

Cove Apple Club

September 26, 2018

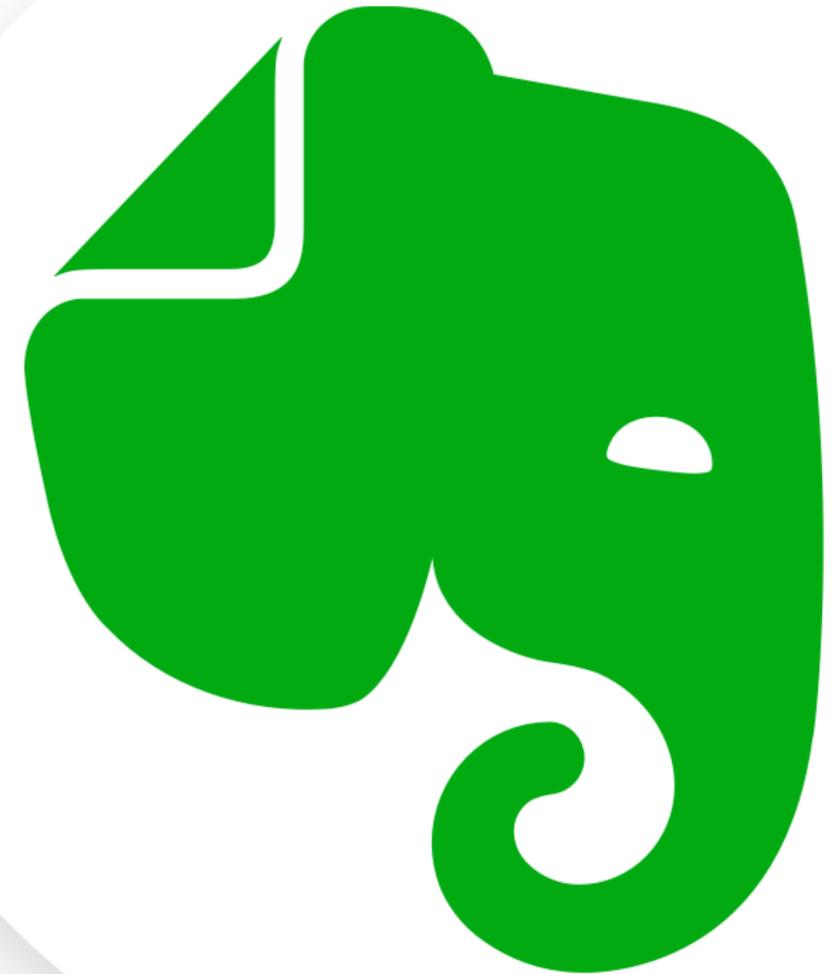


Tonight's Topics

- AirPods
- AirPods
- macOS 10.14 Mojave First Look - New Apps
- New iPhones: Tom's Show-and-Tell

Coming This Fall

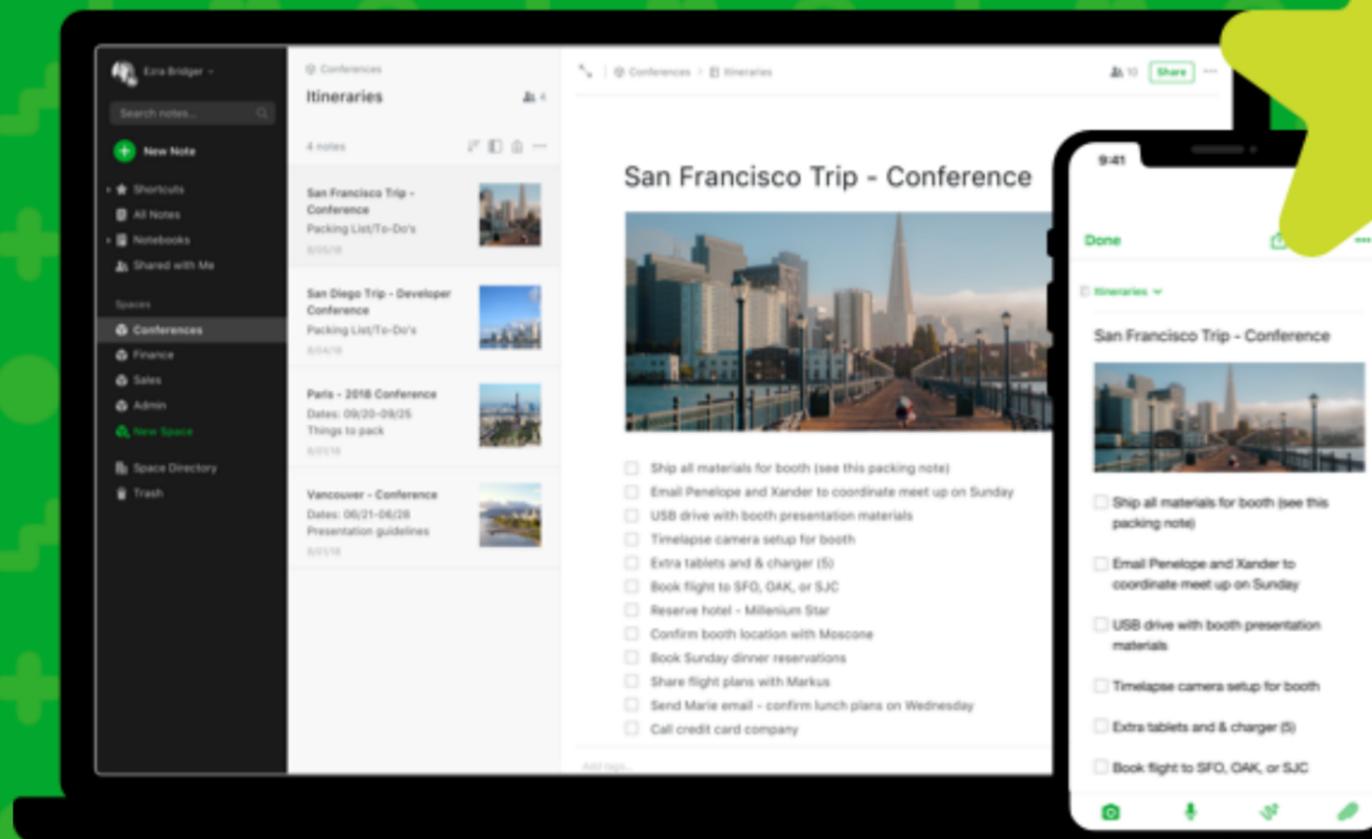
- A free half-day deep dive into Getting Started with Evernote
- Hands-on guided workshop — bring your Macs, iPhones / iPads
- From installation to mastering Evernote basics:
 - Creating and managing Notebooks
 - Creating notes, clipping Web pages, adding Reminders
 - Searching Notes
 - Sharing
 - ...and much, much more!



Feel organized without the effort

Evernote helps you capture and prioritize ideas, projects, and to-do lists, so nothing falls through the cracks.

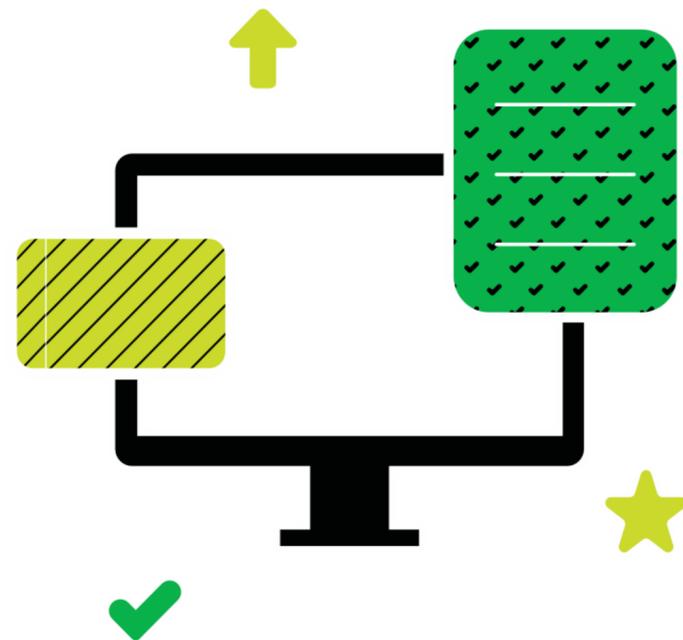
[SIGN UP FOR FREE](#)



Remember everything important

A single place for your notes, ideas, lists and reminders.

[EVERNOTE BASIC →](#)



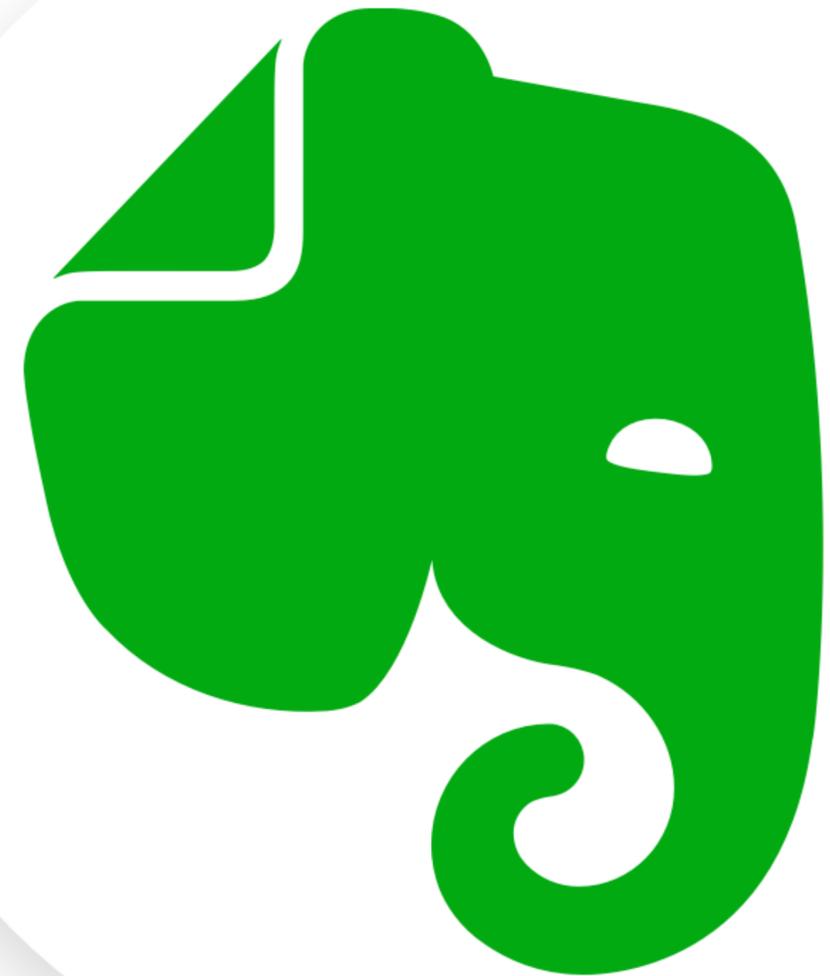
Stay organized, wherever you are

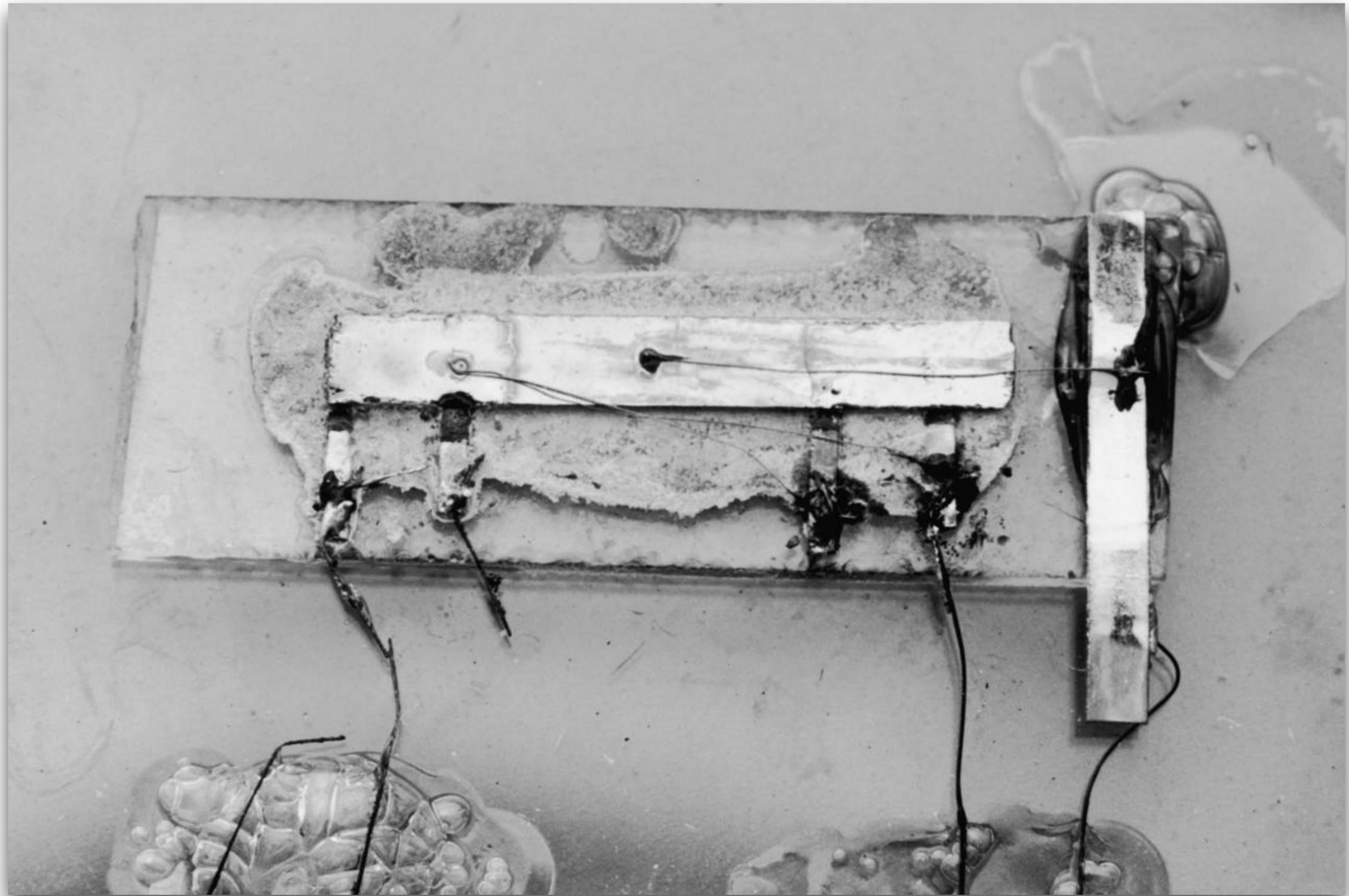
Plan, keep records, and manage projects from any device—even offline.

[EVERNOTE PREMIUM →](#)

Stay Tuned!

- Likely to be a Tuesday during one of our “off” weeks in January or February: January 14 or February 5th or 19th
- 9am-Noon in the Clubhouse
- Sign-up sheet passed at Club meetings in advance, or sign up online
- Homework assignment to complete before coming to class
- **Free!**

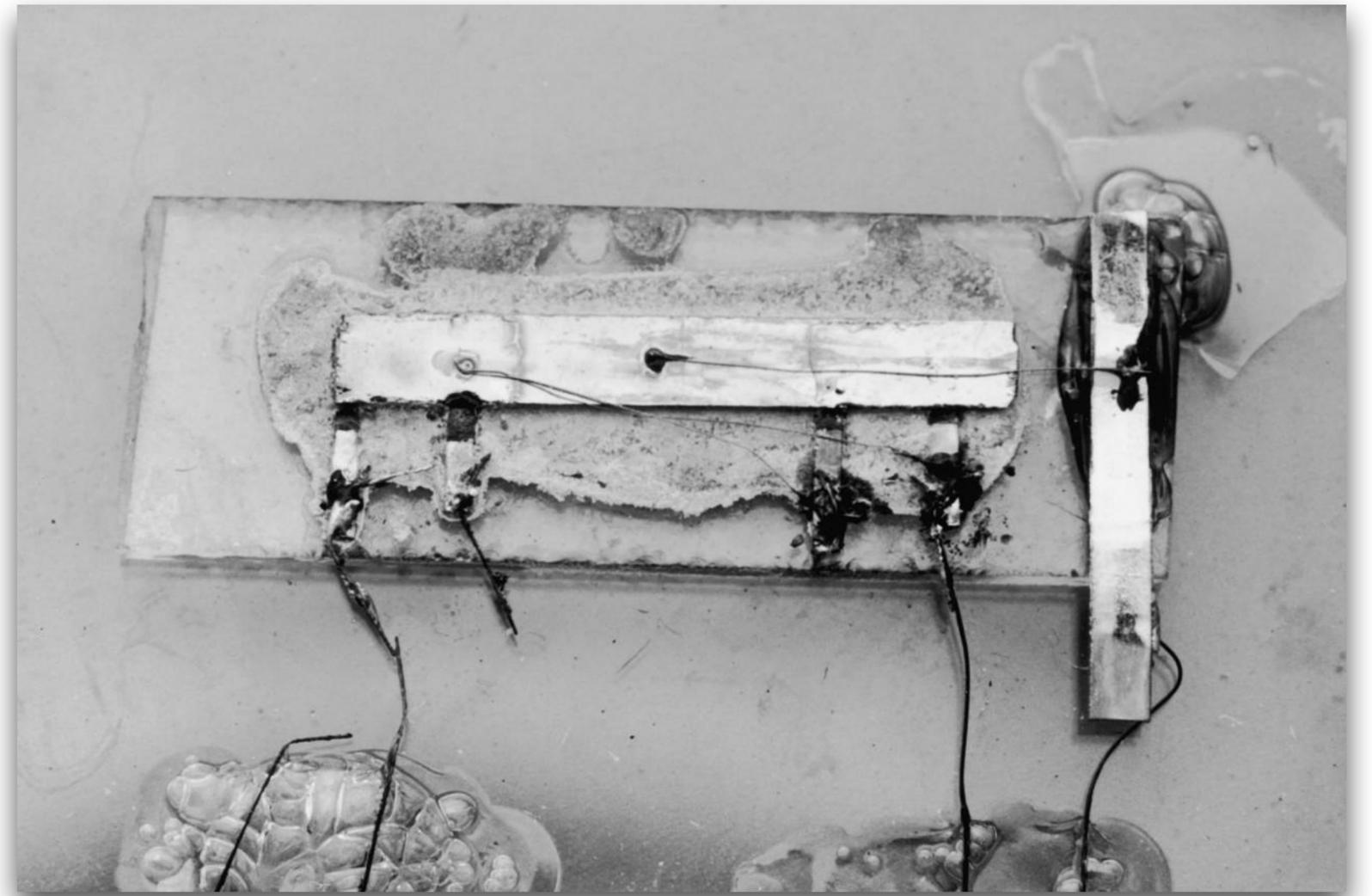




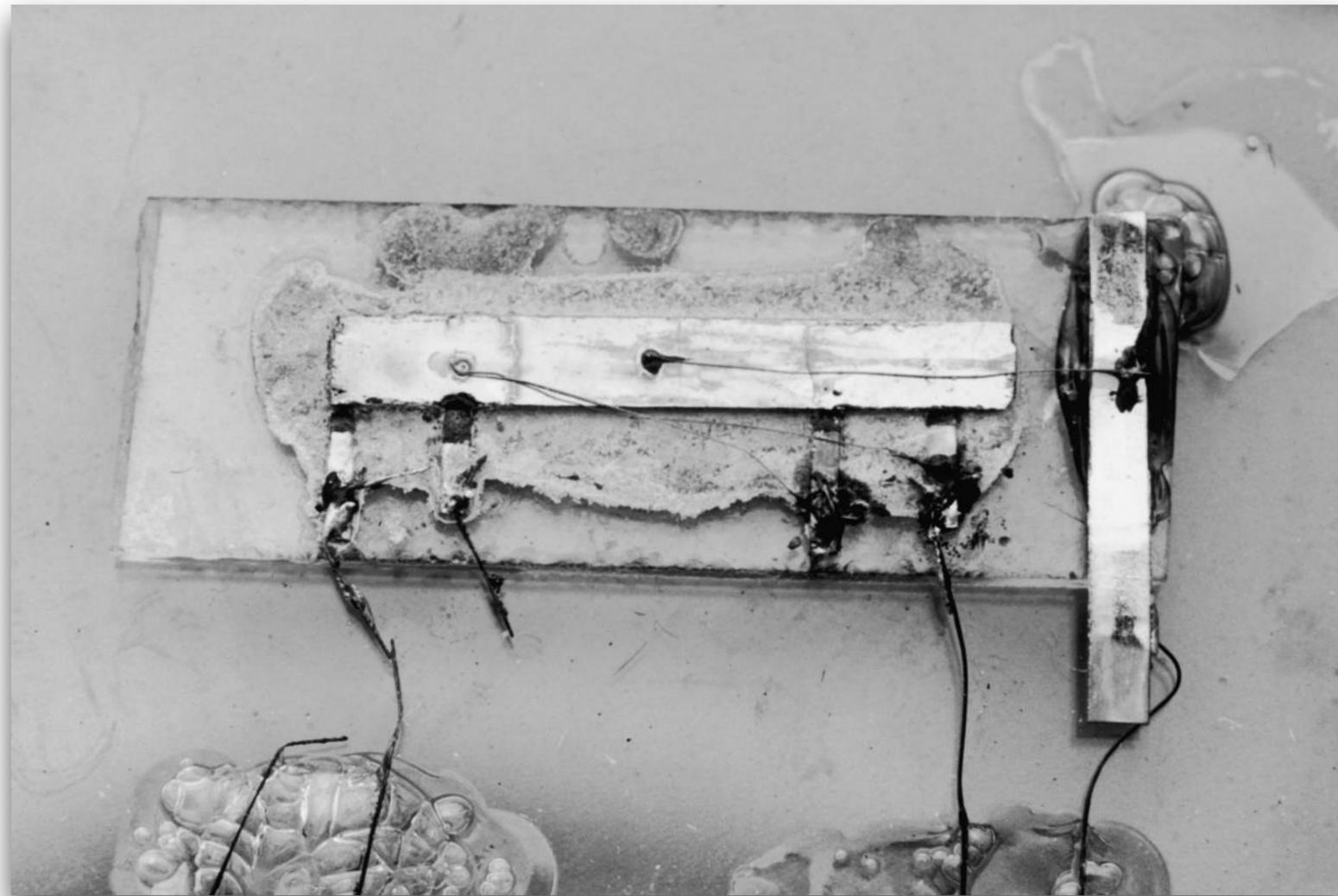
What is this?

What is this?

- A crude Soviet-era electric mousetrap?
- A rusted-out telegraph key from the 1880's?
- ...or the most important invention in modern history?



The World's First Integrated Circuit



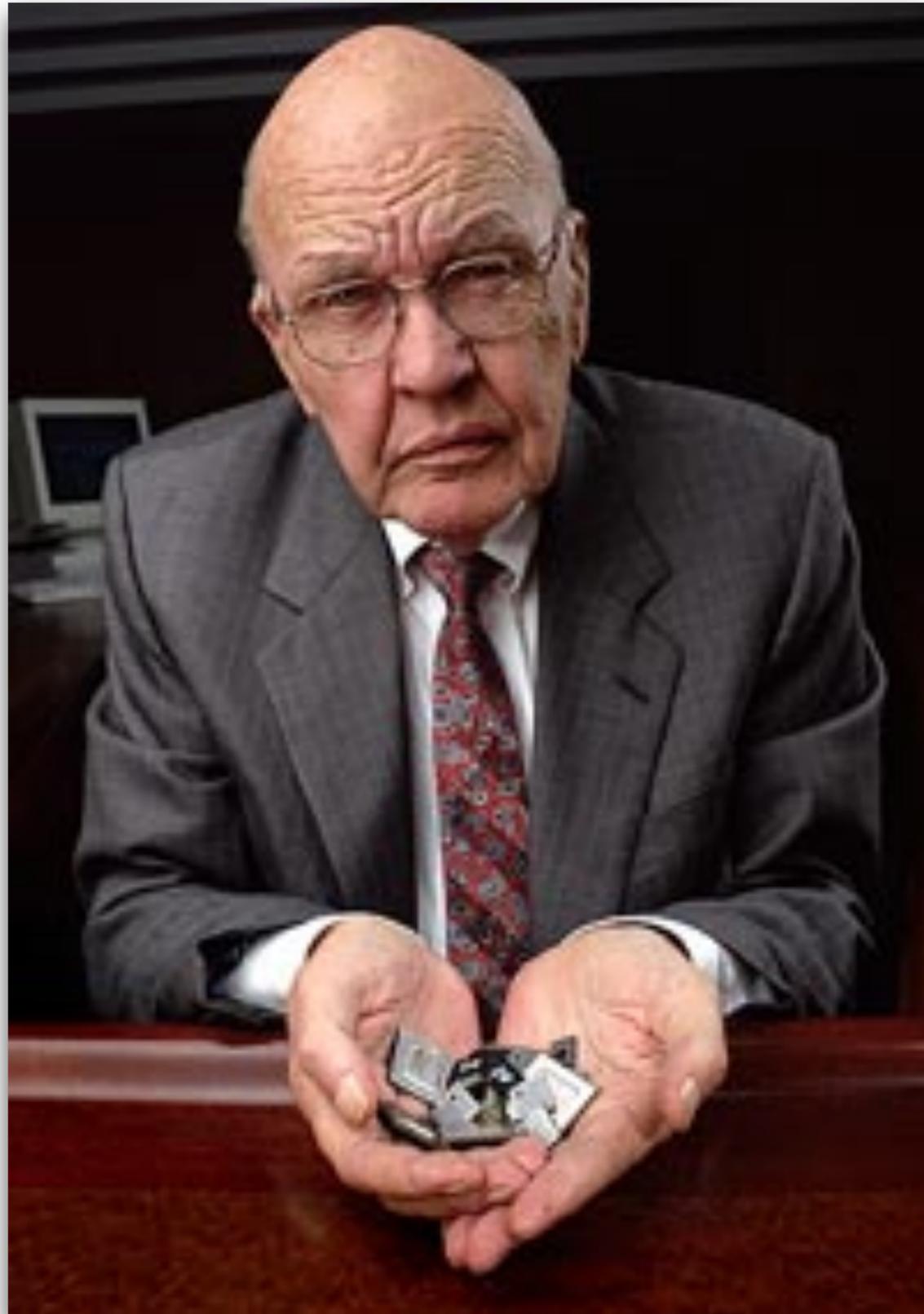
A photograph of Jack Kilby's model of the first working integrated circuit ever built, c. 1958.

- Built by Texas Instruments electrical engineer Jack Kilby during his summer break in 1958
- It combines three resistors, a capacitor, and a single transistor on one piece of germanium
- Showed it to his boss on September 12, 1958
— ***sixty years ago this month***

The Chips That Changed the World

- March, 1959: Fairchild's Bob Noyce used a photographic etching method to produce a prototype IC containing three transistors, eliminating the wires in Kilby's original invention
- January, 1960: TI introduces the Type 502 Flip-Flop, the world's first commercial IC — selling what is essentially a single bit of electronic memory, for \$450 (\$3,900 in today's dollars); Fairchild followed with their own version a few weeks later. The US Air Force was the first and only customer for this device.
- Similar devices as large as 64 bits came along, and were used in Project Apollo computers to help us land on the moon

Jack St. Clair Kilby



Jack Kilby, inventor of the Integrated Circuit

- Born in 1923 in Kansas, grew up in Missouri and Kansas
- BSEE from University of Illinois Champaign-Urbana; MSEE from University of Wisconsin-Madison in 1950
- Started at TI in 1958 and did not qualify for the company-wide vacation most TI engineers took during Dallas' blistering summer, so he stayed in his laboratory working on the IC.
- Patented the idea on February 6, 1959 as US Patent 3,138,743.
- Awarded the Nobel Prize in Physics in 2000; awarded every award the IEEE hands out; National Medal of Science in 1969; National Medal of Technology in 1990; nine honorary doctorates.
- TI's Kilby Center, the company's R&D arm, is named after him.
- Died in 2005 at age 81.

The experts look ahead

Cramming more components onto integrated circuits

With unit cost falling as the number of components per circuit rises, by 1975 economics may dictate squeezing as many as 65,000 components on a single silicon chip

By Gordon E. Moore

Director, Research and Development Laboratories, Fairchild Semiconductor division of Fairchild Camera and Instrument Corp.

The future of integrated electronics is the future of electronics itself. The advantages of integration will bring about a proliferation of electronics, pushing this science into many new areas.

Integrated circuits will lead to such wonders as home computers—or at least terminals connected to a central computer—automatic controls for automobiles, and personal portable communications equipment. The electronic wrist-watch needs only a display to be feasible today.

But the biggest potential lies in the production of large systems. In telephone communications, integrated circuits in digital filters will separate channels on multiplex equipment. Integrated circuits will also switch telephone circuits and perform data processing.

Computers will be more powerful, and will be organized in completely different ways. For example, memories built of integrated electronics may be distributed throughout the

machine instead of being concentrated in a central unit. In addition, the improved reliability made possible by integrated circuits will allow the construction of larger processing units. Machines similar to those in existence today will be built at lower costs and with faster turn-around.

Present and future

By integrated electronics, I mean all the various technologies which are referred to as microelectronics today as well as any additional ones that result in electronics functions supplied to the user as irreducible units. These technologies were first investigated in the late 1950's. The object was to miniaturize electronics equipment to include increasingly complex electronic functions in limited space with minimum weight. Several approaches evolved, including microassembly techniques for individual components, thin-film structures and semiconductor integrated circuits.

Each approach evolved rapidly and converged so that each borrowed techniques from another. Many researchers believe the way of the future to be a combination of the various approaches.

The advocates of semiconductor integrated circuitry are already using the improved characteristics of thin-film resistors by applying such films directly to an active semiconductor substrate. Those advocating a technology based upon films are developing sophisticated techniques for the attachment of active semiconductor devices to the passive film arrays.

Both approaches have worked well and are being used in equipment today.

The author

Dr. Gordon E. Moore is one of the new breed of electronic engineers, schooled in the physical sciences rather than in electronics. He earned a B.S. degree in chemistry from the University of California and a Ph.D. degree in physical chemistry from the California Institute of Technology. He was one of the founders of Fairchild Semiconductor and has been director of the research and development laboratories since 1959.

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a two-mil square can also contain several kilohms of resistance or a few diodes. This allows at least 500 components per linear inch or a quarter million per square inch. Thus, 65,000 components need occupy only about one-fourth a square inch.

On the silicon wafer currently used, usually an inch or more in diameter, there is ample room for such a structure; the components can be

is economically justified. No barrier exists comparable to the thermodynamic equilibrium considerations that often limit yields in chemical reactions; it is not even necessary to do any fundamental research or to replace present processes. Only the engineering effort is needed.

In the early days of integrated

2018: Six *Billion* ICs in Your Pocket

- Apple's custom-designed A12 Bionic chip in iPhone Xs has 5,000,000,000 transistors/components in a plastic chip the size of a quarter.
- Four general-purpose 64-bit compute cores, Neural Engine for on-device AI and ML processing, 4 GPU cores.
- 5 Teraflop performance



source: Apple

Moore's Law 50th Anniversary

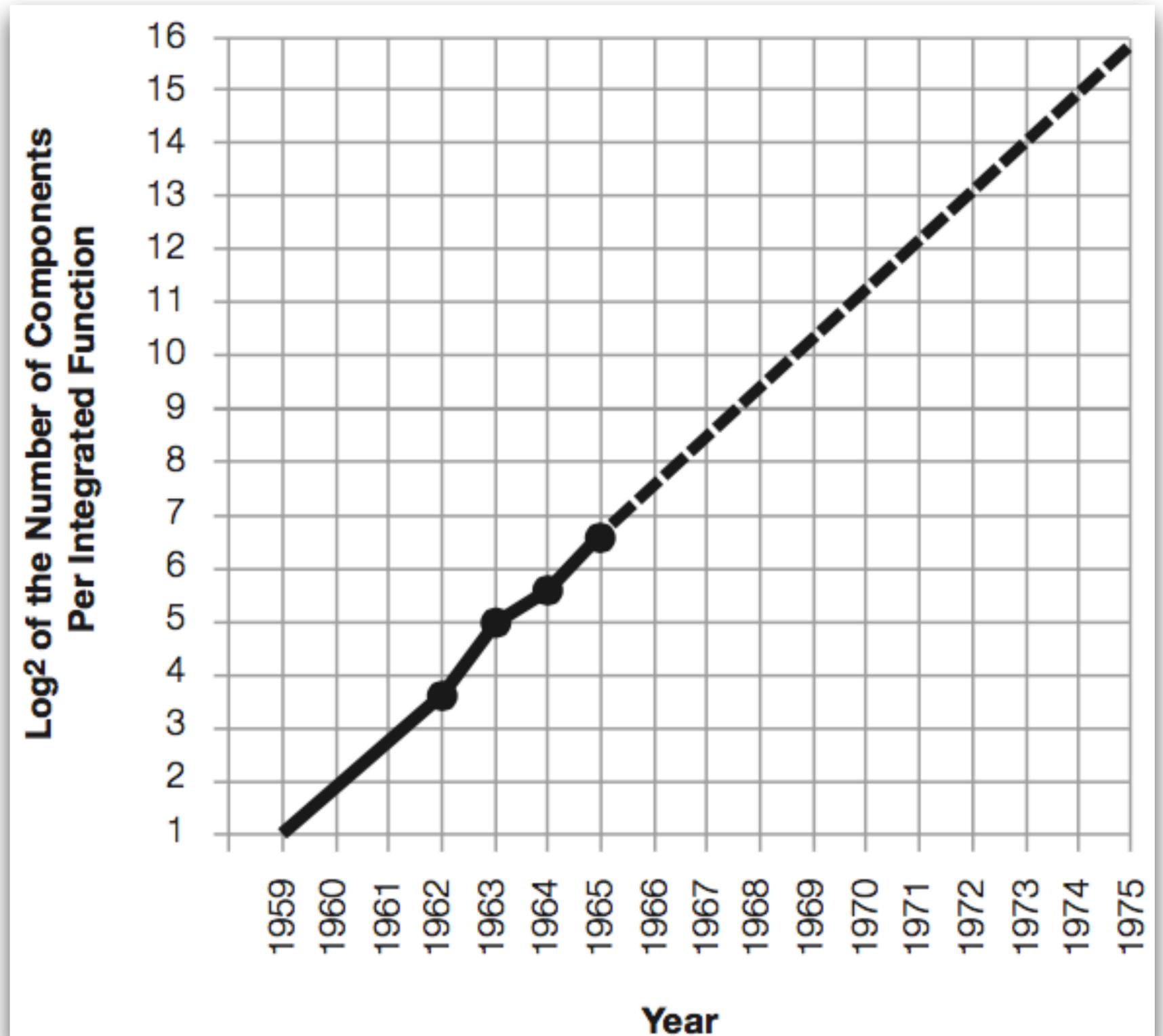
“The complexity for minimum component costs has increased at a rate of roughly a factor of two per year (see graph on next page). Certainly over the short term this rate can be expected to continue, if not to increase.

Over the longer term, the rate of increase is a bit more uncertain, although there is no reason to believe it will not remain nearly constant for at least 10 years.”

Gordon Moore, Ph.D., *Fairchild Semiconductor*
“Cramming more components onto integrated circuits,”
Electronics, Volume 38, Number 8, April 19, 1965

Moore's Original Price/ Performance Growth Prediction, 1965

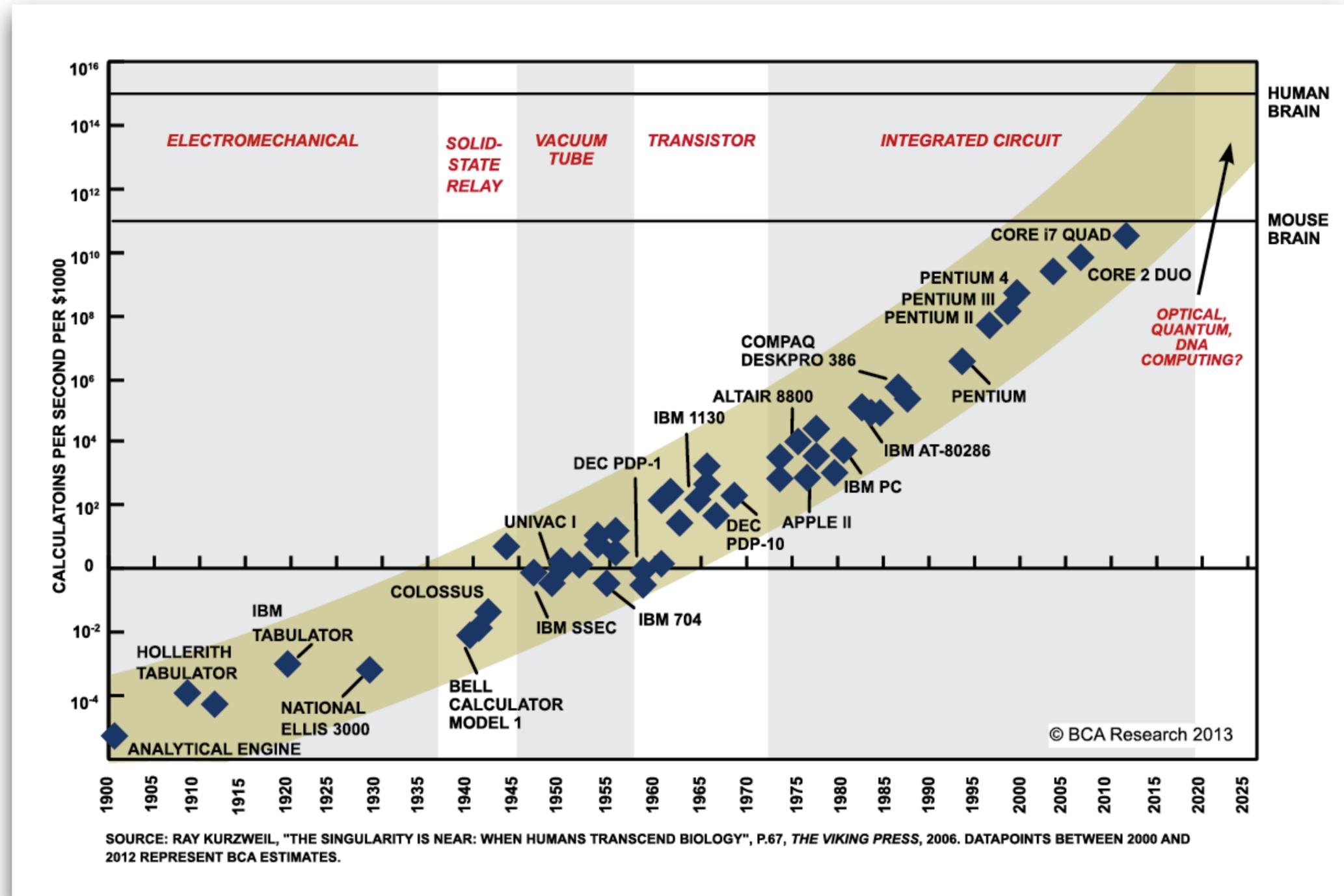
Source:
Gordon Moore, Ph.D., Fairchild Semiconductor
"Cramming more components onto integrated circuits,"
Electronics, Volume 38, Number 8, **April 19, 1965**



Computing Power Has
Risen 15 Orders of
Magnitude in My Lifetime

Put Another Way, It Has
Increased A **Hundred
Billion-Fold** in 60 Years

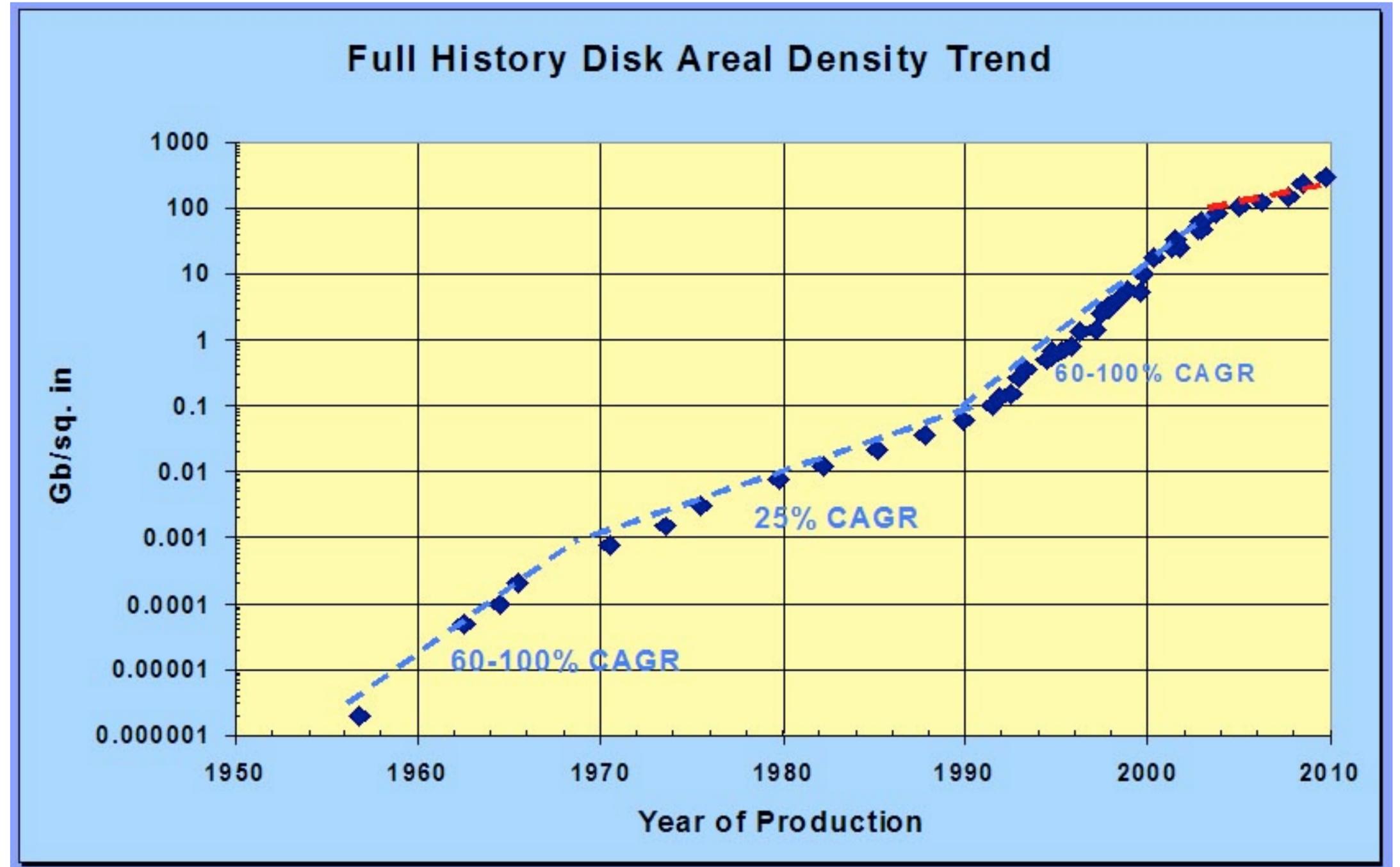
Put Another Way, Size
and Price Have Dropped
99.999999999999%, and
Price/Performance Has
Risen 1 **Trillion** %



source: Ray Kurzweil, "The Singularity is Near"

Things Have Been Going *Even Better* in the Storage Industry

15 Orders of
Magnitude
Increase in 60 Years
with
No End in Sight

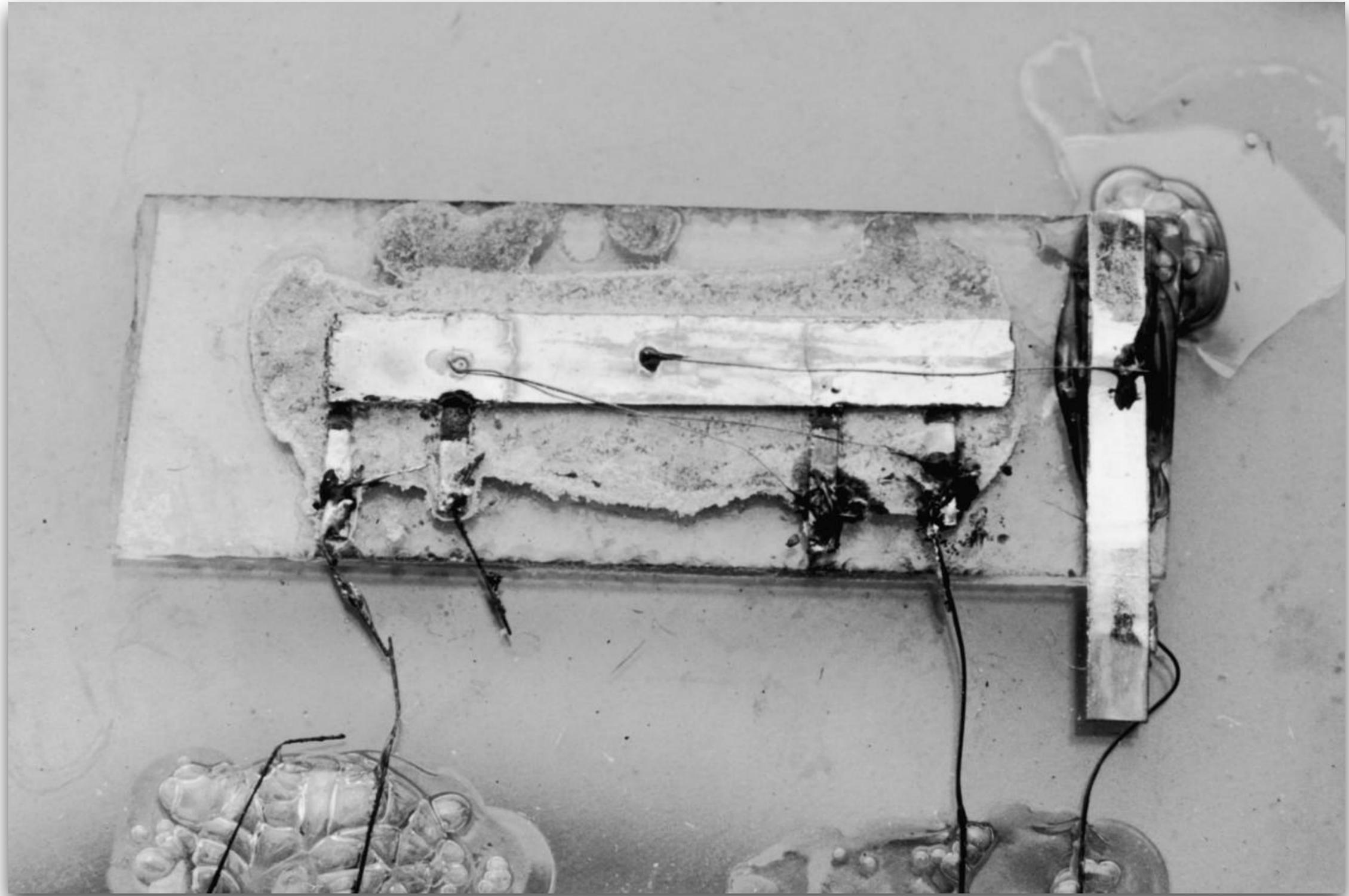


“Integrated circuits are the greatest invention since fire—or maybe indoor plumbing. The world would be unrecognizable without them. They have bent the curve of history, influencing the economy, government and general human flourishing. The productivity unleashed from silicon computing power disrupted or destroyed everything in its path: retail, music, finance, advertising, travel, manufacturing, health care, energy.

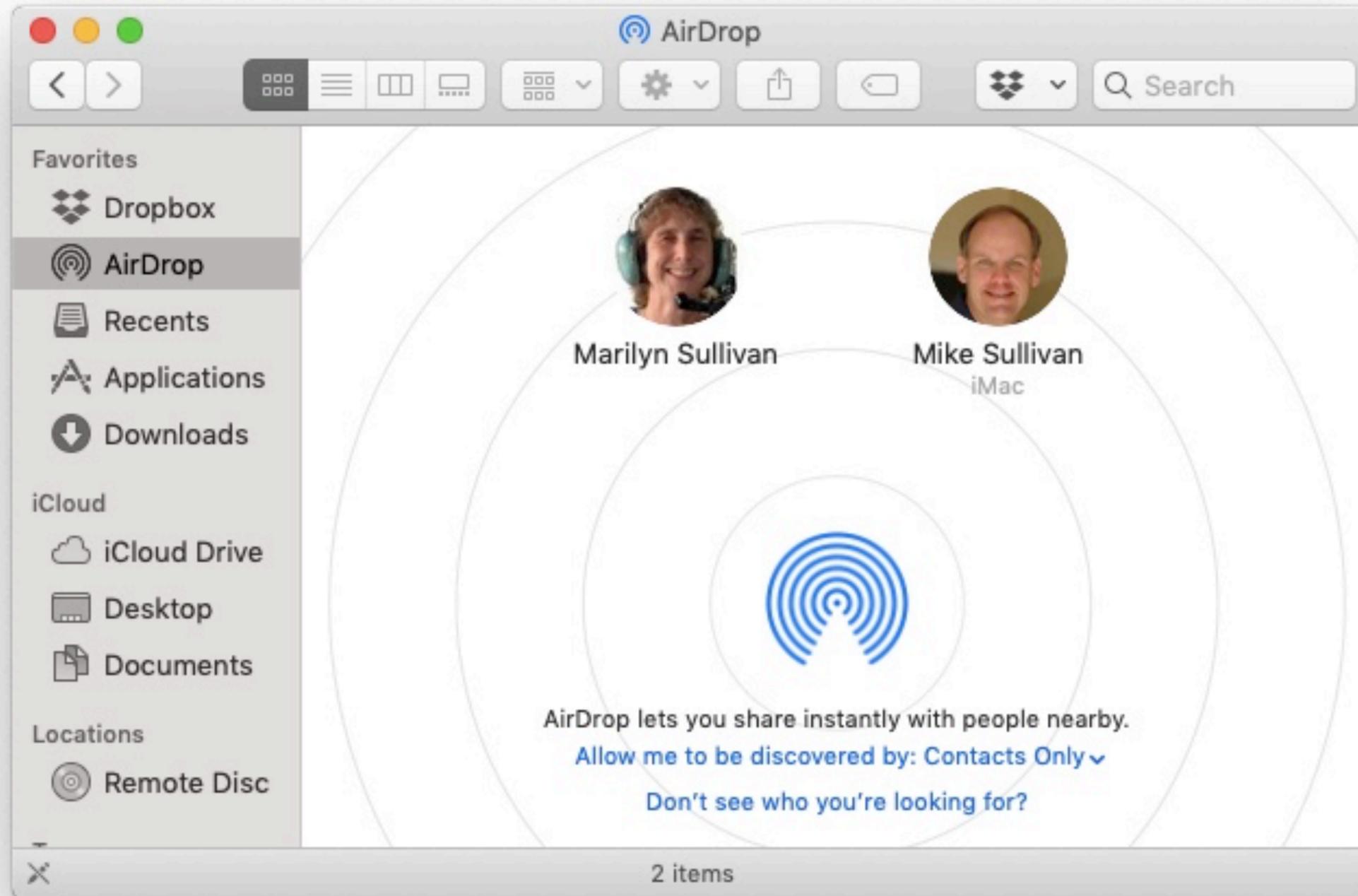
It’s hard to find anything Kilby’s invention hasn’t changed.”

*– Andy Kessler,
Wall Street Journal
August 26, 2018*

It all started 60 years ago this month.



AirDrop



AirDrop: Instant Wireless Content Sharing

- Without a doubt, the easiest, quickest way to send files, photos, videos, PDFs, notes, etc. between your iPhone/iPad/Mac and a friend
- Uses brilliant Apple network engineering to automatically discover and connect to nearby friends
- Leverages Wi-Fi and Bluetooth to securely and quickly send or receive files
- All files are encrypted at rest and in-flight on both devices
- Transfers at up to 1Gbps!



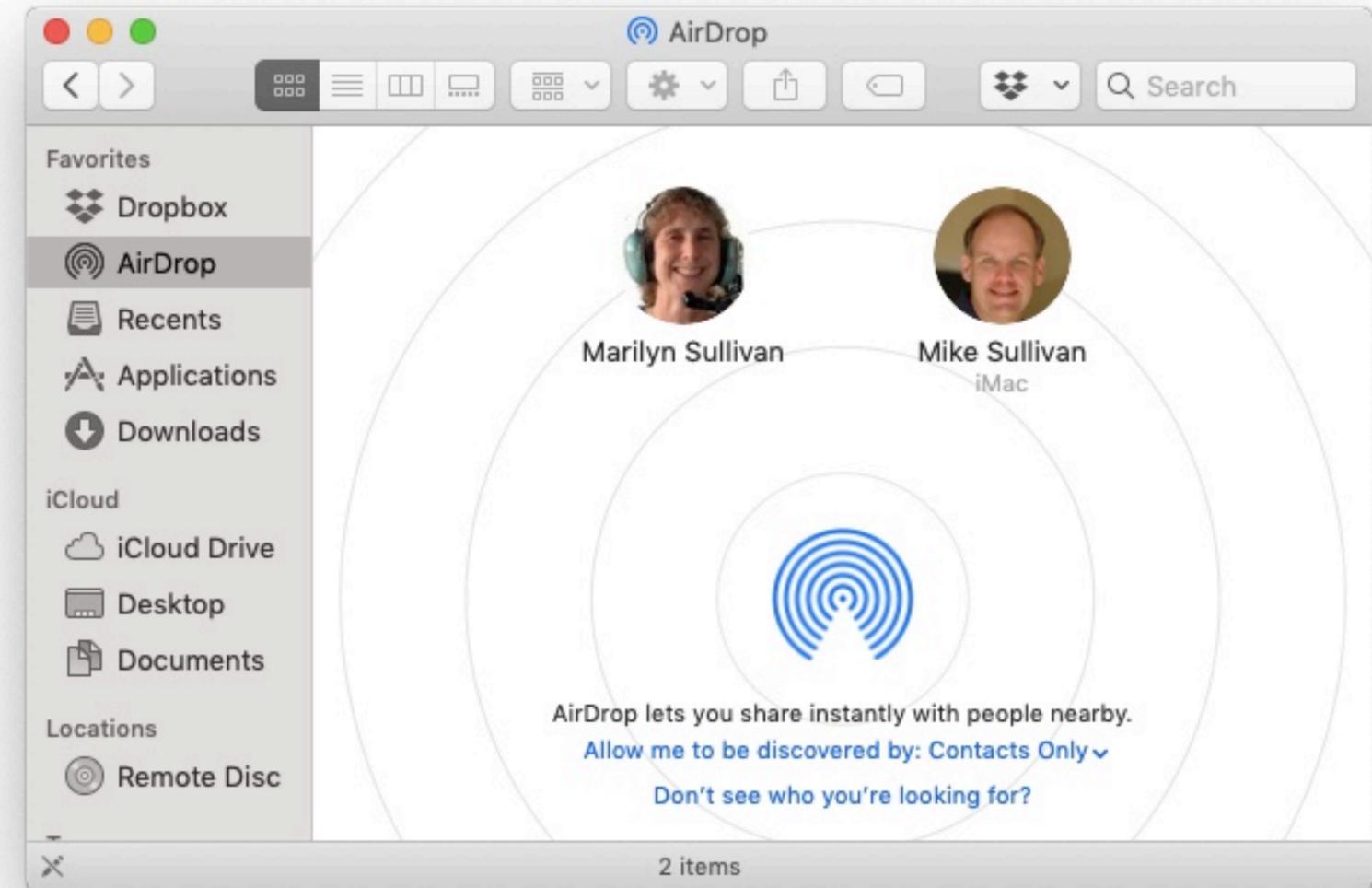
AirDrop: Set Preferences on iOS

- Settings → General → AirDrop
 - or —
- Open Control Center by swiping up from bottom, or swipe down from upper right corner on iPhone X
- Touch deeply or tap and hold on network card in upper left
- Set Receiving preference to:
 - Off: receive AirDrop from no one
 - **Contacts only:** accept AirDrop only from friends in your Contacts
 - Everyone: accept AirDrop from anyone nearby



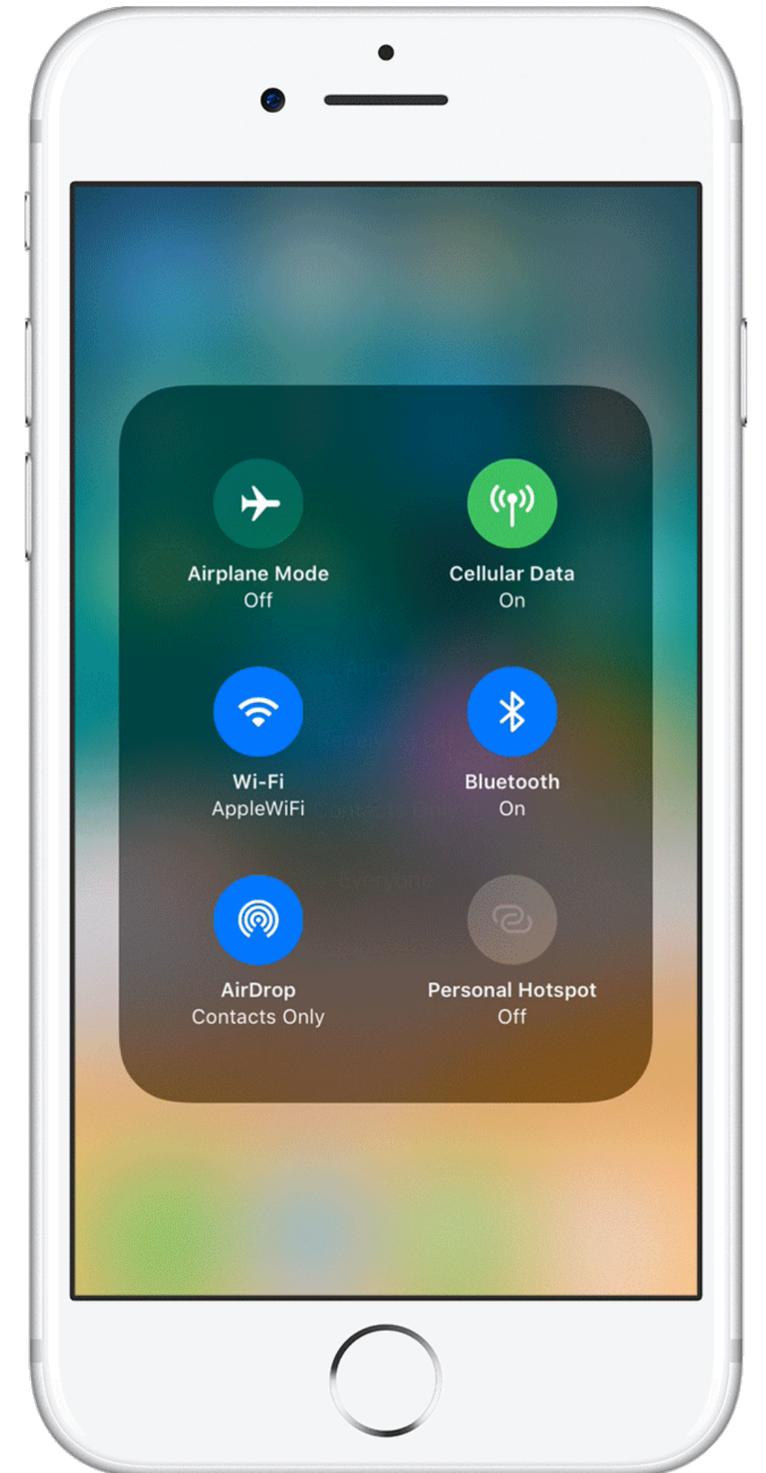
AirDrop: Set Preferences on macOS

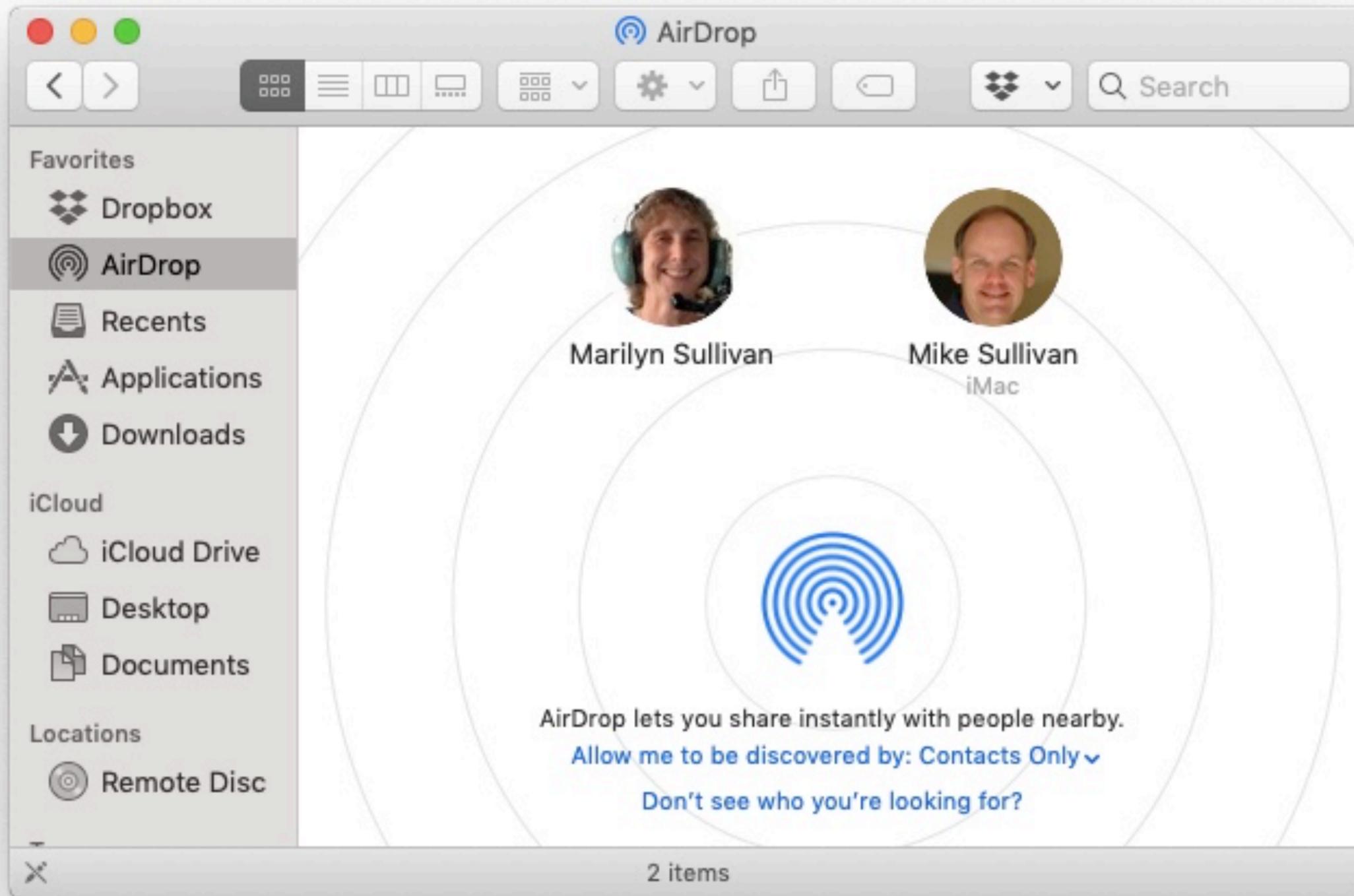
- Turn on Bluetooth and Wi-Fi on both devices
- In the Finder, choose AirDrop from the Go menu
 - or —
- Click AirDrop in the Finder window sidebar
 - or —
- Choose AirDrop from the Sharing menu



AirDrop: Requirements

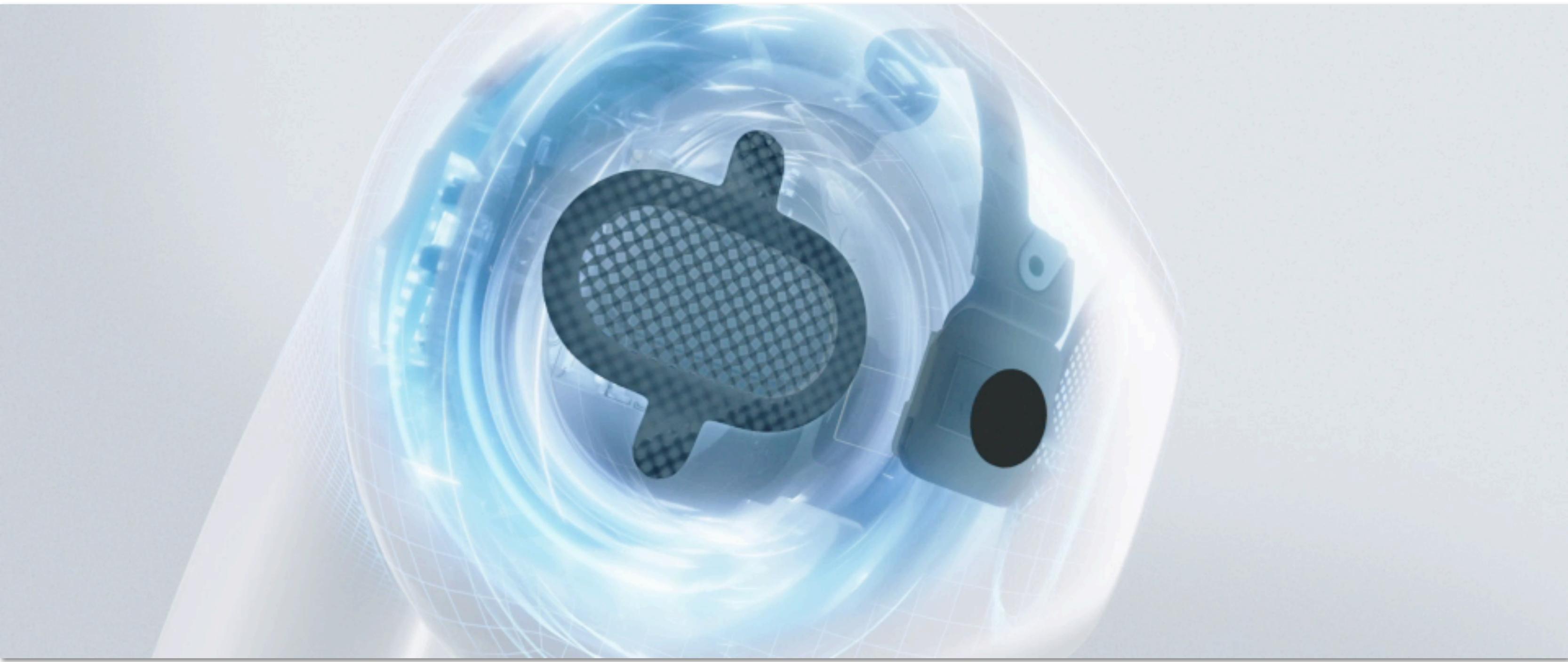
- Both devices must have Bluetooth and Wi-Fi on; Wi-Fi does not need to be connected to a network
- Must be within Bluetooth radio range — ~30 feet
- Macs: 2008 or newer and running Yosemite (10.12) or later
- iPhones & iPads: iOS 7 or later





Demo!







AirPods

- Introduced two years ago this month at Apple's iPhone 7 media event
- Shipped in December 2016, sold out immediately
- Were in backorder for six months plus
- Started a new category of wearable audio accessories
- Thousands of imitators / knockoffs
- Just \$159 from Apple / Amazon / Best Buy / Target, etc.



Knows when you're talking.

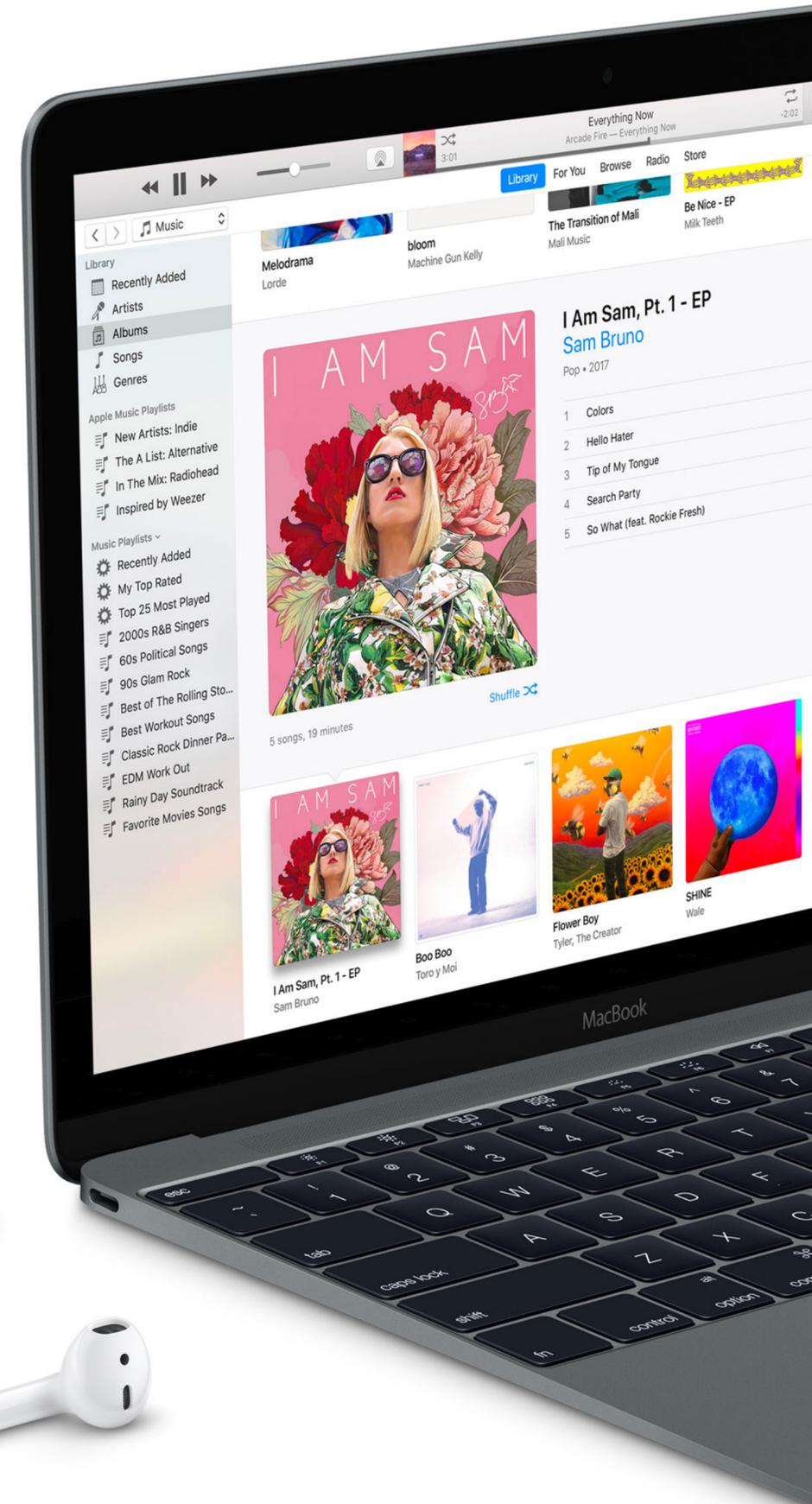
A voice accelerometer recognizes when you're speaking and works with a pair of beamforming microphones to filter out external noise and focus on the sound of your voice.

Knows when you're listening.

Optical sensors and motion accelerometers work with the W1 chip to automatically control the audio and engage the microphone, giving you the ability to use one or both AirPods. They also enable AirPods to play sound as soon as they're in your ears.

Automatic setup. Seamless Switching.

They connect automatically with all your devices. They're simultaneously connected to your iPhone and Apple Watch, and switch instantly between the devices. Want to listen to your Mac or iPad? Choose AirPods on those devices.¹



The power of 24-hour battery life.

AirPods deliver an industry-leading⁴ 5 hours of listening time on one charge.³ And they're made to keep up with you, thanks to a charging case that holds multiple additional charges for more than 24 hours of listening time.⁵ Need a quick charge? Just 15 minutes in the case gives you 3 hours of listening time.⁶ To check the battery, hold the AirPods next to your iPhone or ask Siri "How's the battery on my AirPods?"

More than
24hr.
of battery life with
charging case

Up to
5hr.
of battery life on
one charge

15min.
of charging equals
3 hours of battery life



Talking to your favorite personal assistant is a cinch. Just double-tap either AirPods to activate Siri, without taking your iPhone out of your pocket.²



"Call my
brother Brian"



"Play my
workout playlist"



"Turn up the
volume"



"How do I get to
the zoo?"



Demo!

Support the Cove Apple Club

SHARE. LEARN. LAUGH!

Join over 200 Cypress Cove residents and members in the Cove Apple Club, and you'll learn more and get a lot more fun and productivity out of all your Apple gear! The Cove Apple Club has been meeting every month for over a decade, and the fun just keeps getting better and better!

We meet twice a month, year-round. Check our [upcoming meeting schedule](#) and plan to join us at our next meeting!

If you're new to the world of Apple, an old Machead from years back, or even a frustrated Windows user, you will find something interesting and entertaining at each of our meetings. Our meetings are fun and informative, with topics presented covering the range from beginner to advanced.

Our focus is on Apple products, but we often also look at other new technologies not specific to the Apple platform, ranging from computer security to Internet telephony to changes in the industry to neat new tech gadgets of interest to everyone.

All Apple products are fair game at our meetings: iPad, iPhone, iPod, Apple TV, Apple Watch and Macs of all sizes, as well as the huge world of Apple software, hardware and accessories.

Find out more about the club, our meeting schedule and how you can get in on the fun. Click the links below for details, and be sure to join our [email list](#) for all the latest updates.

Come join us and learn how to DO MORE and HAVE FUN with your Apple gear!



NOT JUST FOR NERDS!

Everyone is welcome at our club meetings. We warmly welcome curious or frustrated PC, Windows and Android users, as well as anyone interested in anything Apple-related. There's a little something for everyone at each and every Cove Apple Club meeting, so don't miss out!

JOIN US!
Click here for meeting dates and info.

[MEETINGS](#)

[ARCHIVES](#)

[EMAIL LIST](#)

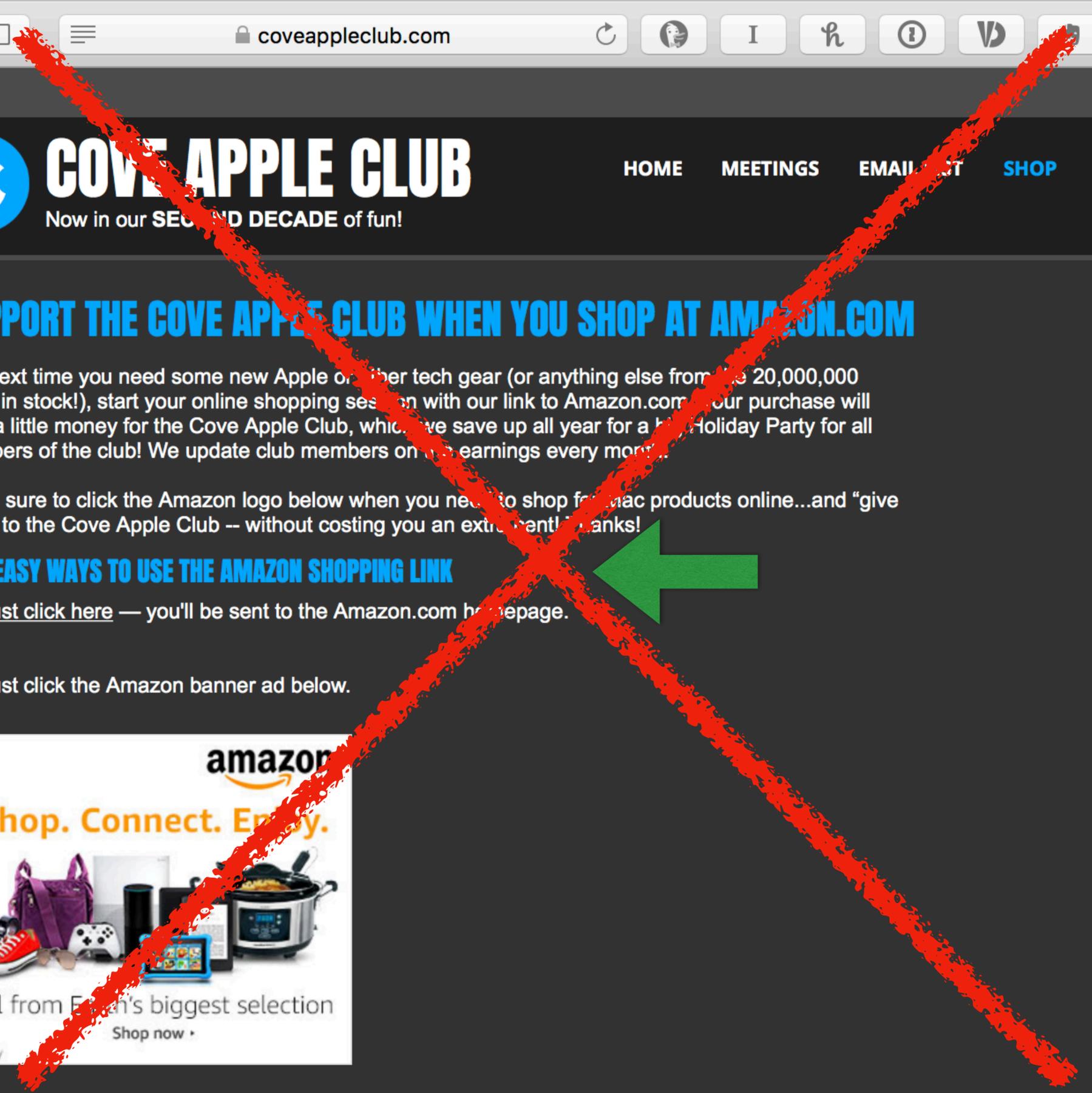
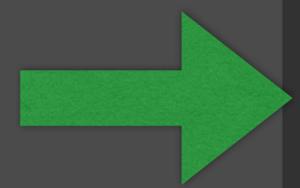
SUPPORT THE COVE APPLE CLUB WHEN YOU SHOP AT AMAZON.COM

The next time you need some new Apple or other tech gear (or anything else from the 20,000,000 items in stock!), start your online shopping session with our link to Amazon.com. Your purchase will earn a little money for the Cove Apple Club, which we save up all year for a big Holiday Party for all members of the club! We update club members on our earnings every month.

So be sure to click the Amazon logo below when you need to shop for mac products online...and "give back" to the Cove Apple Club -- without costing you an extra cent! Thanks!

TWO EASY WAYS TO USE THE AMAZON SHOPPING LINK

1. [Just click here](#) — you'll be sent to the Amazon.com homepage.
2. Just click the Amazon banner ad below.





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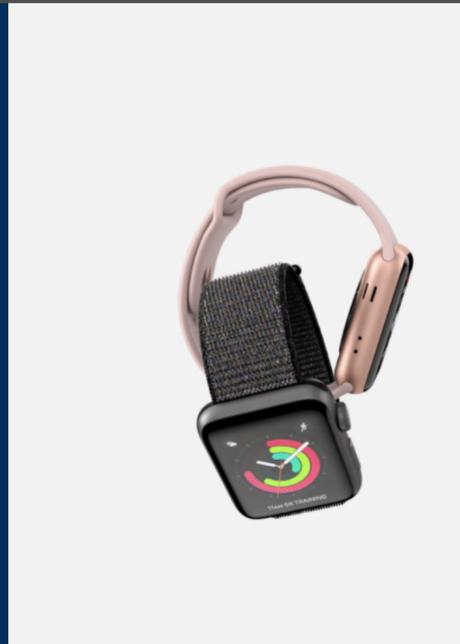
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MEETINGS



We usually meet on the **2nd and 4th Wednesdays** of each month, year-round. Check out our upcoming meeting schedule for all the latest updates.

[check the schedule](#)

ARCHIVES



Want to check out what we've been talking about? Jump into our Meeting Archives and search through hundreds of presentations and How-To's on dozens of different topics going back to 2008!

[go to the archives](#)

EMAIL LIST



Sign up for our email list and get updates on our upcoming meeting schedule plus other fun events. No spam, we promise -- and you'll always know what's coming up at our next meeting!

[sign up](#)

CONTACT

The Cove Apple Club meets at [Cypress Cove Nudist Resort & Spa](#)
Kissimmee, Florida 34746 - USA

Email: info@coveappleclub.com

- Removed the “Shop” page
- Removed other references to Amazon Associates
- Responded to Amazon with resolution; expect to hear back within 24 hours
- Hoping this is resolved!

Since our last meeting

Aug 27 2018 - Sep 25 2018 / **Last 30 Days** Tracking ID: All

Last Updated: Sep 25 2018 +00:00

Summary

\$198.16

Fees

\$195.16

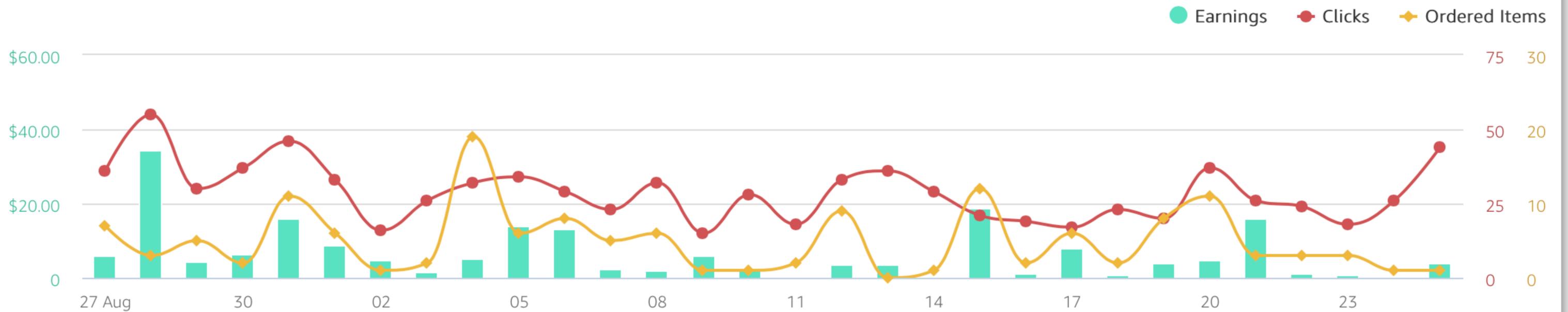
Bounties

\$3.00

Amazon CPM Ads

\$0.00

[Get Started with CPM Ads](#)



Clicks	Ordered Items	Shipped Items	Returned Items	Conversion	Shipped Items Revenue	Total Earnings
863	147	147	16	17.03%	\$3,813.49	\$195.16

2018 YTD

Jan 01 2018 - Sep 25 2018 / **This Year** Tracking ID: All

Last Updated: Sep 25 2018 +00:00

Summary

\$2,065.98

Fees

\$2,048.98

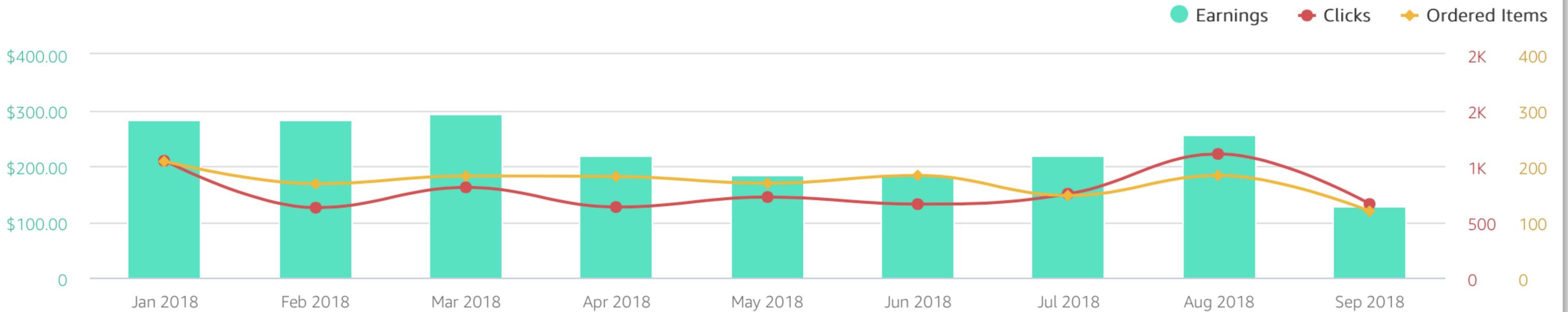
Bounties

\$17.00

Amazon CPM Ads

\$0.00

[Get Started with CPM Ads](#)



Clicks

7,008

Ordered Items

1,540

Shipped Items

1,414

Returned Items

62

Conversion

21.97%

Shipped Items Revenue

\$38,114.02

Total Earnings

\$2,048.98

Countdown to Holiday Party!

- We are at week 39. Our party is at week 49.
- By the time of the party, we will only receive payments through September 30 — week 40 — ***THAT'S NEXT FRIGGIN' WEEK!***
- **THERE ARE LESS THAN SIX SHOPPING DAYS BEFORE (our) CHRISTMAS (Party)!**

Already In The Bank

Accounts Overview



CHECKING & SAVINGS

Cove Apple Club 

As of 09/26/18

\$2,040.87

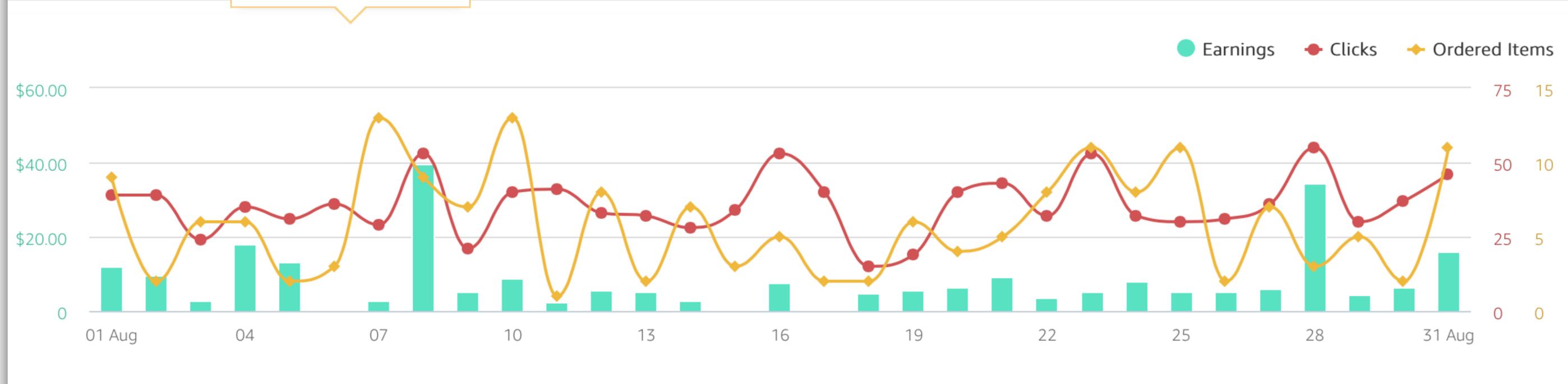
Available Balance

Already Earned But Not Paid

Aug 01 2018 - Aug 31 2018 / **Last Month** Tracking ID: All

Last Updated: Sep 25 2018 +00:00

Summary \$263.17	Fees \$257.17	Bounties \$6.00	Amazon CPM Ads \$0.00 \$ Get Started with CPM Ads
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Clicks	Ordered Items	Shipped Items	Returned Items	Conversion	Shipped Items Revenue	Total Earnings
1,107	183	162	11	16.53%	\$5,056.29	\$257.17

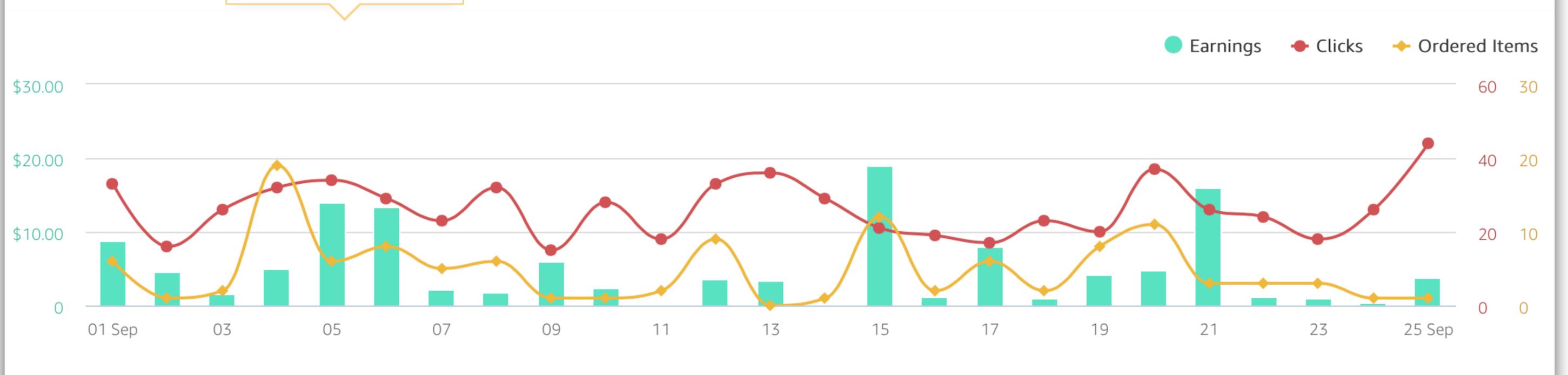
August's Commissions

Already Earned But Not Paid

Sep 01 2018 - Sep 25 2018 / **This Month** Tracking ID: All

Last Updated: Sep 25 2018 +00:00

Summary \$130.44	Fees \$127.44	Bounties \$3.00	Amazon CPM Ads \$0.00 \$ Get Started with CPM Ads
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Clicks	Ordered Items	Shipped Items	Returned Items	Conversion	Shipped Items Revenue	Total Earnings
659	119	126	13	18.06%	\$2,455.44	\$127.44

September's MTD Commissions

Net Net Net

Already in the bank	\$2,040
Earned in August	\$257
Earned in September MTD	\$127
Estimate for September	\$160
Proj. Expenses Before Party	-\$175
Projected Ticket Income	\$1,200
Total on hand for Party	\$3,609
2017 Party Actual Expenses	\$3,114

Upcoming Meeting Dates

The image shows a screenshot of a calendar application window. The window title is "Calendars" with a plus sign to its right. The view is set to "Month" and "October 2018". The calendar grid shows days from Sunday to Saturday. Two orange event bars are visible, both labeled "Cove Apple Club" at 7 PM, occurring on Wednesday, October 10 and Wednesday, October 24. The interface includes a search bar in the top right and navigation arrows for "Today".

Sun	Mon	Tue	Wed	Thu	Fri	Sat
30	Oct 1	2	3	4	5	6
7	8	9	10 • Cove Apple Club 7 PM	11	12	13
14	15	16	17	18	19	20
21	22	23	24 • Cove Apple Club 7 PM	25	26	27
28	29	30	31	Nov 1	2	3
4	5	6	7	8	9	10

**See you at
Cheeks!**

