



# Turn your radio on

## Introduction

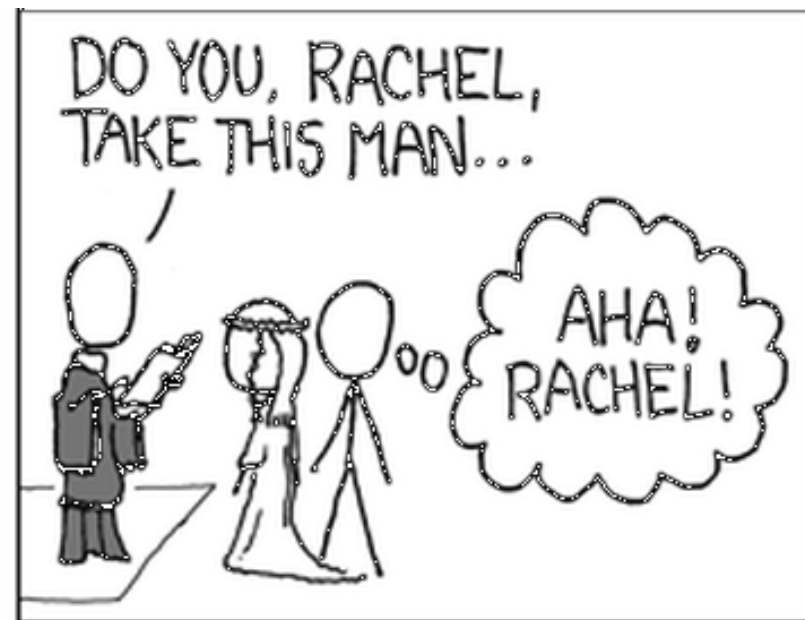
# Class schedule

| Class | Theme                          |
|-------|--------------------------------|
| 3/17  | Introduction                   |
| 3/31  | London calling                 |
| 4/7   | Local radio with Tom Ingrassia |
| 4/14  | Video killed the radio star    |
| 4/21  | What's next?                   |

- Readings and presentations are available at [queenlake.com/wise/wise-2016/radio-d12](http://queenlake.com/wise/wise-2016/radio-d12).
- Course slides will be available within 15 minutes of the start of class.

# About yours truly

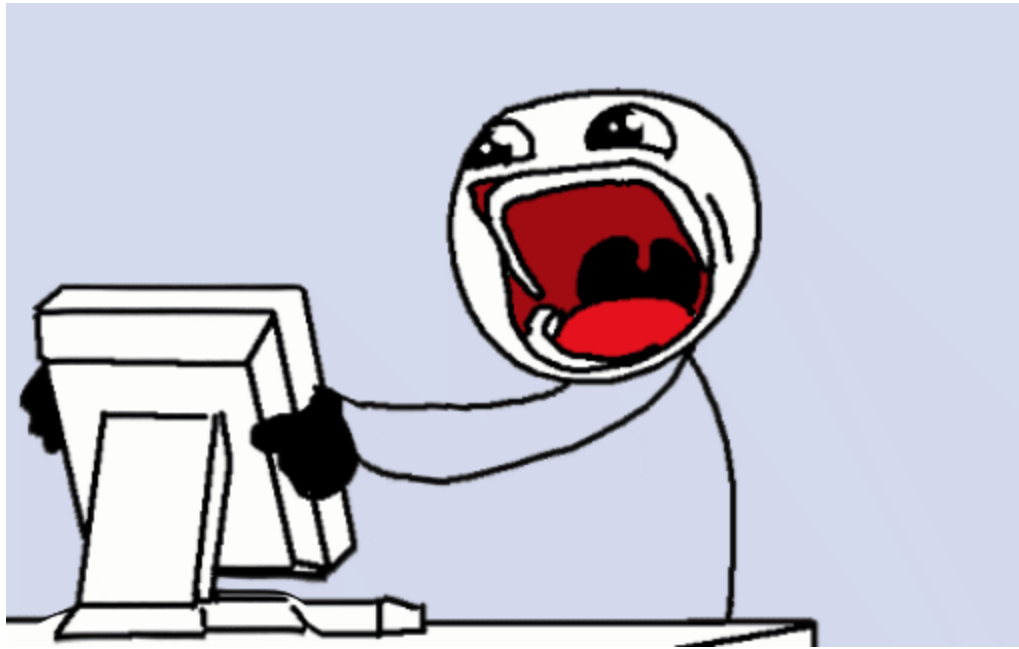
- Karl Hakkarainen
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- 508 829 5825
- Skype: karl.hakkarainen



# Introductions

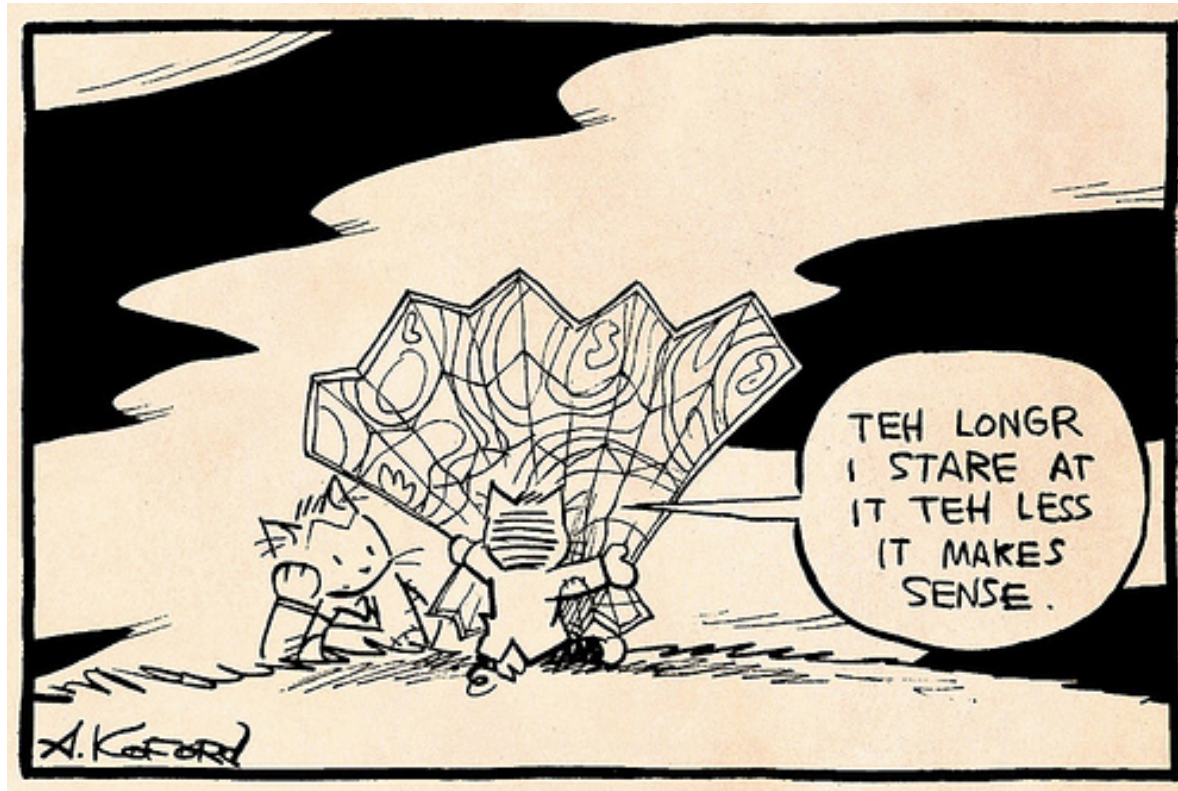
Your name

What brings you to this class?



# There will be technical problems

We'll deal with them as they come along



# Questions?

# Repeat after me

- One hen
- Two ducks
- Three squawking geese
- Four limerick oysters
- Five corpulent porpoises
- Six pair of Don Alverso's tweezers
- Seven thousand Macedonians in full battle array
- Eight brass monkeys from the ancient sacred crypts of Egypt
- Nine sympathetic, apathetic, diabetic old men on roller skates with a marked propensity towards procrastination and sloth
- Ten lyrical, spherical diabolical denizens of the deep who hall stall around the corner of the quo of the quay of the queasy, all at the same time.









## CBS puts its radio network up for sale

NYT: [CBS Looks to Exit Radio Business](#)

Including Boston stations WBZ, WBZ-FM, WBMX, WODS, WZLX, WBMX.



## Off the streets and into the studio

[New England Public Radio's Youth Radio project gives Springfield students a voice](#)



Did you listen to the radio today?



A ridiculously fast history of radio

# 1930 US Census – Radio sets

TABLE 23.—FAMILIES HAVING RADIO SET, BY COLOR AND NATIVITY OF HEAD, IN URBAN AND RURAL AREAS, FOR THE UNITED STATES: 1930

| AREA               | ALL FAMILIES |                  |          | NATIVE WHITE |                  |          |
|--------------------|--------------|------------------|----------|--------------|------------------|----------|
|                    | Total number | Having radio set |          | Total number | Having radio set |          |
|                    |              | Number           | Per cent |              | Number           | Per cent |
| Total.....         | 29,904,863   | 12,048,762       | 40.3     | 20,968,803   | 9,315,223        | 44.4     |
| Urban.....         | 17,372,524   | 8,682,176        | 50.0     | 11,322,555   | 6,377,973        | 56.3     |
| Urban-farm.....    | 64,044       | 28,422           | 44.4     | 44,060       | 21,784           | 49.4     |
| Rural-farm.....    | 6,604,637    | 1,371,073        | 20.8     | 5,006,748    | 1,202,455        | 24.0     |
| Rural-nonfarm..... | 5,927,502    | 1,995,513        | 33.7     | 4,639,500    | 1,734,705        | 37.4     |
| Total farm.....    | 6,668,681    | 1,399,495        | 21.0     | 5,050,808    | 1,224,239        | 24.2     |

| AREA               | FOREIGN-BORN WHITE |                  |          | NEGRO        |                  |          |
|--------------------|--------------------|------------------|----------|--------------|------------------|----------|
|                    | Total number       | Having radio set |          | Total number | Having radio set |          |
|                    |                    | Number           | Per cent |              | Number           | Per cent |
| Total.....         | 5,736,491          | 2,500,540        | 43.6     | 2,803,760    | 209,779          | 7.5      |
| Urban.....         | 4,535,603          | 2,094,742        | 46.2     | 1,328,170    | 191,790          | 14.4     |
| Urban-farm.....    | 15,979             | 6,427            | 40.2     | 2,385        | 80               | 3.4      |
| Rural-farm.....    | 510,889            | 163,316          | 32.0     | 978,653      | 3,327            | 0.3      |
| Rural-nonfarm..... | 689,099            | 242,482          | 35.1     | 496,933      | 14,662           | 3.0      |
| Total farm.....    | 526,808            | 169,743          | 32.2     | 981,038      | 3,407            | 0.3      |

# Radio stations in the US

- **As of September 30, 2015:**
  - AM Stations: 4,692 (down from 4,698 in 6/15 )
  - FM Commercial Stations: 6,688 (up from 6,666 in 6/15)
  - FM Educational Stations: 4,090 (down from 4,091 in 6/15)
- **Total Radio Stations: 15,470 (up from 15,455 in 6/15)**
- Not included in Total Radio Stations:
  - FM Translators and Boosters: 6,422 (up from 6,366 in 6/15)
  - Low power FM (LPFM): 1,364 (up from 1,149 in 6/15)

Source – [Radio Survivor](#)





# radio-locator

find US radio stations by location



city/zip Worcester

state MA

go

find by call sign

go

**MONETIZE YOUR  
ONLINE STREAM**

...and earn more  
revenue  
for your station!



Site Navigation:

[home page](#)

[city search](#)

[format search](#)

[u.s. state search](#)

[canadian search](#)

[international search](#)

[advanced search](#)

[vacant frequencies](#)

There are 22 radio stations within close listening range of  
Worcester, Massachusetts. (42° 16' 08" N, 71° 48' 14" W)

**Info:** Click to get more information about a station or to submit a change.

**Bitcaster:** Indicates that the station broadcasts its audio on the Internet.

**Distances** show the distance between the station and your location in Worcester, Massachusetts.

[Find unused frequencies](#) in Worcester, Massachusetts.

|  | Call Sign                     | Freq.    | Dist/Signal | City                            | School                               | Format                  |
|--|-------------------------------|----------|-------------|---------------------------------|--------------------------------------|-------------------------|
|  | <a href="#">WCHC</a>          | 88.1 FM  | 2.2 mi.     | <a href="#">Worcester, MA</a>   | College of the Holy Cross            | College                 |
|  | <a href="#">WFCR</a>          | 88.5 FM  | 32.3 mi.    | <a href="#">Amherst, MA</a>     | University of Massachusetts          | Public Radio            |
|  | <a href="#">WGBH</a>          | 89.7 FM  | 35.5 mi.    | <a href="#">Boston, MA</a>      |                                      | Public Radio            |
|  | <a href="#">WICN</a>          | 90.5 FM  | 5.4 mi.     | <a href="#">Worcester, MA</a>   |                                      | Jazz                    |
|  | <a href="#">WCUW</a>          | 91.3 FM  | 0.5 mi.     | <a href="#">Worcester, MA</a>   |                                      | Variety                 |
|  | <a href="#">WBPR</a>          | 91.9 FM  | 5.4 mi.     | <a href="#">Worcester, MA</a>   | University of Massachusetts - Boston | Adult Album Alternative |
|  | <a href="#">WJMN</a>          | 94.5 FM  | 29.7 mi.    | <a href="#">Boston, MA</a>      |                                      | Hip Hop                 |
|  | <a href="#">W235AV (WTAG)</a> | 94.9 FM  | 5.8 mi.     | <a href="#">Tatnuck, MA</a>     |                                      | News/Talk               |
|  | <a href="#">WSRS</a>          | 96.1 FM  | 5.8 mi.     | <a href="#">Worcester, MA</a>   |                                      | Adult Contemporary      |
|  | <a href="#">WBZ</a>           | 98.5 FM  | 29.7 mi.    | <a href="#">Boston, MA</a>      |                                      | Sports                  |
|  | <a href="#">WWFX</a>          | 100.1 FM | 5.0 mi.     | <a href="#">Southbridge, MA</a> |                                      | Classic Hits            |
|  | <a href="#">WKLB</a>          | 102.5 FM | 29.1 mi.    | <a href="#">Waltham, MA</a>     |                                      | Country                 |
|  | <a href="#">WODS</a>          | 103.3 FM | 29.7 mi.    | <a href="#">Boston, MA</a>      |                                      | Top-40                  |
|  | <a href="#">WXLO</a>          | 104.5 FM | 16.5 mi.    | <a href="#">Fitchburg, MA</a>   |                                      | Hot AC                  |
|  | <a href="#">WAAF</a>          | 107.3 FM | 6.4 mi.     | <a href="#">Westborough, MA</a> |                                      |                         |
|  | <a href="#">WTAG</a>          | 580 AM   | 4.8 mi.     | <a href="#">Worcester, MA</a>   |                                      |                         |
|  | <a href="#">WVNE</a>          | 760 AM   | 14.1 mi.    | <a href="#">Leicester, MA</a>   |                                      |                         |
|  | <a href="#">WCRN</a>          | 830 AM   | 6.7 mi.     | <a href="#">Worcester, MA</a>   |                                      |                         |
|  | <a href="#">WAMG</a>          | 890 AM   | 19.4 mi.    | <a href="#">Dedham, MA</a>      |                                      |                         |
|  | <a href="#">WNEB</a>          | 1230 AM  | 1.0 mi.     | <a href="#">Worcester, MA</a>   |                                      |                         |
|  | <a href="#">WORC</a>          | 1310 AM  | 3.3 mi.     | <a href="#">Worcester, MA</a>   |                                      |                         |
|  | <a href="#">WVEI</a>          | 1440 AM  | 2.6 mi.     | <a href="#">Worcester, MA</a>   |                                      | Sports                  |

Rock  
(Ghanian)  
102.3

New Visions  
(Ghanian)  
103.5

Flava 105.5

Word  
(Ghanian/Caribbean)  
102.9



# THE ELECTROMAGNETIC SPECTRUM

THESE WAVES TRAVEL THROUGH THE ELECTROMAGNETIC FIELD. THEY WERE FORMERLY CARRIED BY THE AETHER, WHICH WAS DECOMMISSIONED IN 1897 DUE TO BUDGET CUTS.

## ABSORPTION SPECTRA:

HYDROGEN:

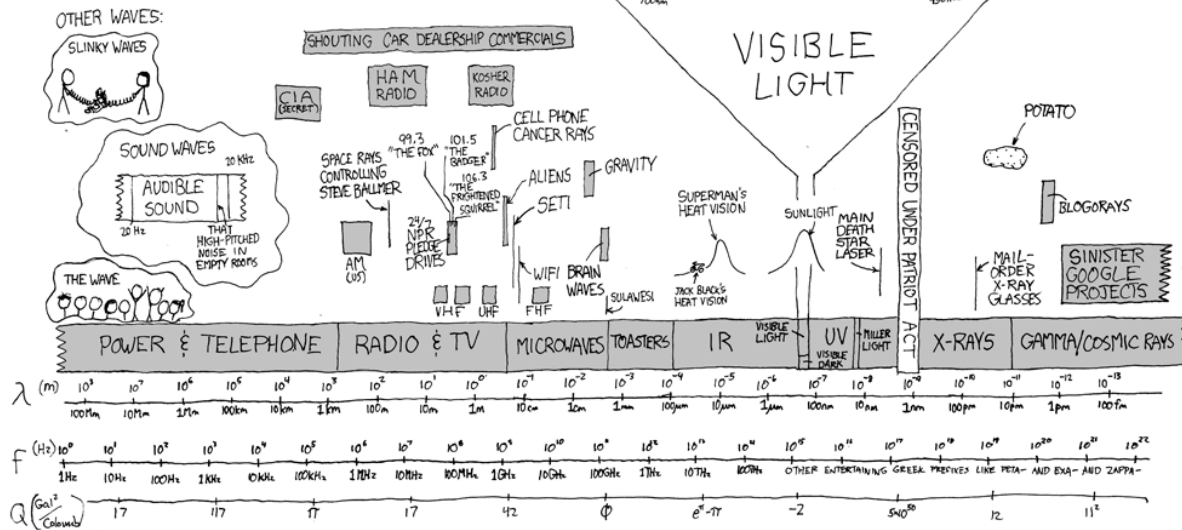
HELIUM:

DEPENDS®:

TAMPAX®:



## VISIBLE LIGHT

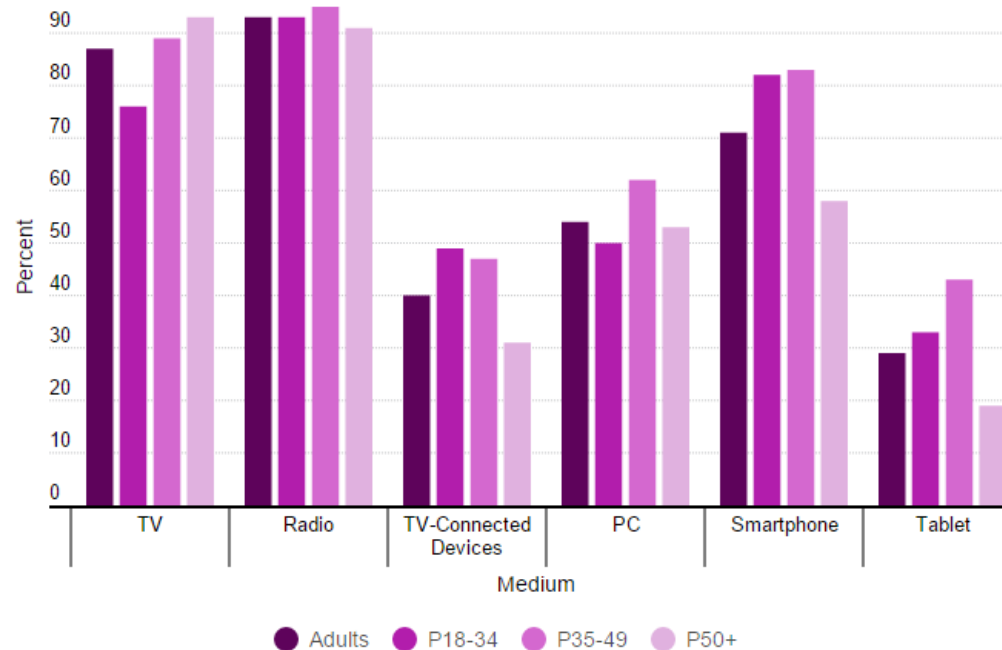


## Where radio lives

# Who listens to radio?

MORE THAN 90% OF ADULTS LISTEN TO RADIO EACH WEEK

Weekly reach (% of the population)



Source: Nielsen Comparable Metrics Report Q2 2015.



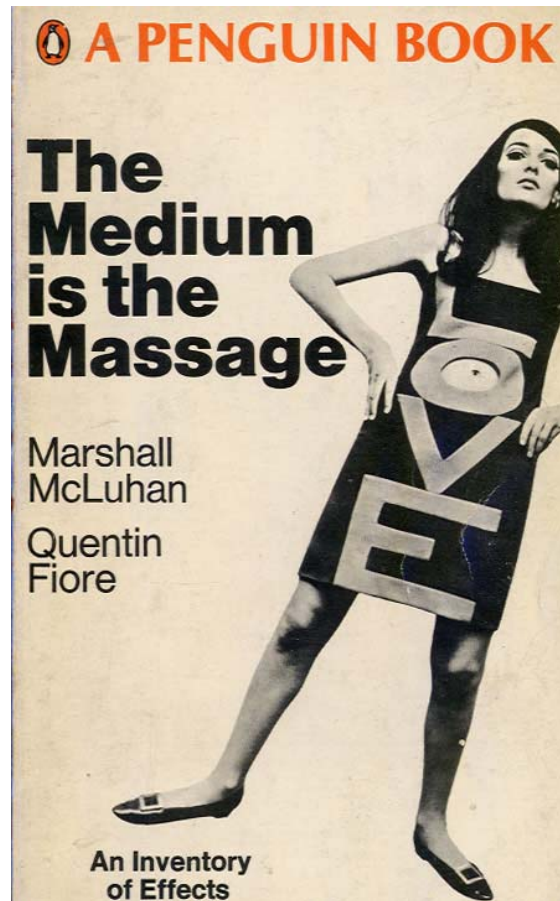
Away from home

# Douglas Adams

(author, *Hitchhiker's Guide to the Galaxy*):

- “I’ve come up with a set of rules that describe our reactions to technologies:
  1. Anything that is **in the world when you’re born** is normal and ordinary and is just a natural part of the way the world works.
  2. Anything that’s **invented between when you’re fifteen and thirty-five** is new and exciting and revolutionary and you can probably get a career in it.
  3. **Anything invented after you’re thirty-five** is against the natural order of things.

Radio was once new and disruptive



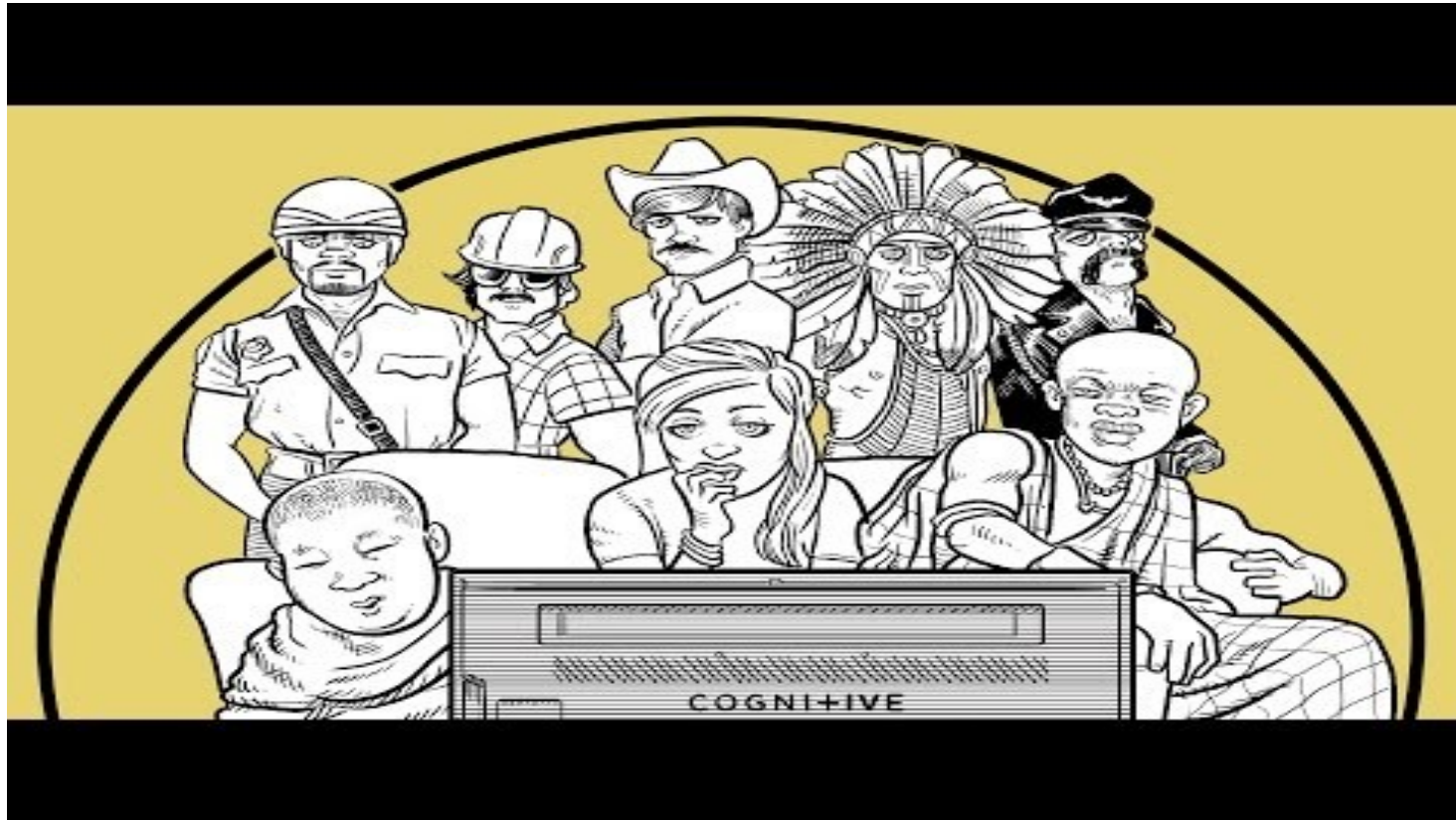
# Enter Professor McLuhan



The history of radio is instructive as an indicator of the bias and blindness induced in any society by its pre-existent technology.

Our past shapes our view of the present

# A primer on Medium is the Message





What is your earliest memory of radio?

Radio affects most people intimately, person-to-person, offering a world of ***unspoken*** communication between writer-speaker and listener. A private experience. The subliminal depths of radio are charged with the resonating echoes of tribal horns and antique drums.

## Understanding Media

Emphasis mine

# Reading and listening

- [John Hartford - Turn Your Radio On](#)
- London Calling – The Clash
- [Heroes Of Comedy The Goons](#), hosted by John Cleese (50 minutes, but worth it.)
- [Buggles - Video killed the radio star](#)

**My brain hurts!**



# Questions?