

# What's Up with the Telephone?

Nancy Frishberg, Ph.D.

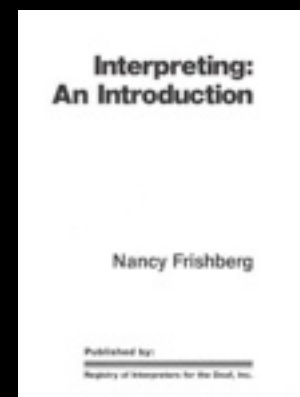
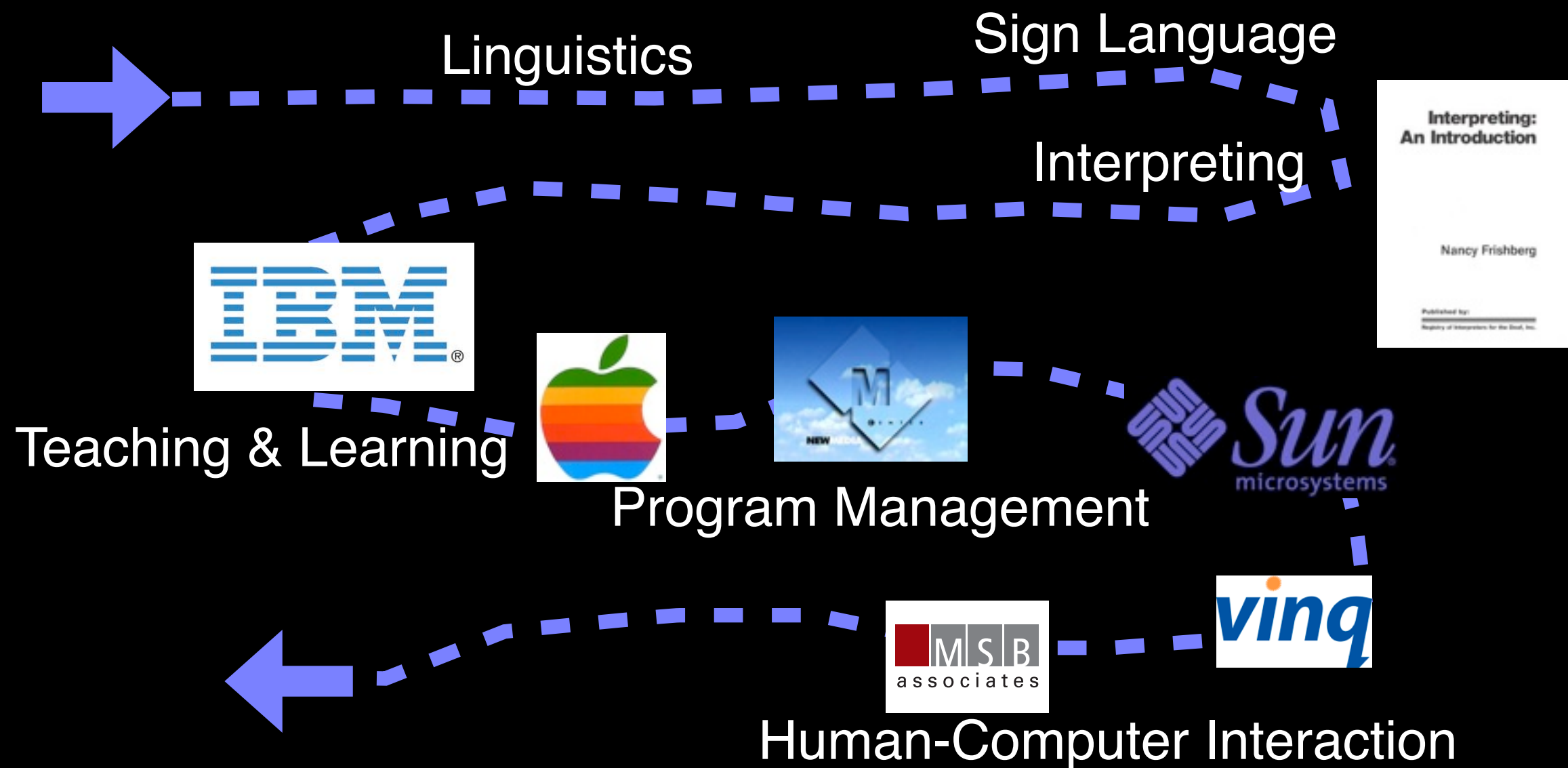
Guest Lecture for Perspectives in Assistive Technology



Dedicated to Chuck Baird

# Plan

- Preliminaries
- The first 100 years of the telephone
- Who is deaf/Deaf and hard of hearing?
- How do deaf people use the telephone?
- What alternatives do deaf people have to the telephone?



# How did Nancy get here?



VP, Technical  
Program  
Management,  
Purple



Certified Deaf  
Interpreter



Director,  
Technology  
Access  
Program,  
Gallaudet  
University



Attorney,  
State of  
California



# Hearing Aid $\neq$ Eye Glasses

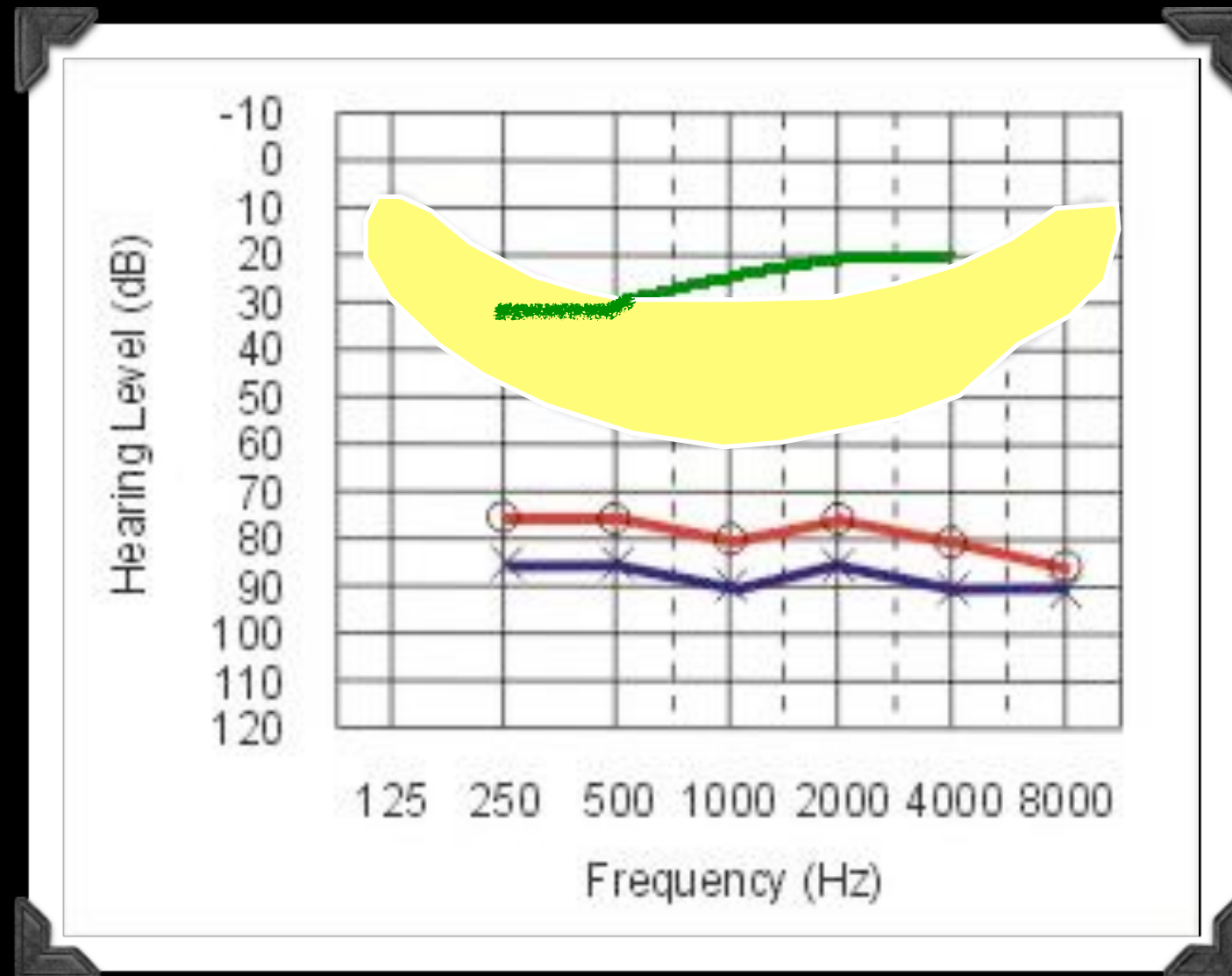


<http://www.flickr.com/photos/artysmokes/3845159210/>



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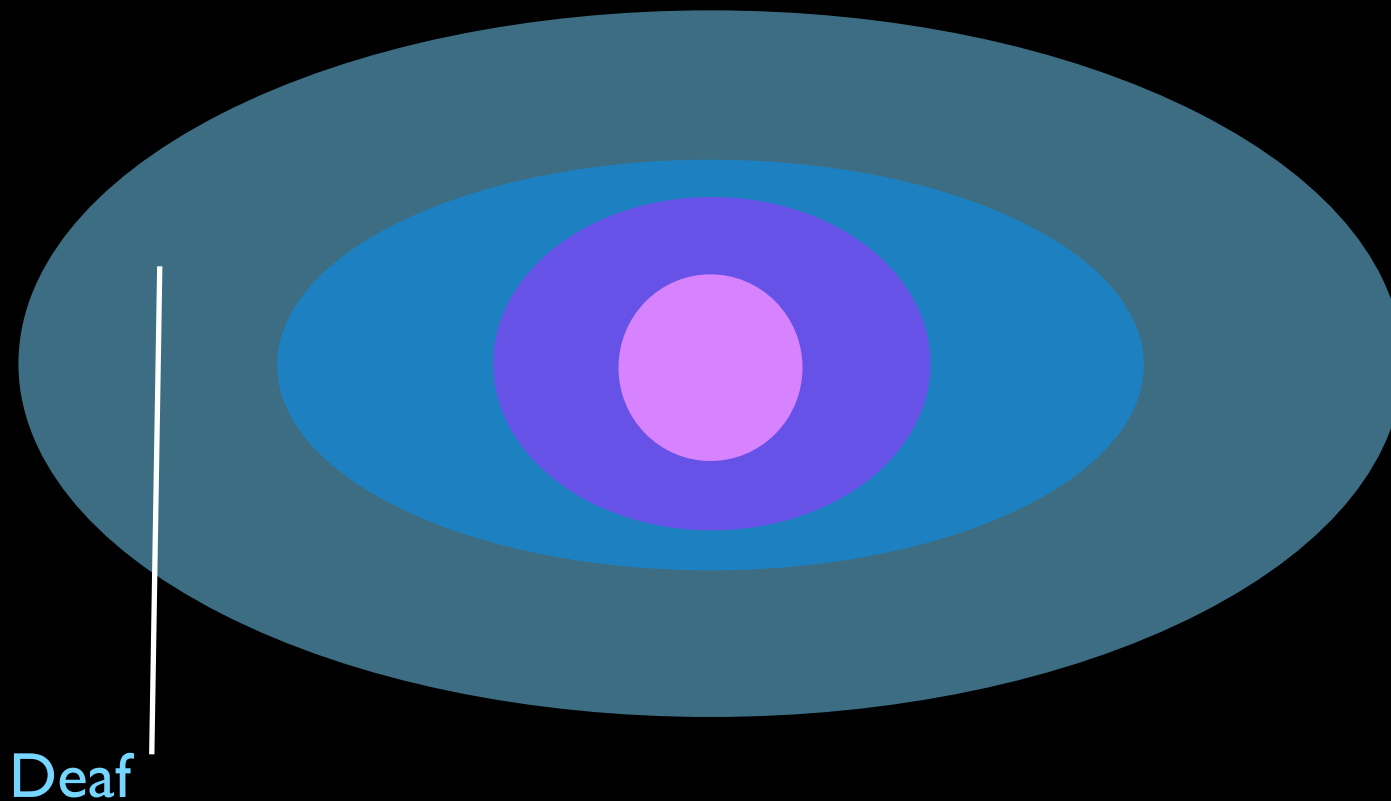




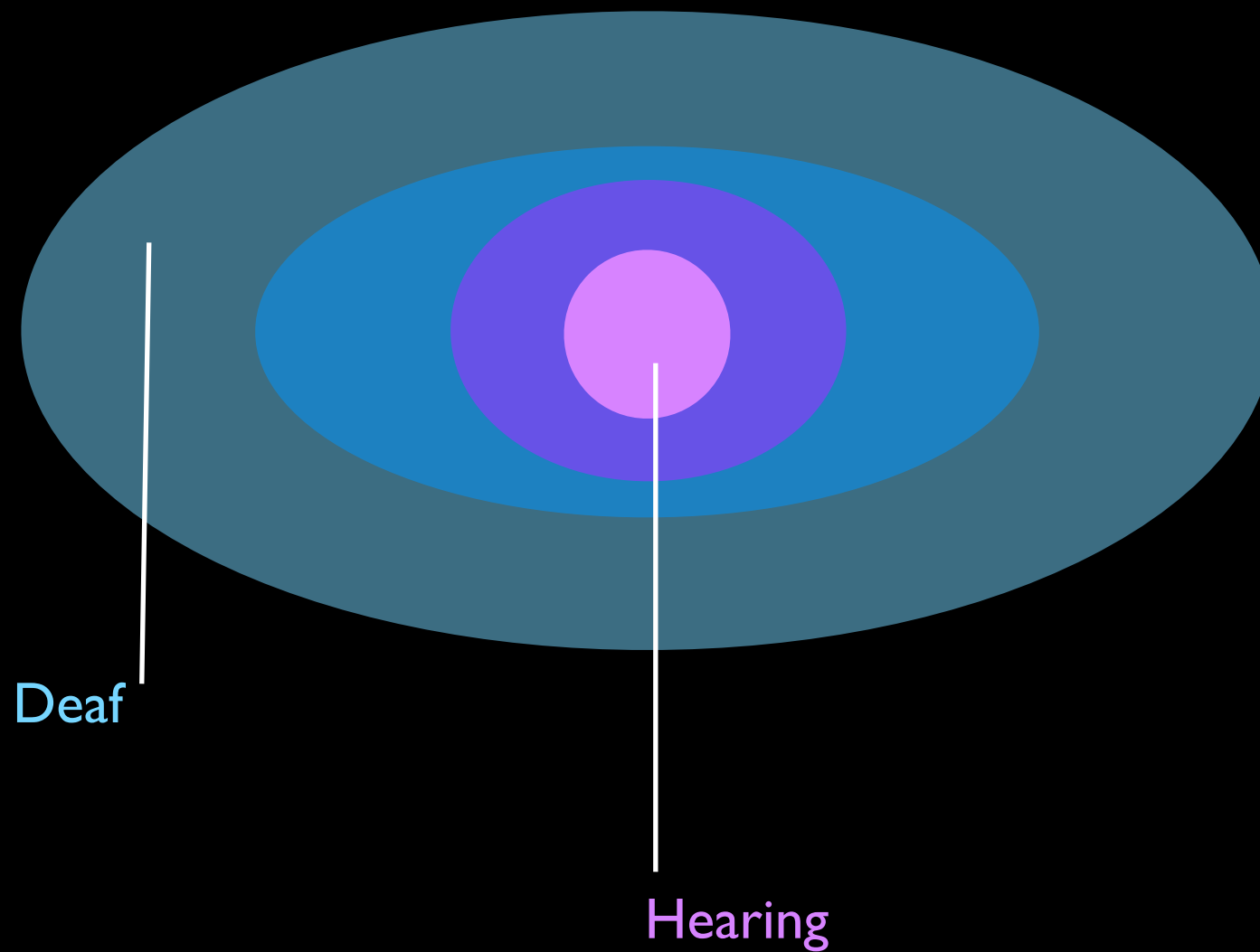
# How about lipreading?



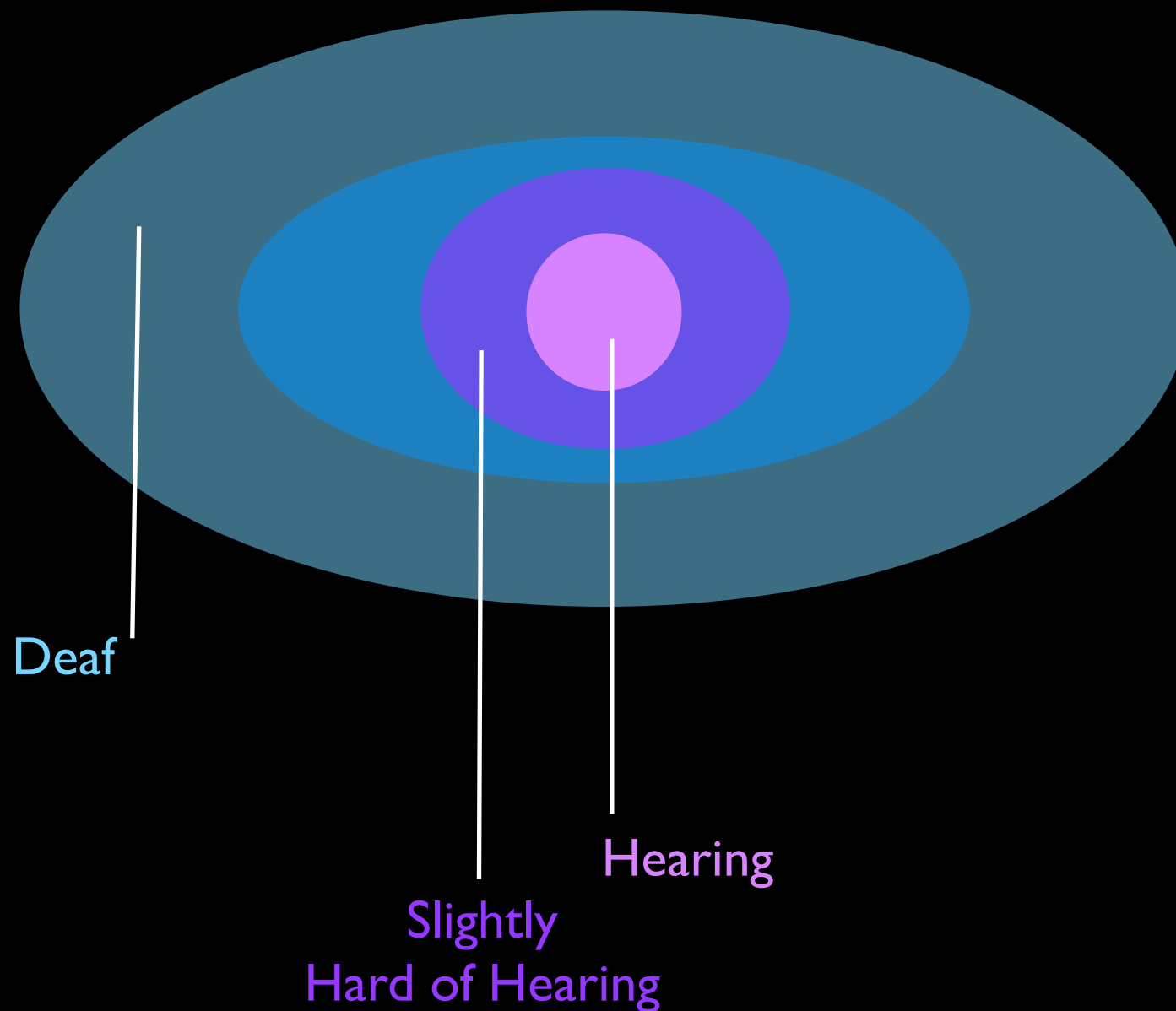
# Hearing at the Center



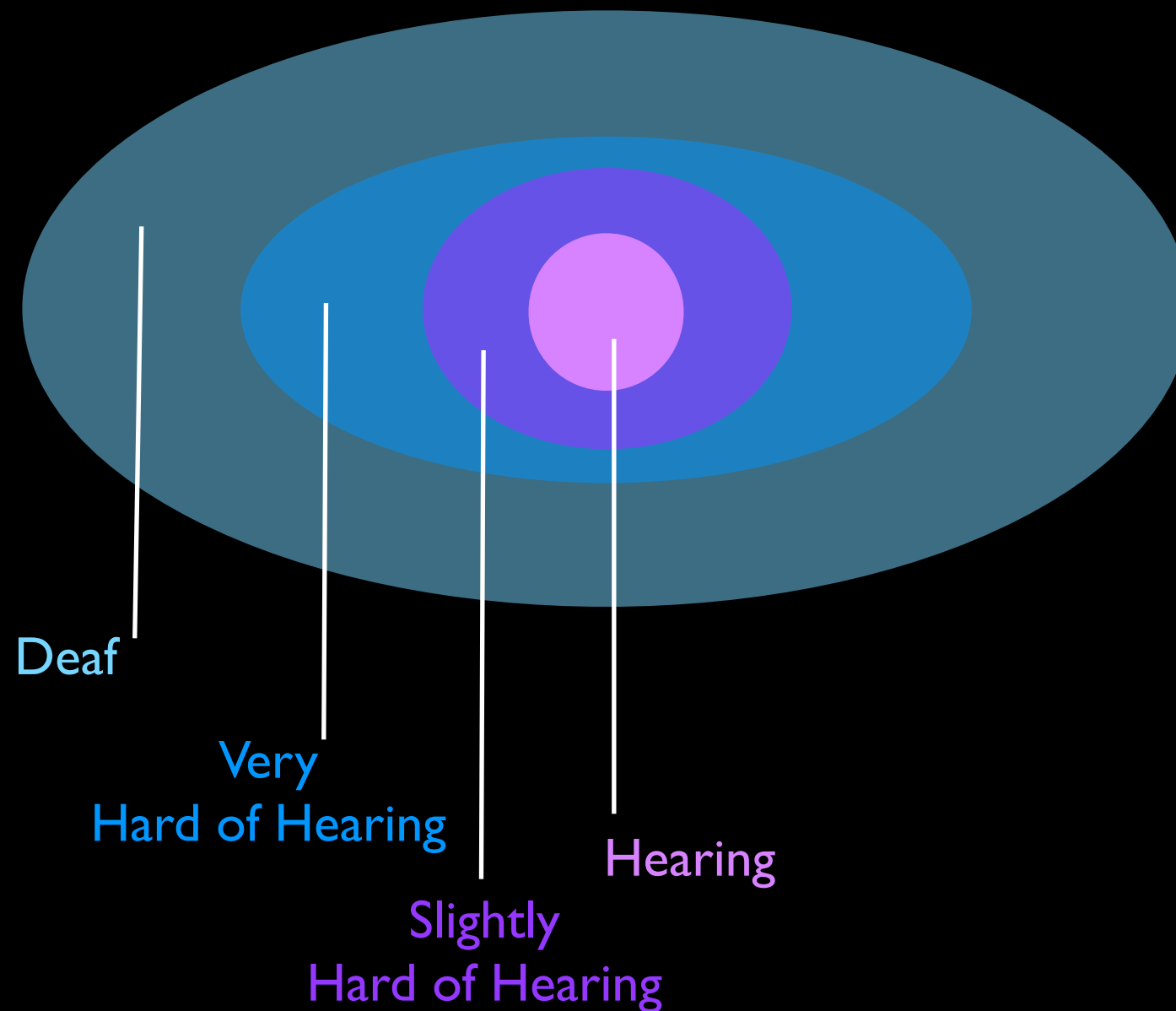
# Hearing at the Center



# Hearing at the Center

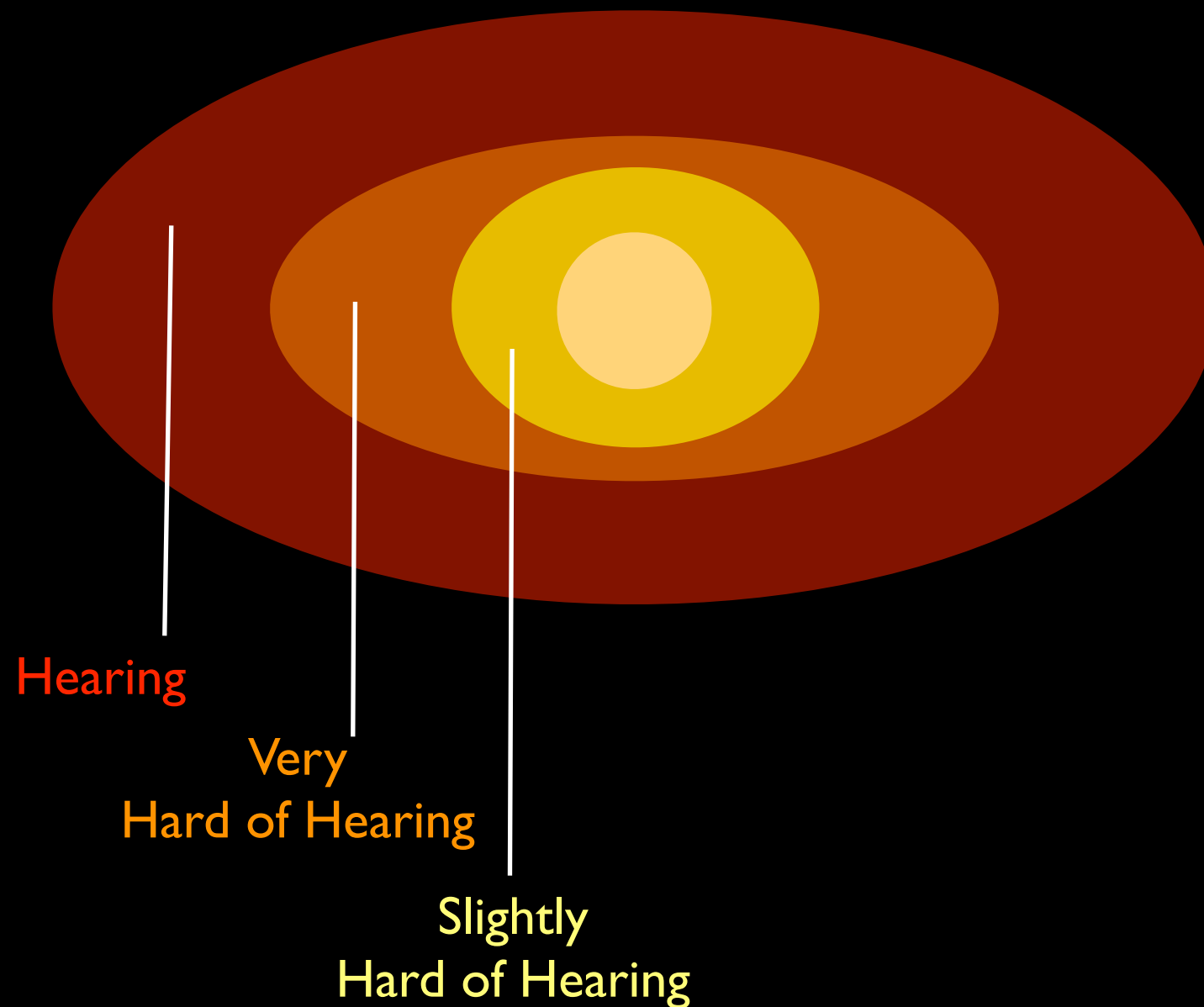


# Hearing at the Center

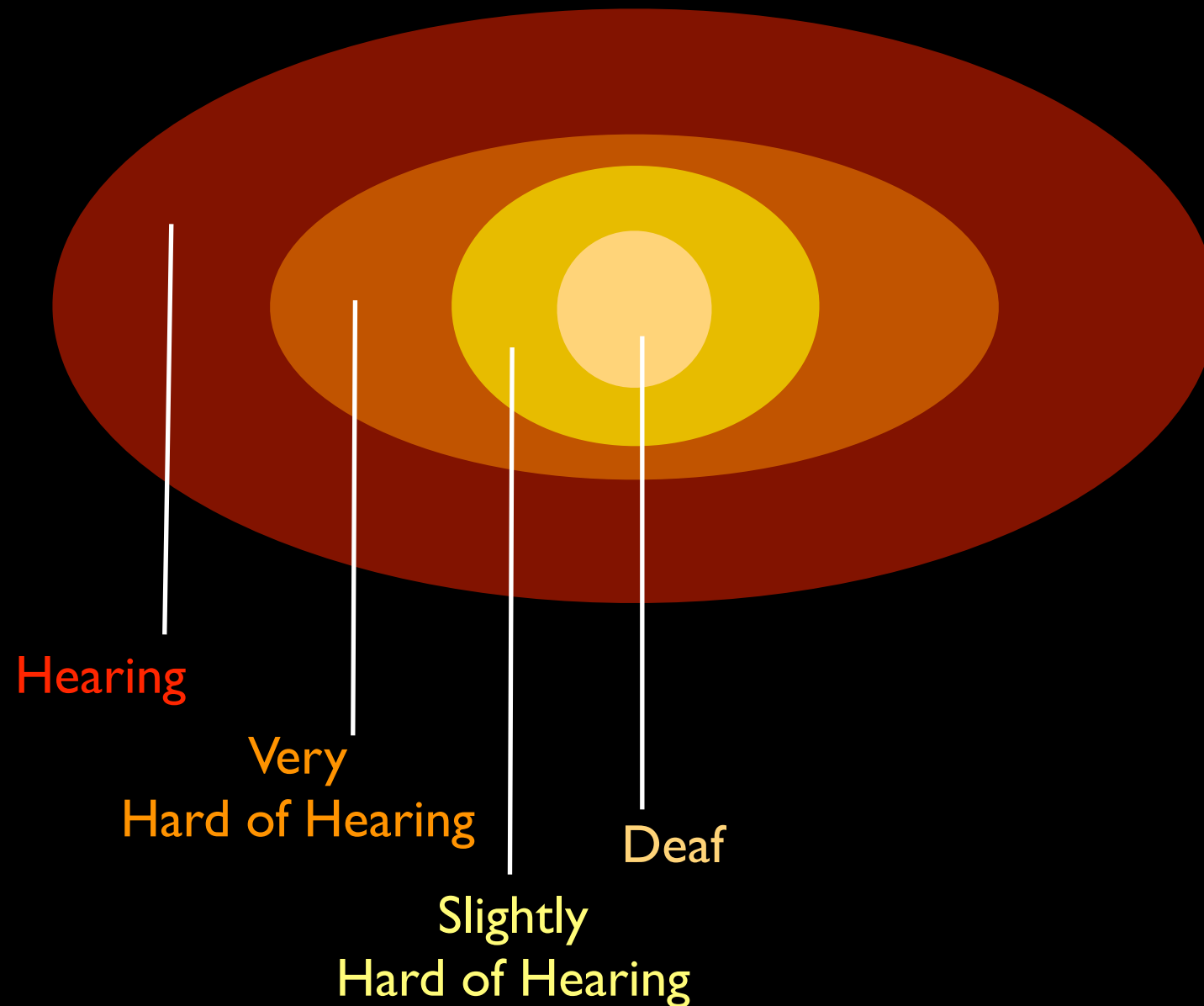




# Deaf at the Center



# Deaf at the Center



# Culturally Deaf

## Experience

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### **Associate Professor**

#### **Syracuse University College of Law**

Educational Institution; 1001-5000 employees; Higher Education industry

2004 – Present (8 years) | Syracuse University

I'm Supervising Attorney and Director of the Disability Rights Clinic, Office of Clinical Legal Education, at SU's College of Law. Any other culturally deaf law professors in the country, let me know!

**Recommend** Michael's work at Syracuse University College of Law

INNOVATION NATION

## Tech helps realtor overcome deafness

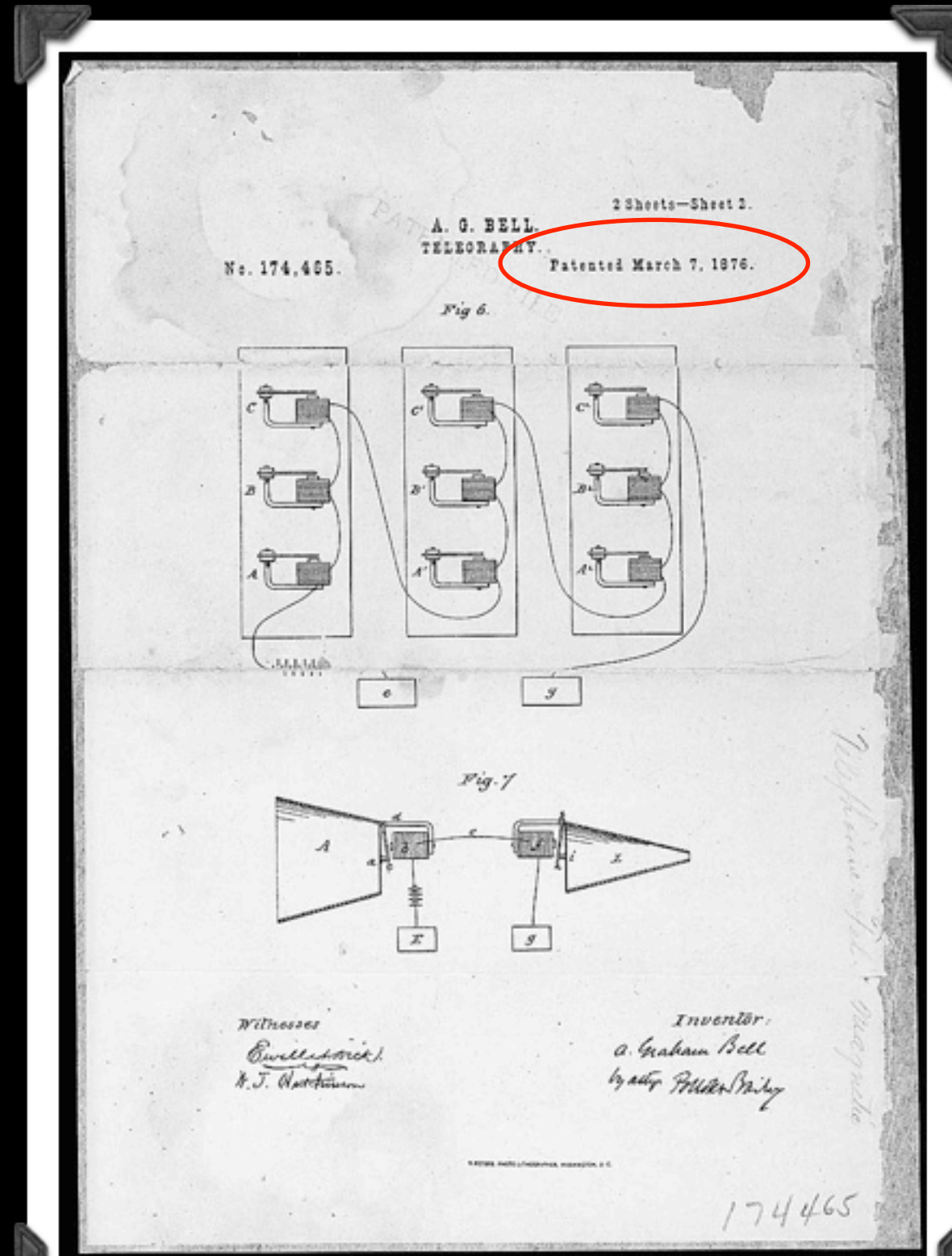


# Jackie Roth

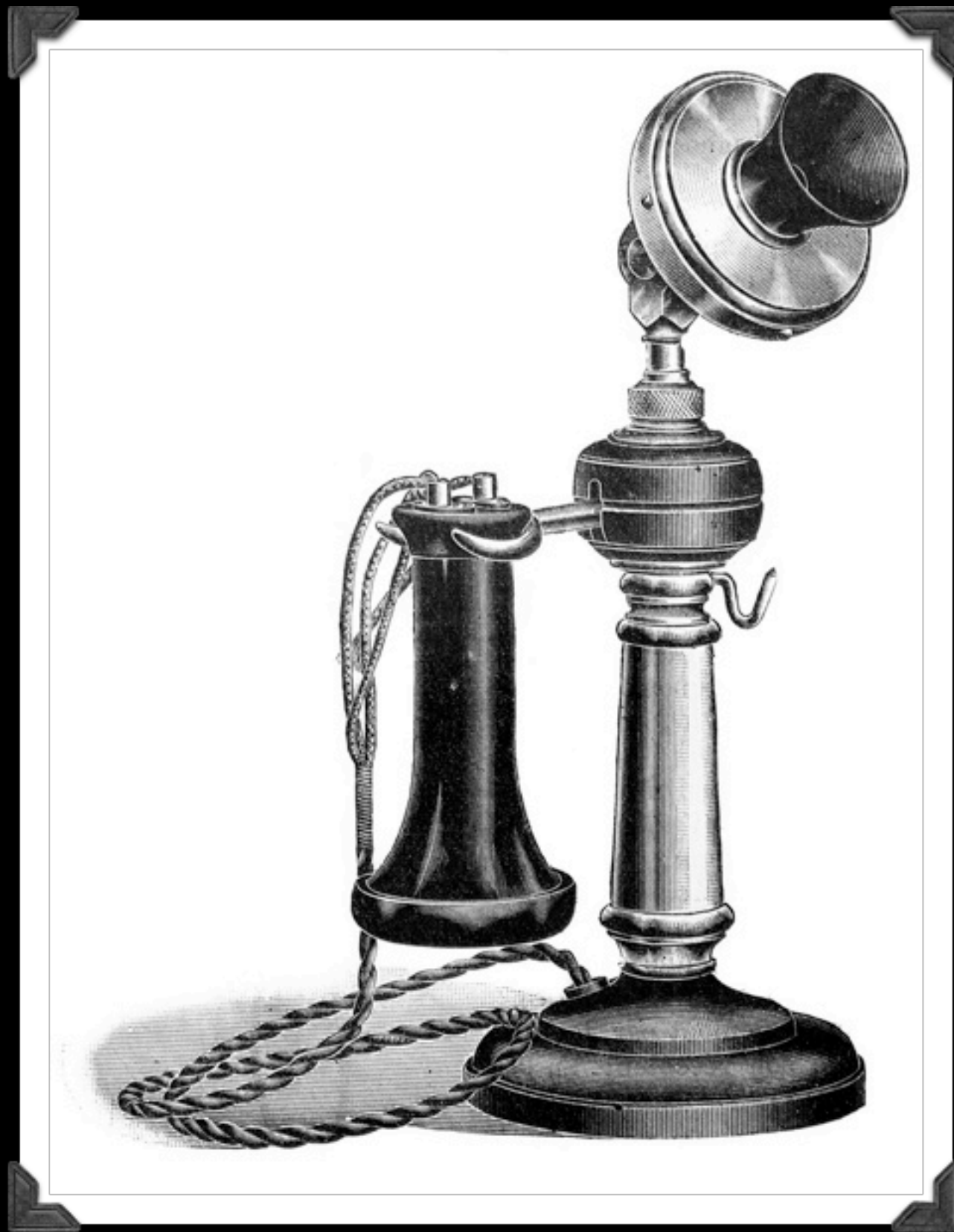
# How many deaf people in the US?

<b>“deaf”</b>	<b>600,000</b>	<b>0.22%</b>	<b>more than half over 65</b>
<b>“A lot of trouble hearing”</b>	<b>6,000,000</b>	<b>2.2%</b>	<b>more than half over 65</b>
<b>“A little trouble hearing”</b>	<b>28,000,000</b>	<b>10%</b>	<b>a third over 65, more than half over 65</b>
<b>“Some trouble hearing”</b>	<b>35,000,000</b>	<b>13%</b>	<b>all over age 5</b>

# The First 125 years













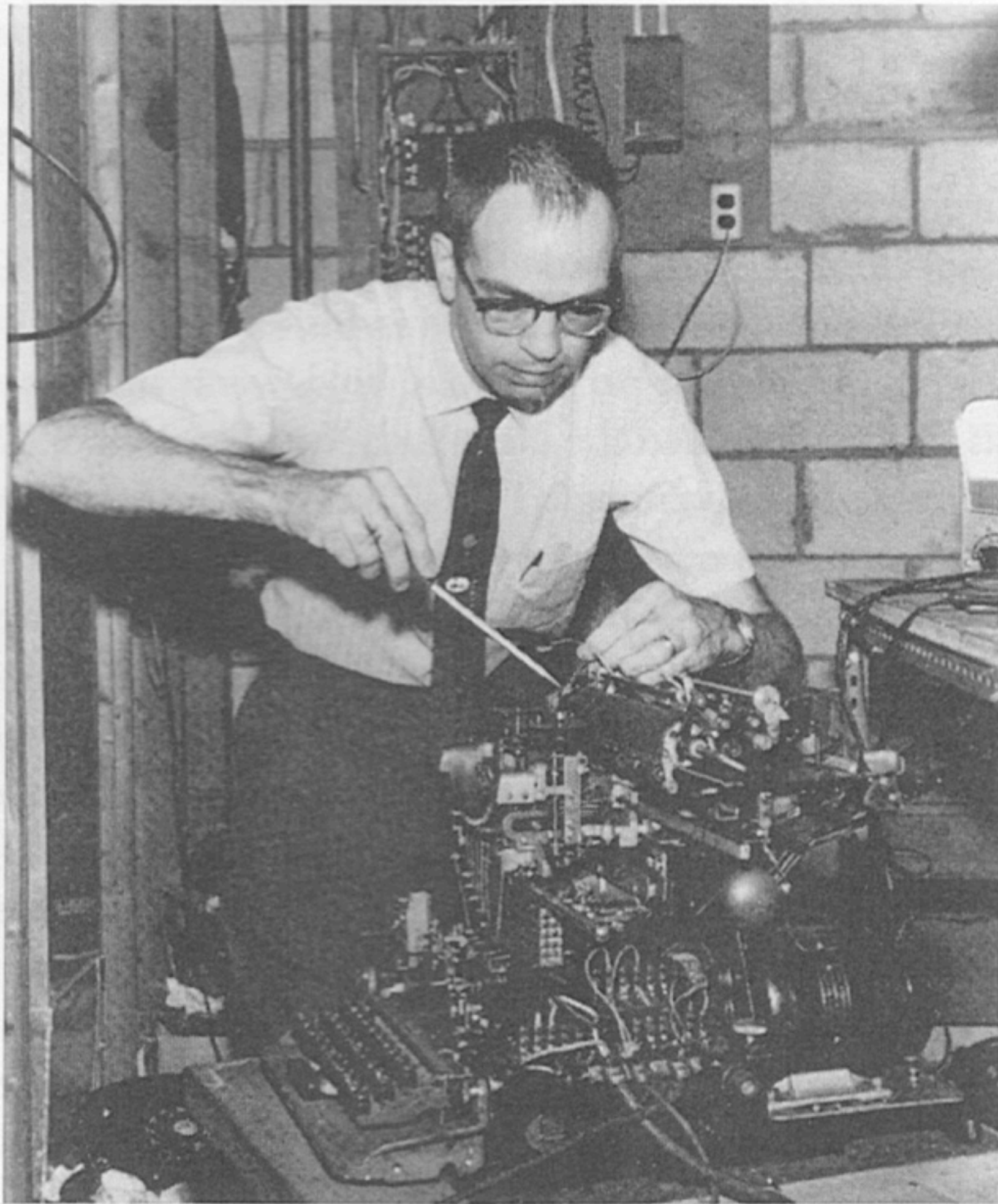
Palm Springs, CA November 2006



In 1964 Robert Trullinger Model 1000, a dual magnet, connected at the  
circuit that enabled dual people to use the TTY.

RECEIVED BY  
1000000  
1000000



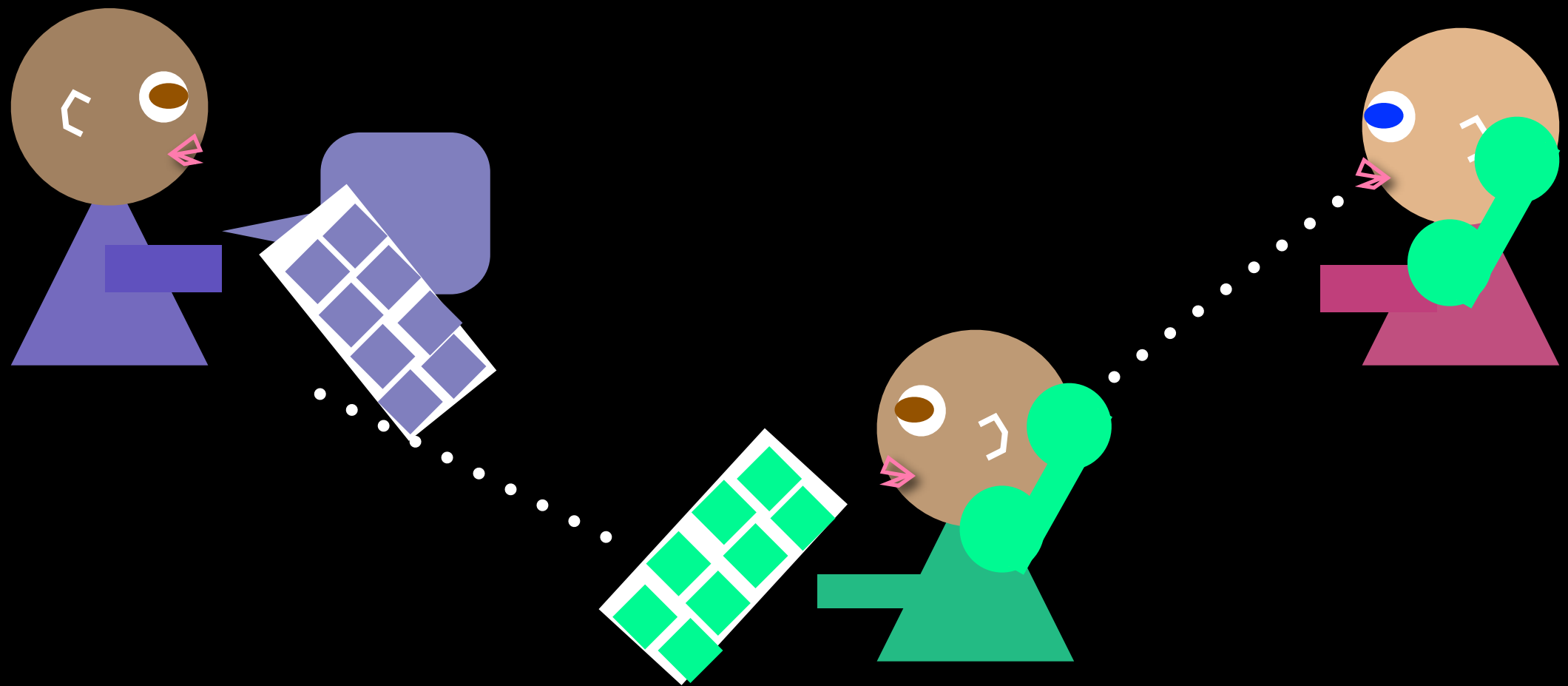




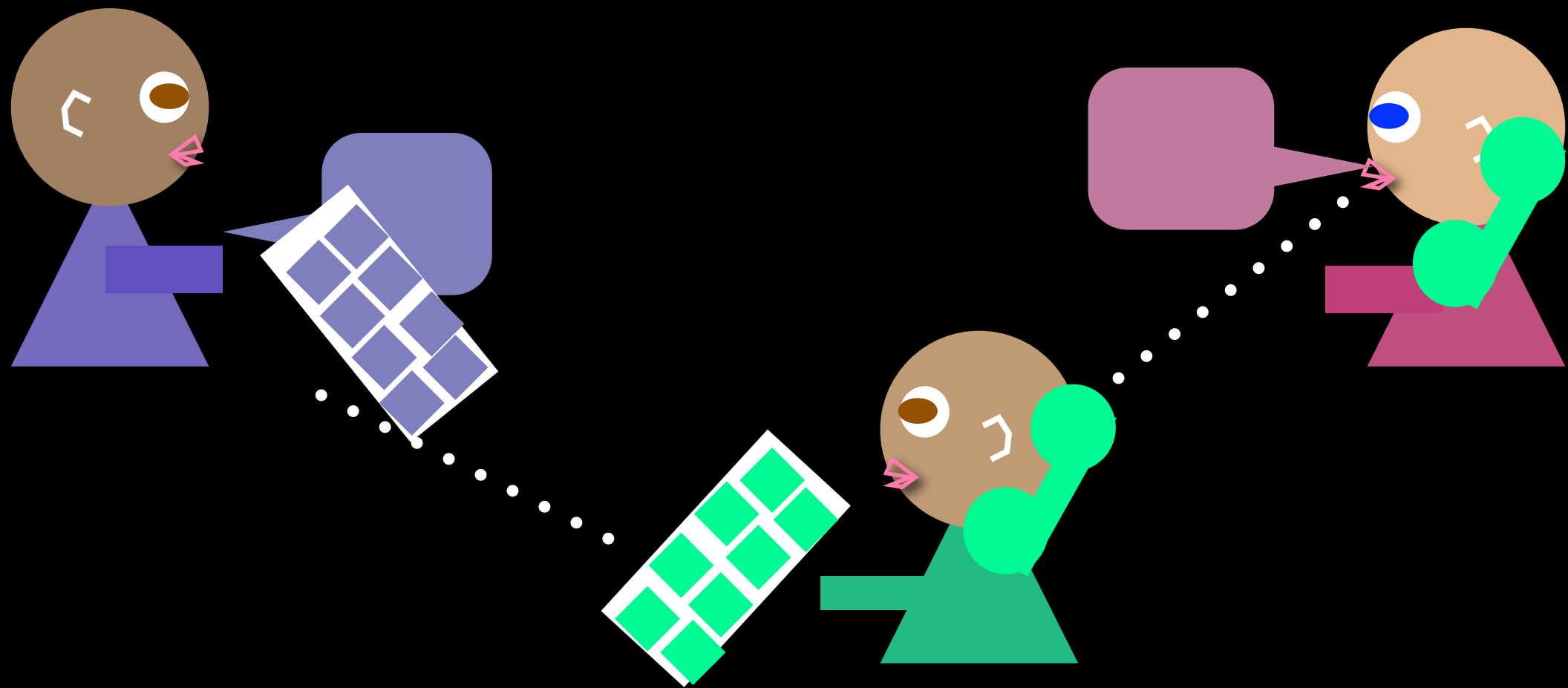


<http://www.flickr.com/photos/infowidget/2414116592/>

# Telephone Pioneers relay service (~1970)



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ADA 1990 passage required the establishment of state relays and interstate relays effective July 1993. I still remember, before I moved to CA in 1988, calling NorCal Center on Deafness to ask for some community related information as I could not use the relay at that time for interstate phone calls.... seems so long ago but so exasperating still at that time.





Some banks are still refusing to accept TTY calls despite the big law suit that hit Wells Fargo (the settlement can be found at [http://www.ada.gov/wells\\_fargo/](http://www.ada.gov/wells_fargo/)).

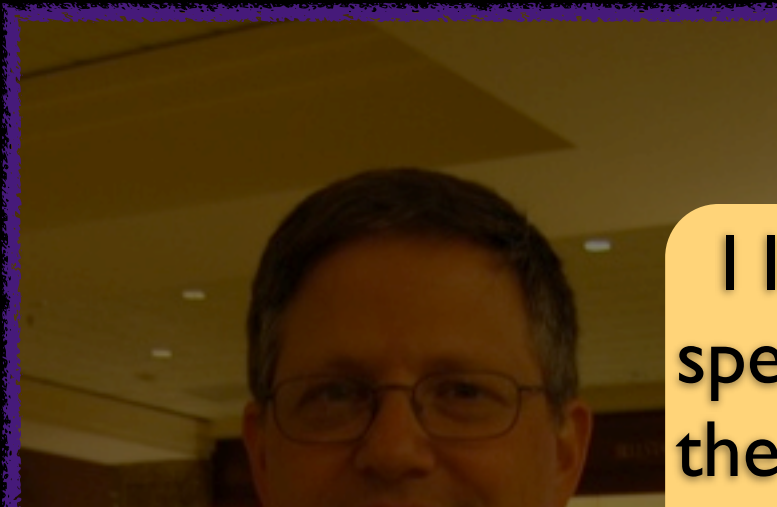
A lot of businesses think that TTY and VP relay calls are fraud, how can we get around that perception?

The state of Texas at one time had an ad: "Don't hang up" in encouraging callers and parties to not hang up on relay calls.



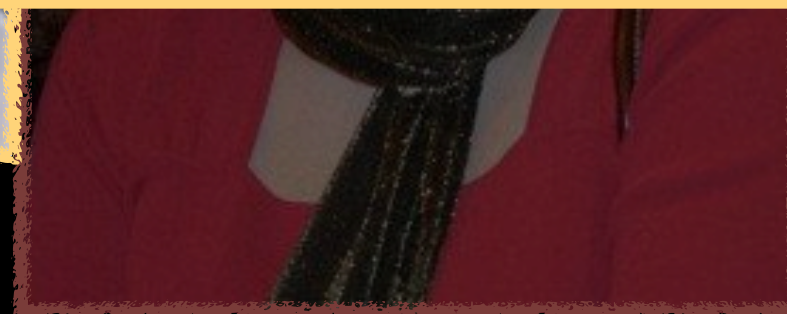
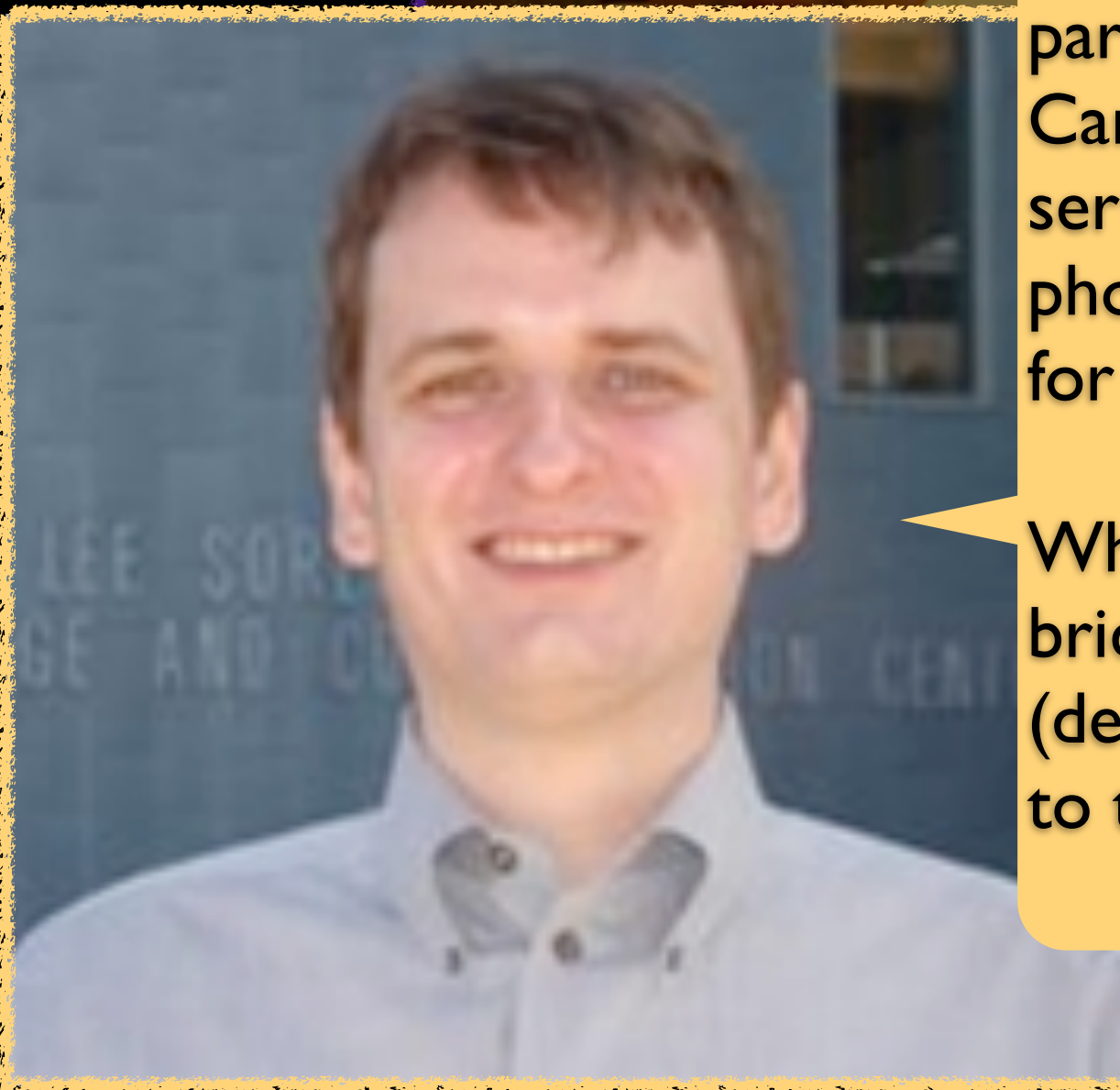




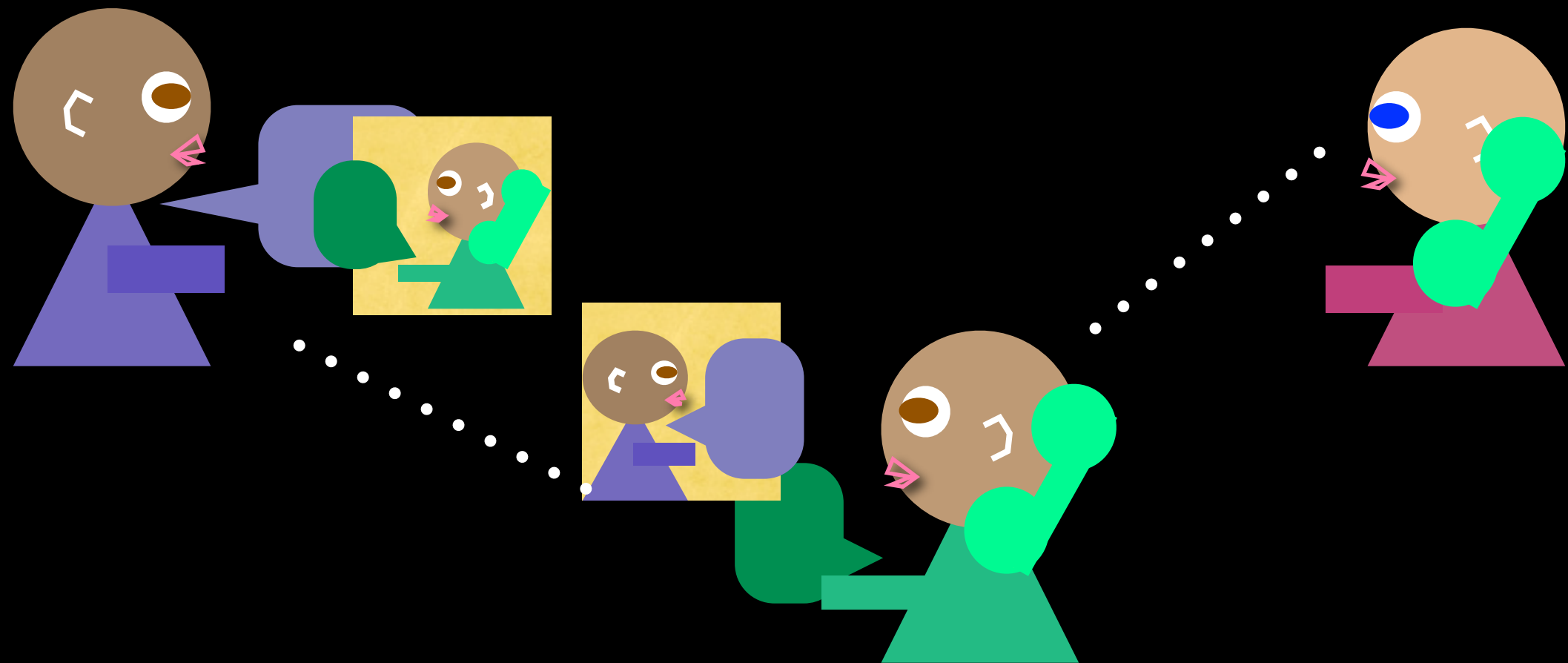


I like to use my own voice, when speaking English or German, and then the relay service tells me what the other party is saying. We call this method Voice Carry Over (VCO). Only one VRS service provides this service on a single phone line; others require 2 phone lines for the separate functions.

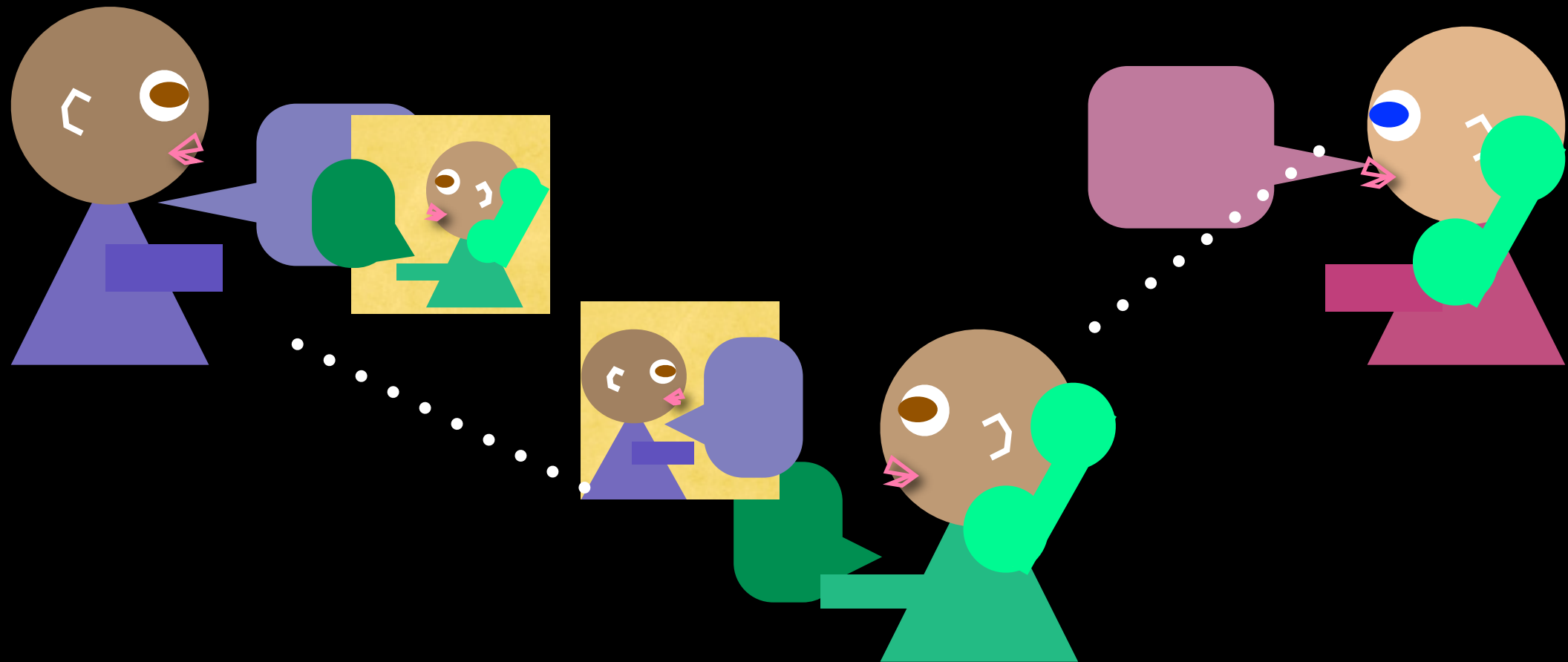
What's the fix? The VRS provider can bridge their VOIP connection from the (deaf) caller to the outgoing phone call to the receiving (hearing) party.



# Video Relay Service (~1998)

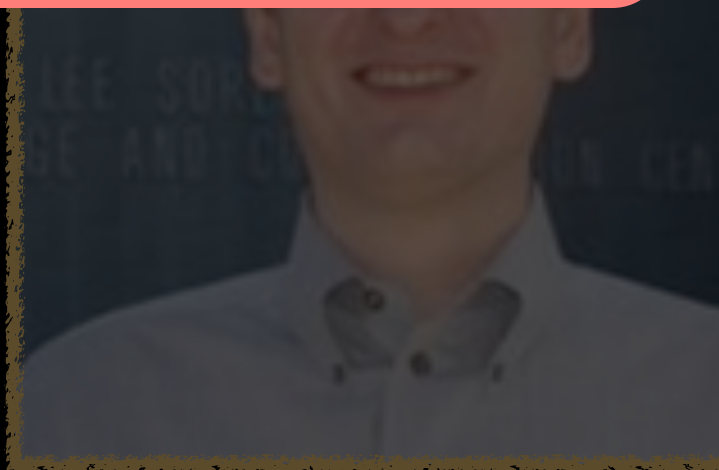


# Video Relay Service (~1998)





TTYs are still abundant in the public places, I still see them in the airports I have travelled through and I take photos of them when I am able to and not having to rush to catch a connection; it seems very difficult to persuade public entities except for a very few like the Bob Hope Airport and a few other airports in the USA (will have to look that up) to establish public Videophones for deaf users.







San Francisco, July 2006



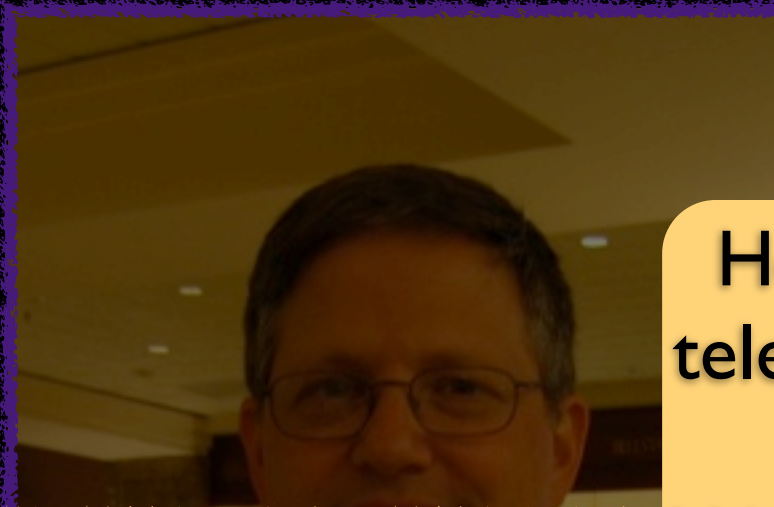


NYC, March 2006





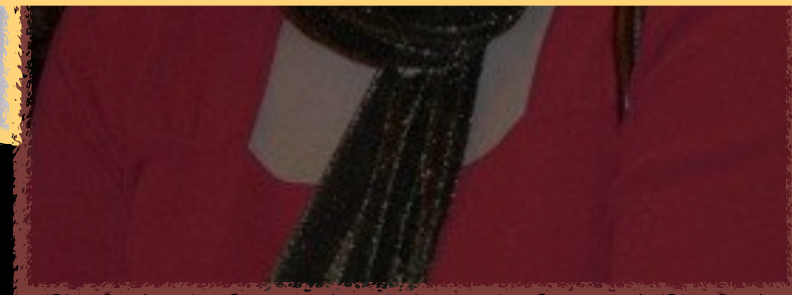




How do we know when the telephone is ringing at home?

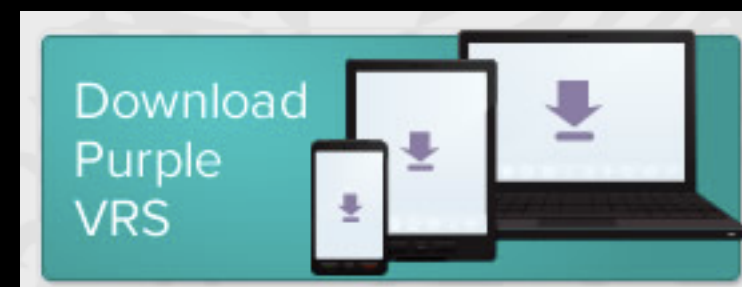
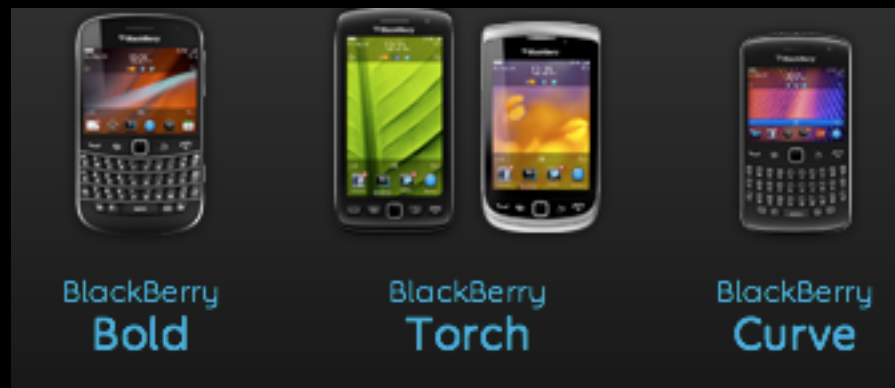
We used to have a serviceable light system triggered by the ringer coming in on the RJ-11 jack. Modern videophones, running software over the computer, don't use that jack and thus are outside the housewide signalling system.

Consider also whether there's a distinction between a doorbell ringing, the microwave beeper, and the video call on the computer.









# Today's Communication Technologies



- Scheduling software
- Workstation outfitting (QOS, broad spectrum lights, background)
- Speed of answering
- Replace Human Interpreters



# References & Resources

Products for and about Deaf people, deafness and sign language

Harris Communications <http://www.harriscomm.com/>

TreehouseVideo <http://treehousevideo.com/>

Organizations about Deaf people, deafness and telecommunications (selective)

TDI <http://tdiforaccess.org/>

ADA [www.ada.gov](http://www.ada.gov)



