, but only one of them is the correct answer. You are to solve each problem and indicate which answer you think is correct by marking the proper space on the answer sheet. The following problems have been done correctly. Study them carefully.

Example X: How many apples can you buy for 60 cents at the rate of 3 for 10 cents?

(a) 6 (b) 12 (c) 18 (d) 20 (e) 30

The correct answer to the problem is 18, which is (c); therefore the space under the letter (c) on the separate answer sheet has been filled in.

Example Y: In 5 weeks John has saved $3.50. What have his average weekly savings been?

(a) 35¢ (b) 40¢ (c) 50¢ (d) 70¢ (e) 80¢

The correct answer to the above problem is 70¢; accordingly, choice (d) has been marked as the correct answer on the answer sheet.

IBM Programmer Aptitude Test

ournal of Applied Psychology
)67, Vol 51, No 1, 28–34

VOCATIONAL INTERESTS OF COMPUTER PROGRAMMERS

DALLIS K. PERRY AND WILLIAM M. CANNON [1]

System Development Corporation, Santa Monica

The revised SVIB was administered to 1,378 computer programmers. Primary analyses were limited to 1,003 males with at least 2 yr. of programming experience, whose jobs were primarily nonsupervisory, and who indicated satisfaction with programming Programmers differ from other professional men primarily in their greater interest in problem solving, mathematics, and mechanical pursuits, and their lesser interest in people Their interests are most similar to optometrists, chemists, engineers, production managers, mathematics-science teachers, and senior CPAs; but none of these existing keys adequately represents the interests of programmers. A Programmer key developed on half the sample and evaluated on the remaining half discriminates well between programmers and men in general Satisfied programmers score significantly higher on the key than dissatisfied programmers

Journal of Applied Psychology (1967)

Thursday, March 3, 2011

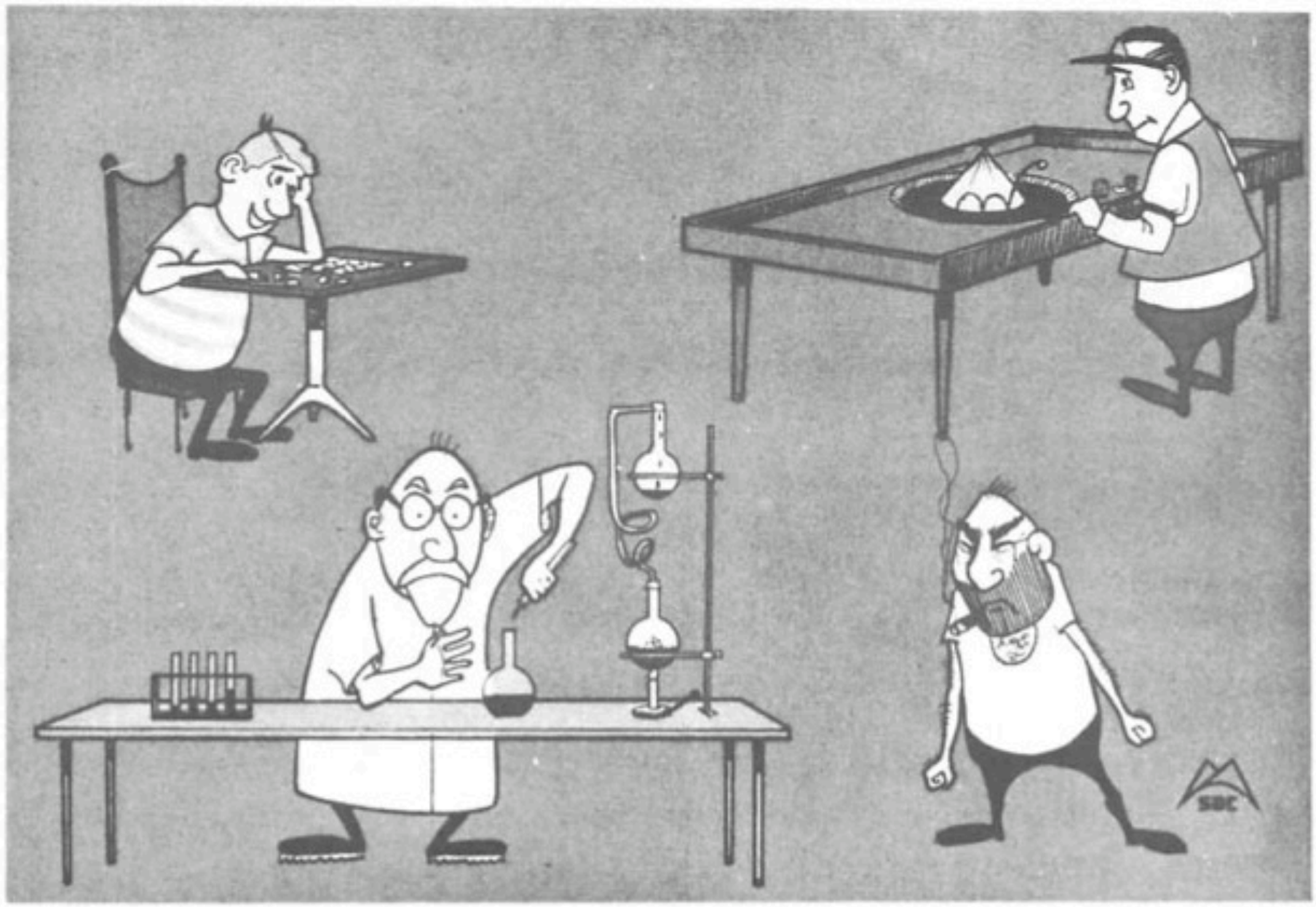


Figure 2. Programmers are crazy about puzzles, tend to like research applications and risk-taking, and don't like people.

William Cannon and Perry Dallis
A vocational interest scale for computer programmers (1966)

Are Programmers Paranoid?

Theodore C. Willoughby
The Pennsylvania State University

"The average programmer is excessively independent -- sometimes to the point of mild paranoia. He is often egocentric, slightly neurotic, and he borders upon a limited schizophrenia."

This was how one authority(1) described the programmer. But is this a correct and fair description? If it is, then the empirical research using psychological tests should provide the evidence.

10th Conference on Computer Personnel Research (1972)

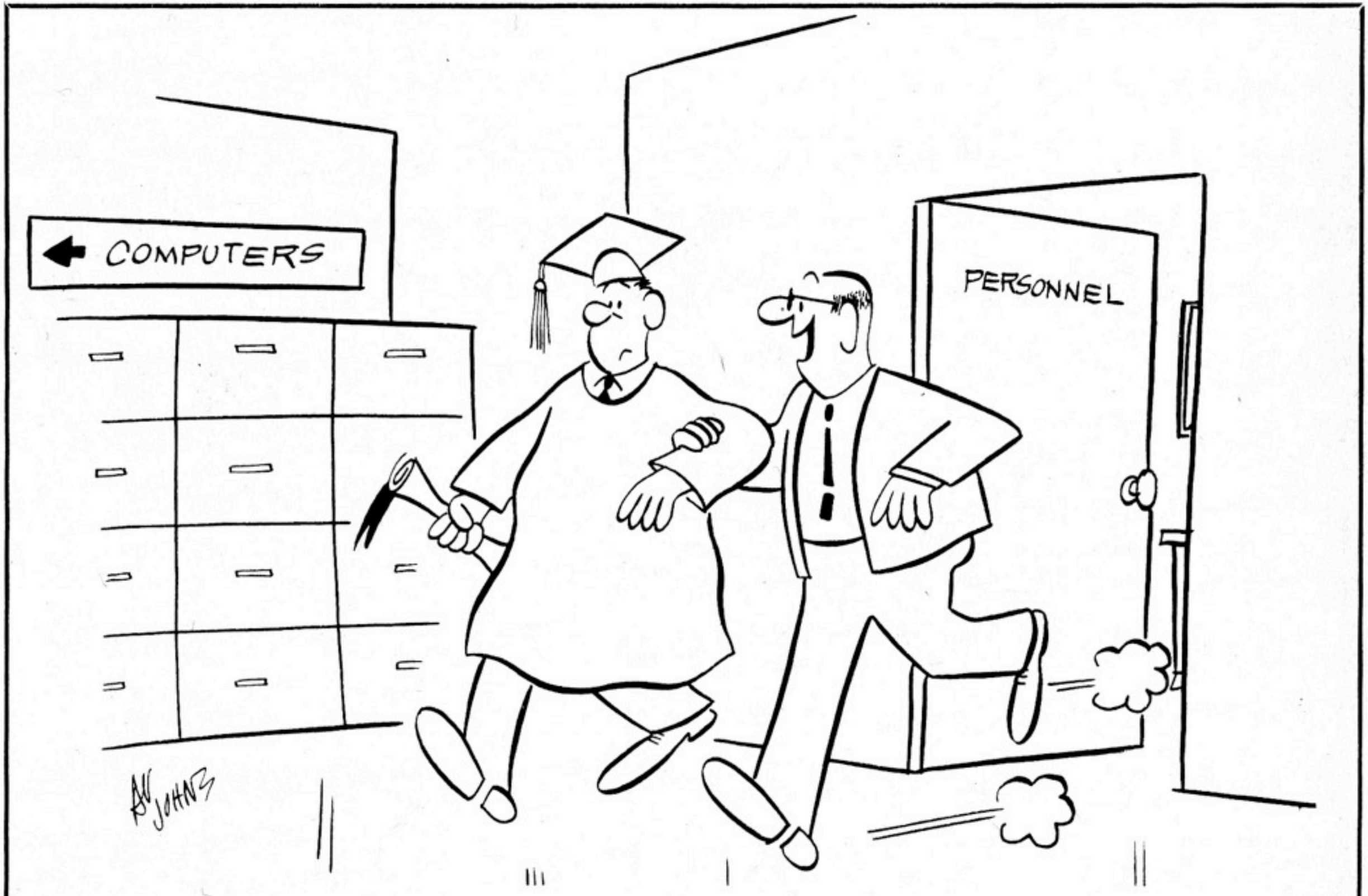
"We're expecting vistors today so shave, comb your hair, wash up, polish your shoes and stay out of sight . . ."

Datamation Magazine (1963)

professionalization

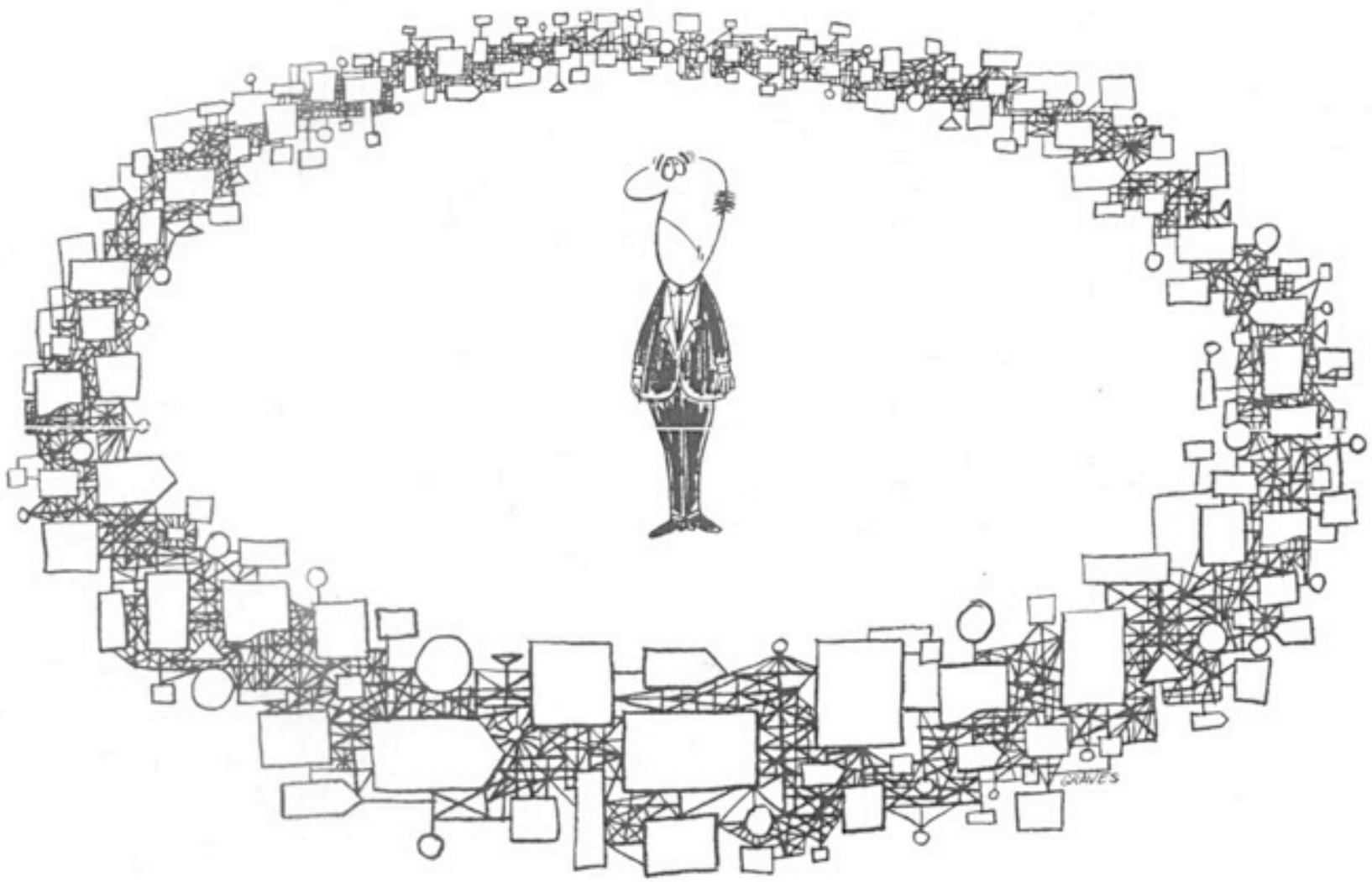
=

masculinization



"Since you've had an introductory course in programming, we'll just fill out those employment forms later."

© DATAMATION

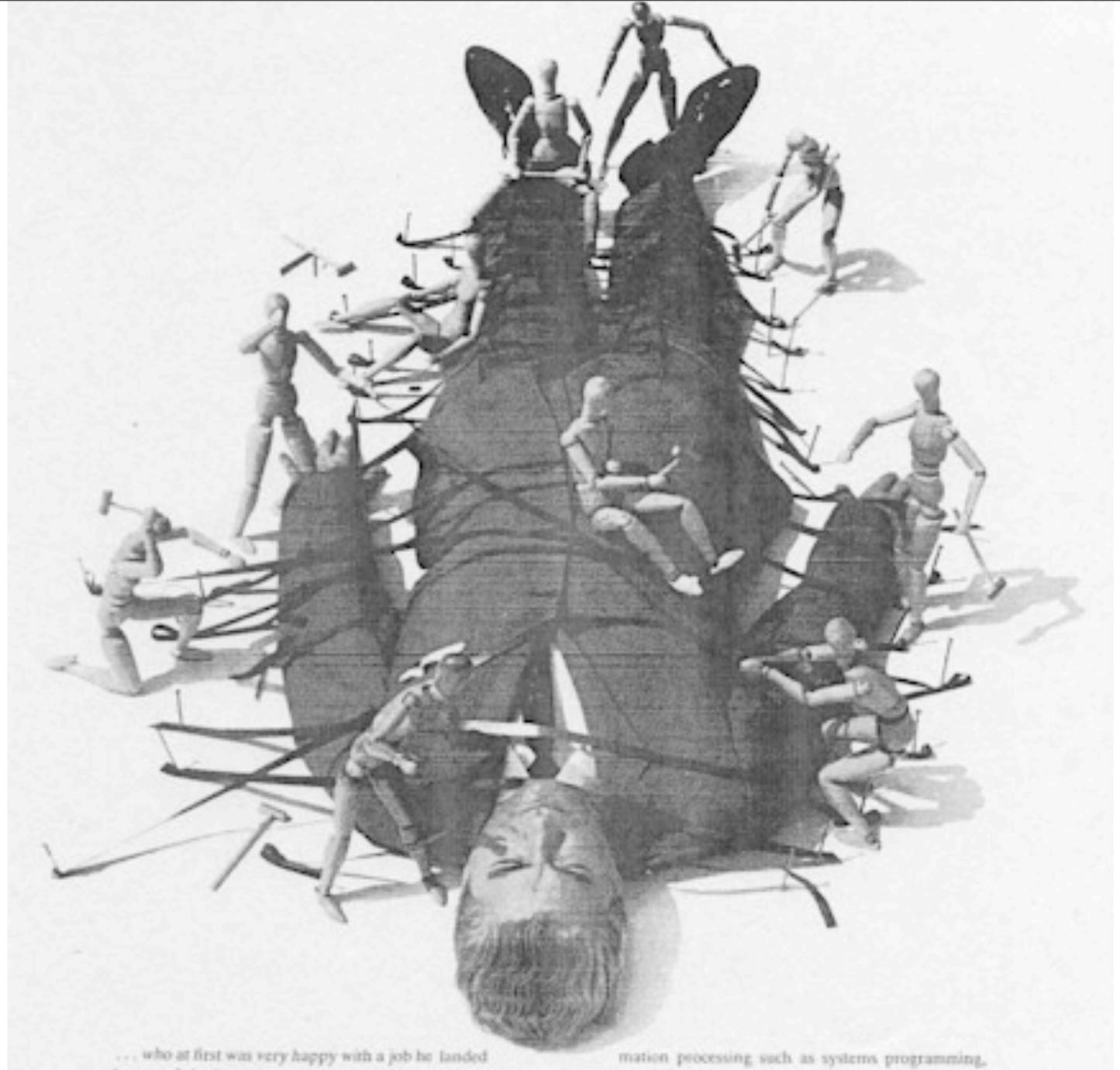


is your programming career in a closed loop?

Have you programmed your career into a corner? Create a loop exit for yourself . . . apply for one of many openings in the area of **AUTOMATIC PROGRAMMING SYSTEMS, MONITORS** and **EXECUTIVE SYSTEMS, SCIENTIFIC APPLICATIONS** and **WRITERS** at Bendix Computer Division.

Bendix Computer has been a leading manufacturer of digital computing systems for 10 years . . . has long enjoyed a reputation for leadership. Growing acceptance of the Bendix G-20 and new military computer systems has created exceptional opportunities. The resulting combination of leadership and growth will help you out of that iterative loop . . . and into a new open-ended career.

Check it out for yourself. Call or write: Mr. William Keefer, Manager,



. . . who at first was very happy with a job he landed in one of the larger companies . . . after all, the pay was good and he hoped to grow with the organization . . . but, alas, young Gulliver soon began to feel tied down by little things . . . what with all the magnetic red tape, he couldn't seem to get his career off the ground . . . and, what he'd hoped would be a job with broad horizons proved too confining . . . so he lay there, otherwise a giant of a man, pinned down by the despair of job frustration . . . then he heard about Computer Concepts, Inc., a young organization staffed with seasoned veterans of the computer industry; a group which offers promising young programmers an opportunity to develop new techniques and to explore new areas of information processing such as systems programming, computer efficiency studies, business data processing, packaged computer programs, machine translation, and advanced scientific and logistic programming . . . Right now, Computer Concepts has immediate openings for Senior and Medium-level programmers with a minimum of two years experience on IBM 704/709/7090 computers. CCI salaries are commensurate with talents. An equal opportunity employer, CCI pays relocation expenses . . . So forthwith, young Gulliver struggled free of his bonds and contacted: the Personnel Department, Computer Concepts, Inc., 1012 14th Street, Northwest, Washington 6, D. C. . . . and now, with his talents untied, he's living happily ever after . . .

ONCE UPON A TIME

there was a young & eager computer programmer . . .

In case you missed our first test, here's another chance to find out if you belong at CSC

1. How do you think a software firm can help contain the information explosion?

(a) By trying to keep half the junk from being published in the first place.

(b) A lot more than half.

(c) First get rid of the information gap.

(d) By hiring me.

2. How would you speed up program writing?

(a) As a senior programmer, I think you can quickly check the program logic by whipping up a lot of good test data for trial runs.

(b) As a lead programmer, I think there's just too much testing and de-bugging going on. If the flow charts are right in the first place, much of that stuff wouldn't be necessary.

(c) As a senior programmer, I knew he'd say that.

3. In a recent issue of COSMOPOLITAN, Helen Gurley Brown exhorted her girl readers to become programmers and make $15,000 after 5 years. What do you think about that?

(a) O.K., if they promise to keep lipstick off the flow charts and nail polish off the tapes.

(b) Helen Gurley who?

(c) Good, I prefer working with women. Men complain a lot, thrive on gossip and are too unreliable.

(d) Ask me again in five years.

4. An exciting project to me is:

(a) A problem everybody avoids because of fear it can't be done.

(b) A problem everybody avoids because it really can't be done.

(c) Working with Helen Gurley Brown.

5. I think a professional is:

(a) One who doesn't get shook when deadlines are leaning all over his back.

(b) An expert who, together with other leaders in the field, works on nothing but his expertise.

(c) A person who works alone, makes a lot of money, but never advertises.

(d) One who picks better cities for Joint Computer Conferences.

6. You can measure the quality of a senior staff by:

(a) How long they're gone for lunch.

(b) How close they work with junior staff.

(c) The stock options.

(d) How good-looking their secretaries are.

7. Which makes you grit your teeth the most?

(a) Someone trying to get a copyright on a program that was dead two years ago.

(b) Clowns who insist on smoking in the computer room.

(c) The same guys who leave covers off tape reels.

(d) Someone who replys, "I'm 90% done" when you ask him how his program is coming.

8. What's the future of time-sharing?

(a) It will absorb the expressions "on-line," "multi-processing," "multi-programming," and "multiple access." Then we can get rid of these foggy terms.

(b) It will reach out to every home, and will probably be in a pastel colored unit with chimes and a night light.

(c) I hope it will involve everyone but authors of papers on time-sharing.

9. If I had the time, I would like to program:

(a) The orchestrations of Lawrence Welk.

(b) The behavior of a close girl friend.

(c) The paintings of Pablo Picasso.

(d) Other.

10. Lately, the information sciences has practically become synonomous with:

(a) CPU (b) CATV (c) CRT (d) CSC

Choose your answers carefully; although your first reaction is frequently correct. Mark them clearly on the card and send them in promptly. (No more of that fooling around like key-punching the reply card. And this time there's a limit of four staples per card. That's all!)

Equally prompt, we'll reply with a report on your test, a list of compelling reasons why you should be working here, and the usual application form. (If the card's gone, write your answers on anything and mail it to the attention of Joe Ward.)

While you're waiting for the return mail, take a look at what we're involved in. It's all on the next page.

Computer Sciences Corporation

AN EQUAL OPPORTUNITY EMPLOYER

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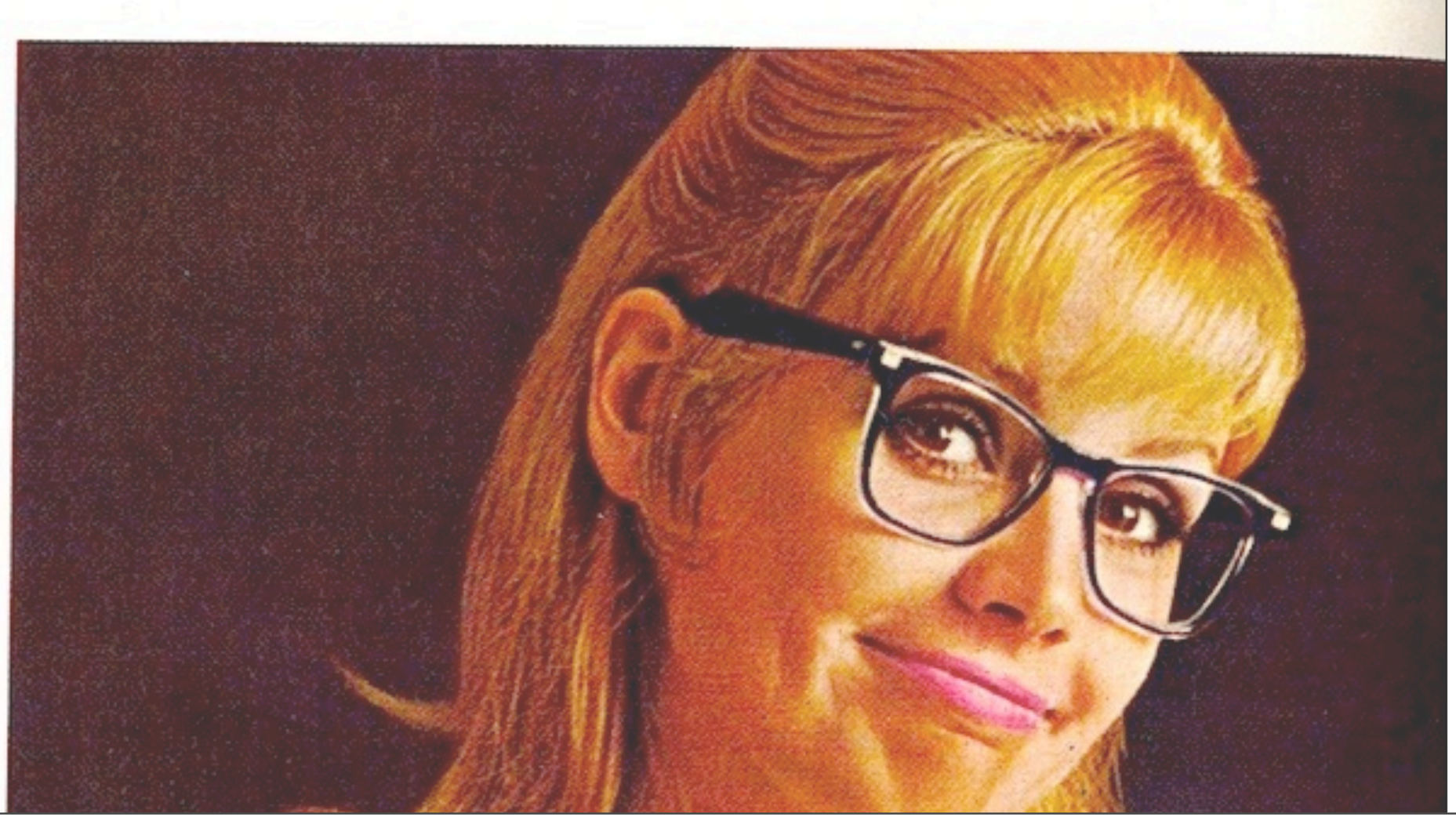
Susie Meyer meets PL/I

The story of how a single language answers the question, "Can a young girl with no previous programming experience find happiness handling both commercial and scientific applications, without resorting to an assembler language?"

Let's face it. The cost of programming just keeps going up. So for some time to come, how well you do your job depends on how programmers like Susie Meyer do theirs.

That's the reason for PL/I, the high-level lan-



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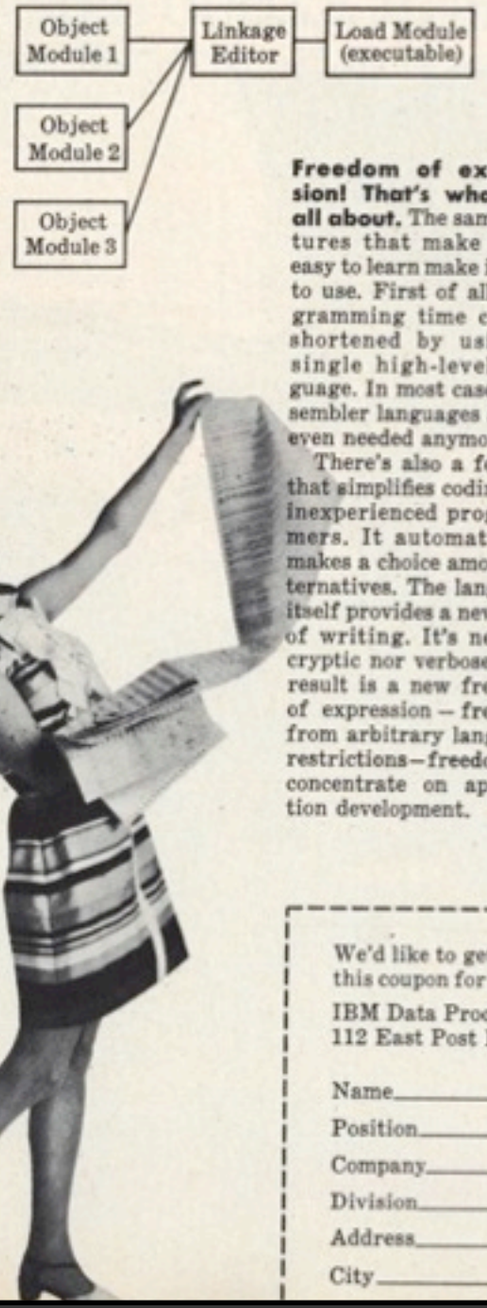
That's the reason for PL/I, the high-level language for both scientific and commercial applications.

With PL/I, programmers don't have to learn other high-level languages. They can concentrate more on the job, less on the language.

So think about PL/I. Not just in terms of training, but in terms of the total impact it can have on your operation.

Take it a step at a time. Programmers don't have to learn all of PL/I to use it. Take New York Life Insurance Company for example. First programmer trainees get a good grounding in computer basics. Then a combination of PL/I self-study courses and workshops enables them to code meaningful and useful programs.

As the new programmers gain skill and experience they use other parts of the language on higher problems. Most importantly, they learn while doing.



Freedom of expression! That's what it's all about. The same features that make PL/I easy to learn make it easy to use. First of all, programming time can be shortened by using a single high-level language. In most cases, assembler languages aren't even needed anymore.

There's also a feature that simplifies coding for inexperienced programmers. It automatically makes a choice among alternatives. The language itself provides a new ease of writing. It's neither cryptic nor verbose. The result is a new freedom of expression – freedom from arbitrary language restrictions–freedom to concentrate on application development.

A bright future for Susie. PL/I has growth built in. As your system grows, PL/I will grow right along with it.

Continued growth of PL/I means a brighter future for your programmers. It also means continued use of your programs and equipment–with a minimum impact on your investment.

It's time to get involved.

We'd like to get you more involved with PL/I. As a first step, send this coupon for more information.

IBM Data Processing Division, Dept. 41A
112 East Post Road, White Plains, New York 10601

Name_____
Position_____
Company_____
Division_____
Address_____
City_____ State_____ Zip_____

IBM

IBM Advertisement (1968)

Thursday, March 3, 2011

narrowly technical

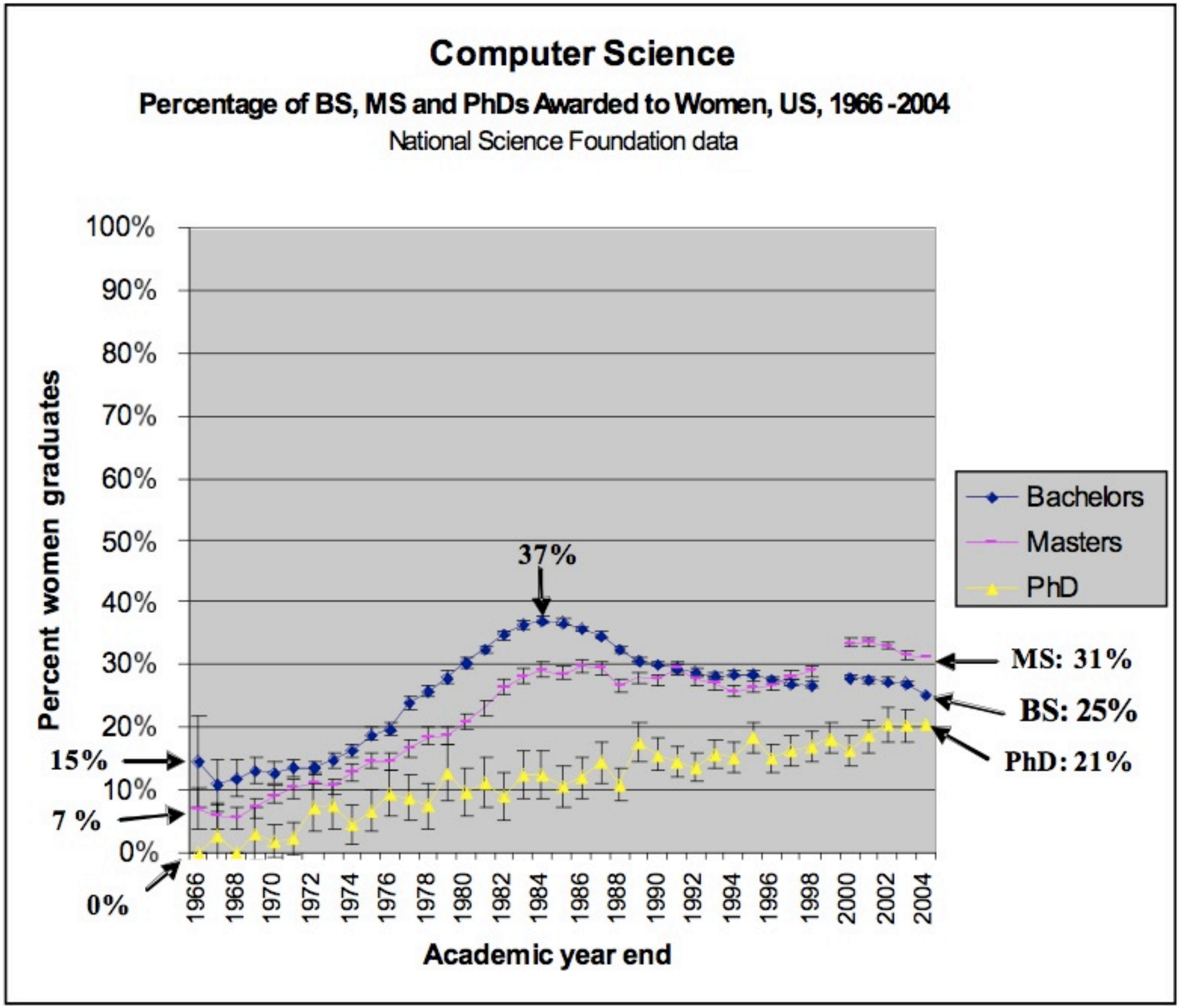


Figure 2: The percentage of women receiving Computer Science Bachelors, Masters and PhD degrees.

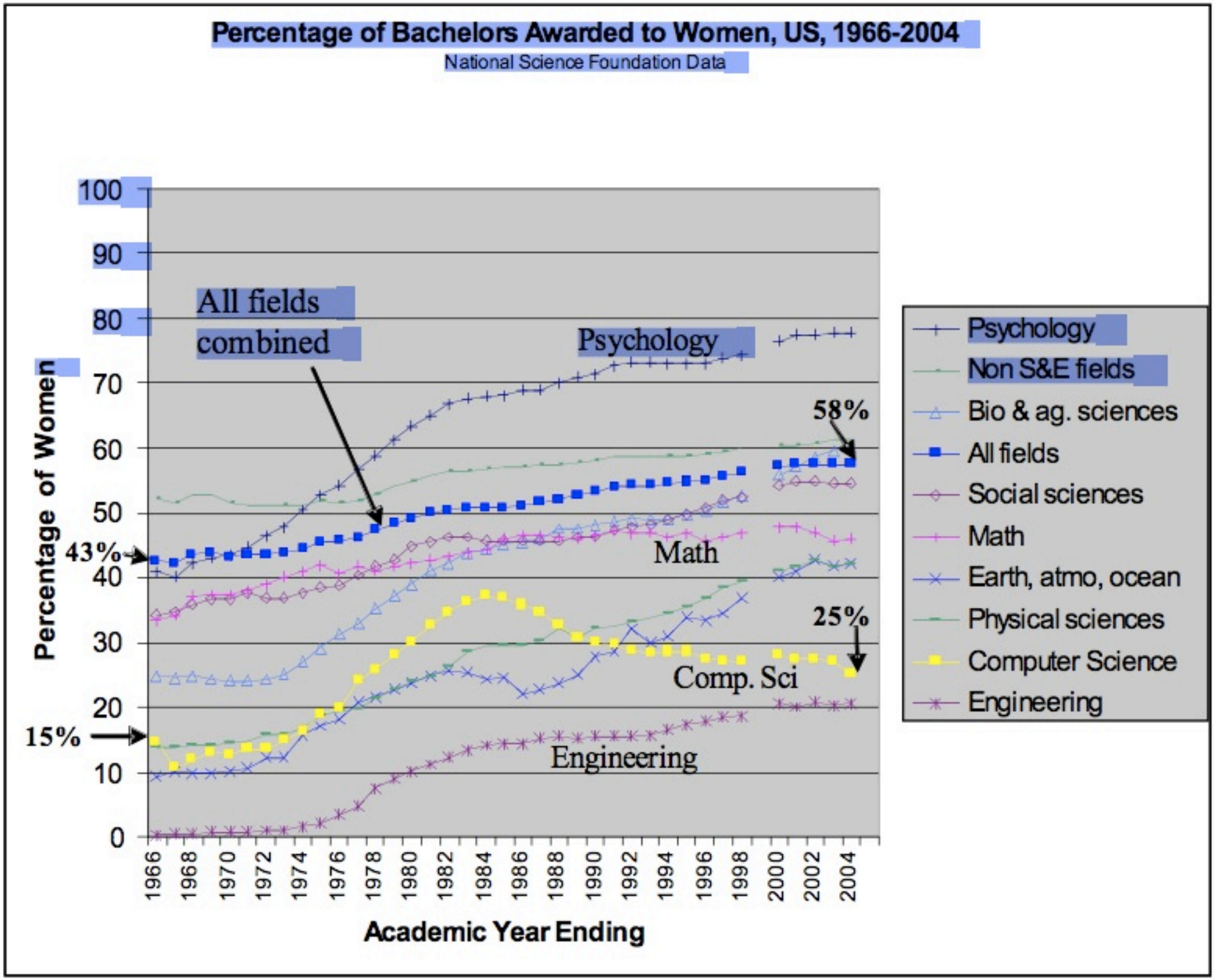
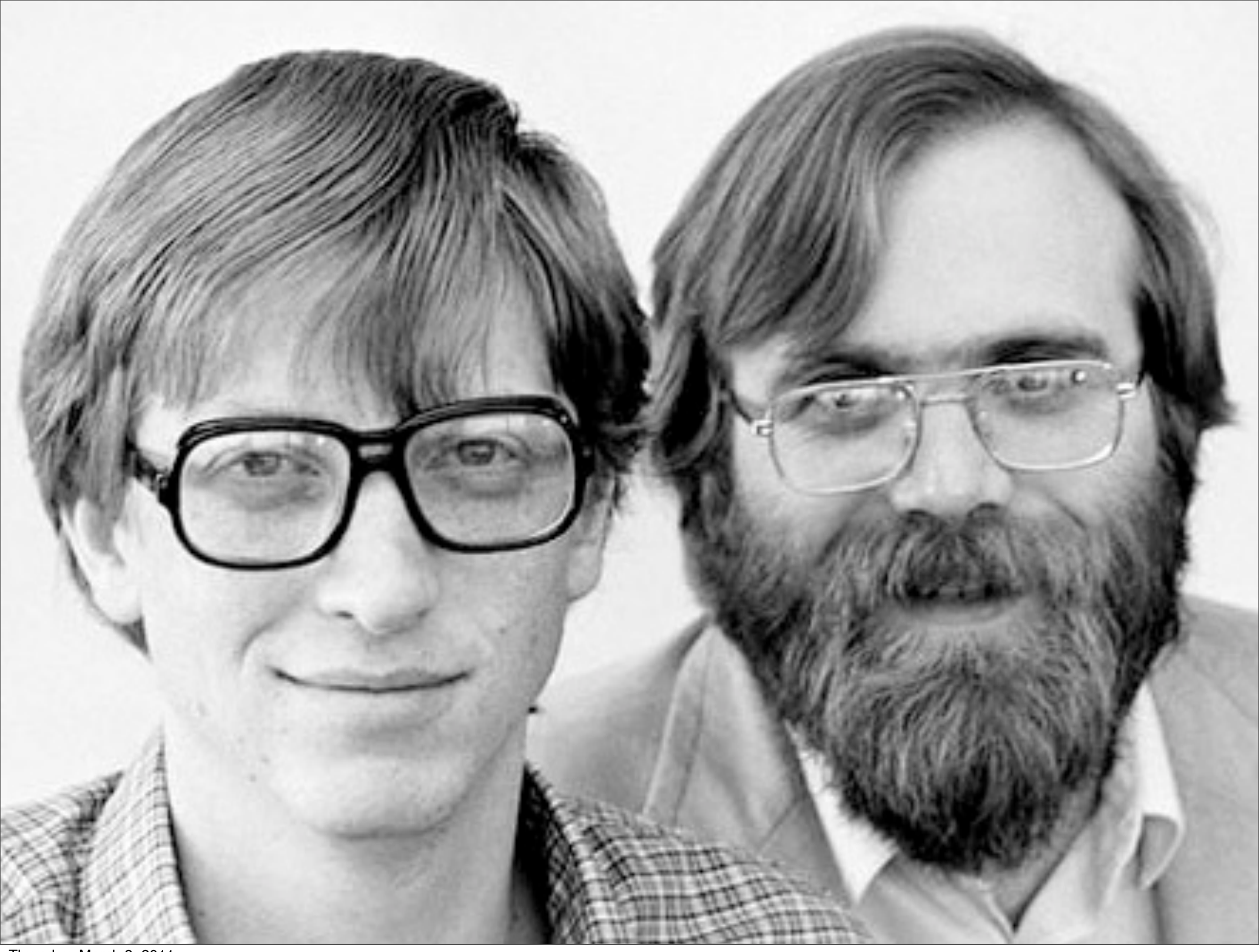


Figure 4: The status of women BS graduates in Computer Science relative to other fields, NSF data.[13]

limiting narratives

Thursday, March 3, 2011



Thursday, March 3, 2011