ZUR 393k:
Effects of Mass Media

Robinson, "Mass Communication and Information Diffusion"
Tichenor *et al.*, "Mass Media Flow and Differential Growth in Knowledge"

Outline:

Information Diffusion
  a. definition & examples
  b. research origins
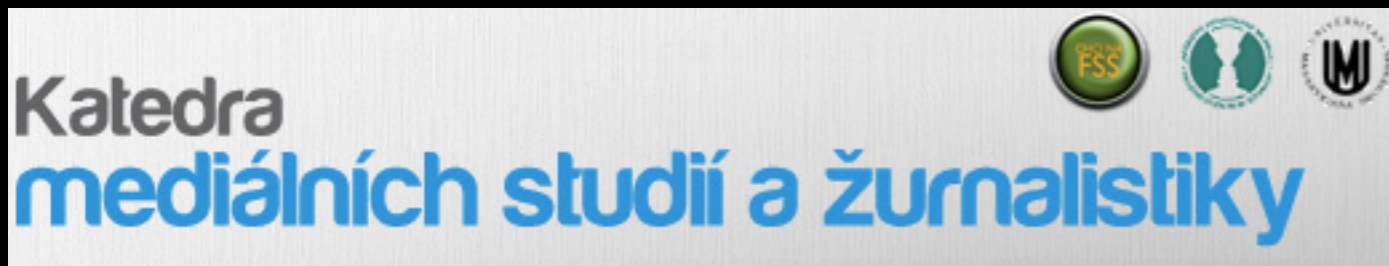 c. refinements & criticisms

Knowledge Gap
  a. definition
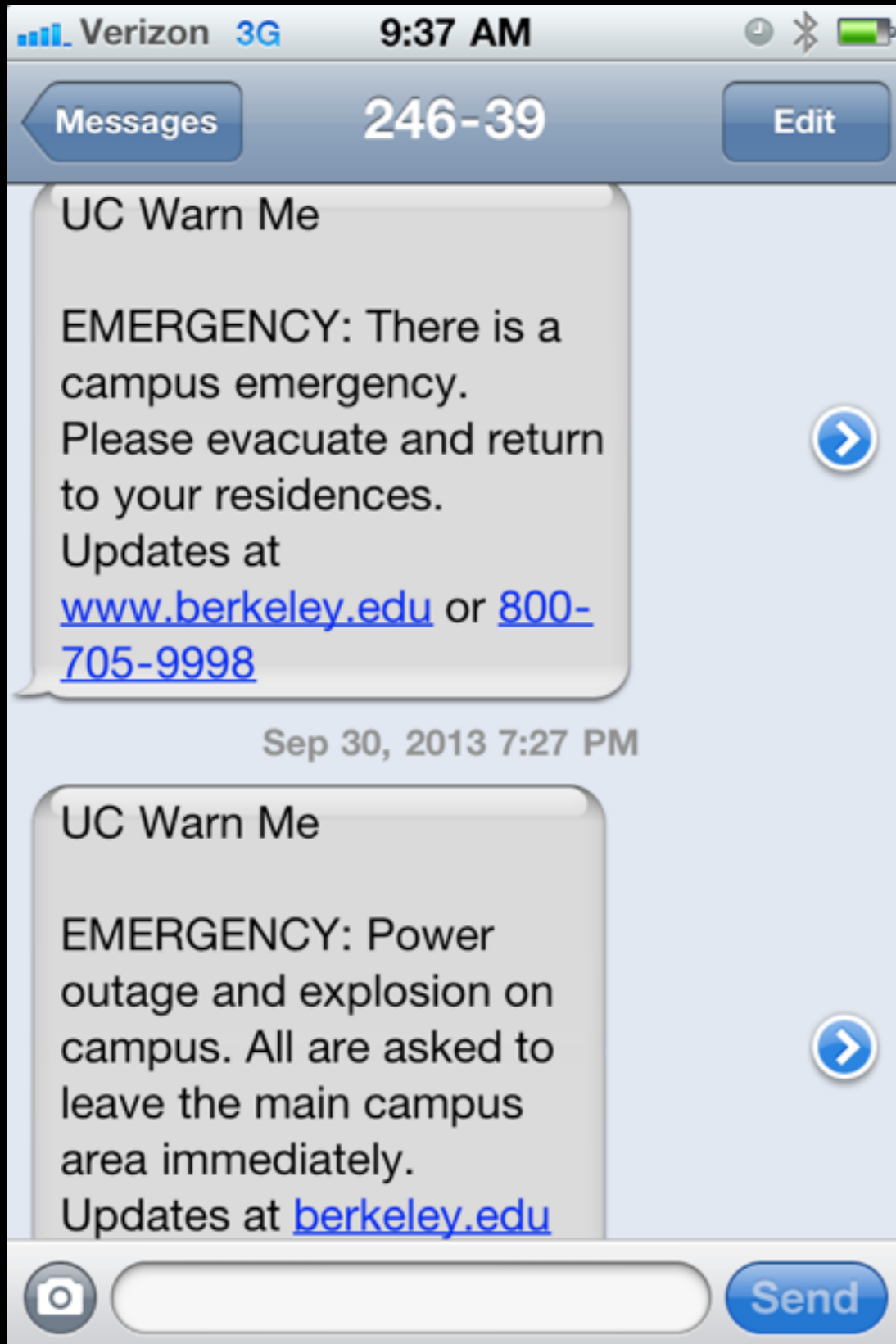 b. key hypotheses
  c. conclusions

Information Diffusion

- the process by which innovations spread to the members of a social system over time

- primarily concerned with messages that contain new ideas

Information diffusion

- pragmatic area of investigation

- cuts across disciplinary boundaries

UC Warn Me

EMERGENCY: There is a campus emergency. Please evacuate and return to your residences. Updates at www.berkeley.edu or 800-705-9998

Sep 30, 2013 7:27 PM

UC Warn Me

EMERGENCY: Power outage and explosion on campus. All are asked to leave the main campus area immediately. Updates at berkeley.edu

UNISDR
The United Nations Office for Disaster Risk Reduction

Regional Platforms for Disaster Risk Reduction
unisdr.org/we/coordinate/regional-platforms

Regional Platforms for Disaster Risk Reduction take place from Africa to the Pacific.

26 October 2015

cancer

International Agency for Research on Cancer

World Health Organization

IARC Monographs evaluate consumption of red meat and processed meat

Lyon, France, 26 October 2015 – The International Agency for Research on Cancer (IARC), the cancer agency of the World Health Organization, has evaluated the carcinogenicity of the consumption of red meat and processed meat.

Red meat

After thoroughly reviewing the accumulated scientific literature, a Working Group of 22 experts from 10 countries convened by the IARC Monographs Programme classified the consumption of red meat as *probably carcinogenic to humans* (Group 2A), based on *limited evidence* that the consumption of red meat causes cancer in humans and *strong* mechanistic evidence supporting a carcinogenic effect.

This association was observed mainly for colorectal cancer, but associations were also seen for pancreatic cancer and prostate cancer.

Processed meat

Processed meat was classified as *carcinogenic to humans* (Group 1), based on *sufficient evidence* in humans that the consumption of processed meat causes colorectal cancer.

Meat consumption and its effects

The consumption of meat varies greatly between countries, with from a few percent up to 100% of people eating red meat, depending on the country, and somewhat lower proportions eating processed meat.

The experts concluded that each 50 gram portion of processed meat eaten daily increases the risk of colorectal cancer by 18%.

https://www.iarc.fr/en/media-centre/pr/2015/pdfs/pr240_E.pdf

pabebe

Why the cute 'pabebe' wave from Asia is catching on

BBC Trending
What's popular and why

🕐 30 October 2015   ≪ Share

Millions of people in the Philippines and beyond are taking pictures of themselves giving a cute little wave called the "Pabebe". But why?

Facebook

KAUFFT NICHT BEI KANAKEN!

Models Leila Lowfire & Matthias Weidenhöfer

A cropped image from German photographer Olli Waldhauer's Facebook post protesting Facebook's tolerance of hate speech (Photo courtesy of Olli Waldhauer)

The photo shows a topless woman wearing nothing but underwear. She's standing behind a chair where a man sits fully clothed holding a sign that translates to: "Don't Buy From Kanaken" (a racist slur for Middle Eastern immigrants)—a nod to a sign from Nazi-era Germany about Jewish shops.

The image included this caption: "One of these people is violating Facebook's policy" with the hashtag, #nippelstatthetze, which translates to, "nipples instead of hate speech."

https://www.washingtonpost.com/news/inspired-life/wp/2015/11/03/facebook-removed-a-picture-with-a-naked-woman-and-a-man-with-a-racist-sign-guess-why-it-was-censored/

Origins in Wartime

- WWI - US dropped 3 million leaflets

- WWII - US dropped 3 billion leaflets

- Korean Conflict - US dropped 5-6 billion leaflets

- by March 2003 - US dropped 28 million leaflets over Iraq
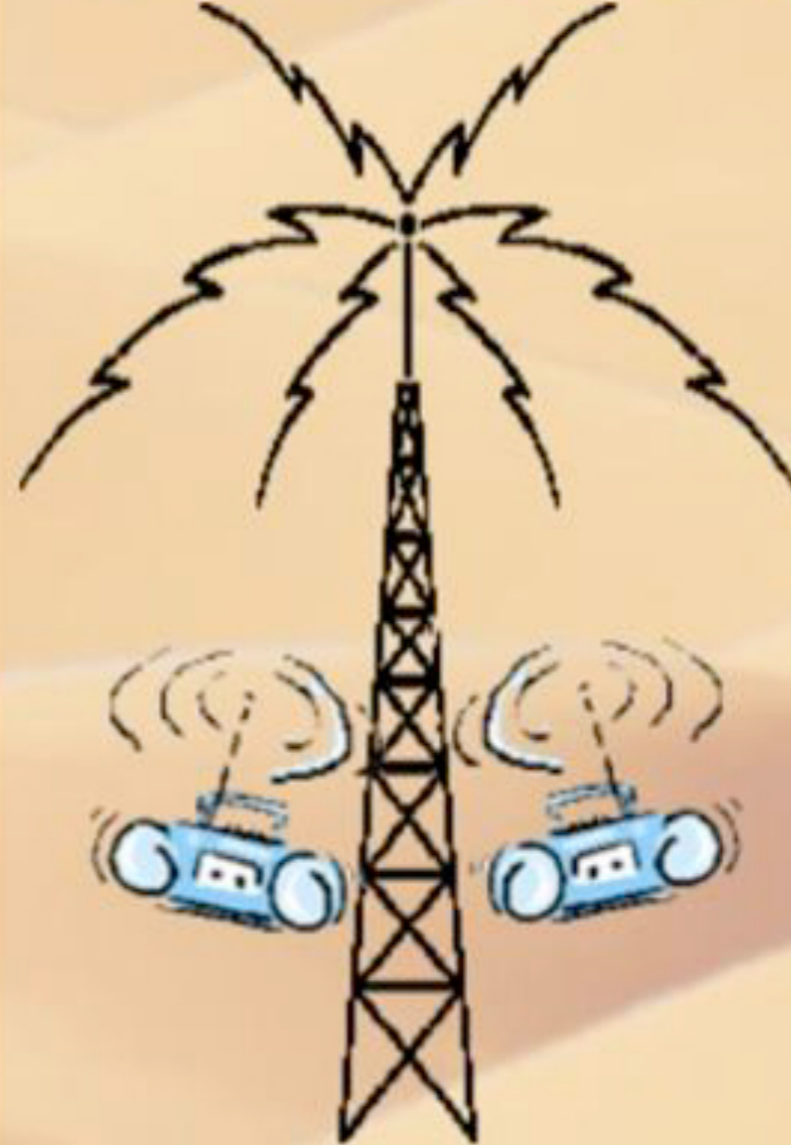
Information Radio

1800-2300 Daily
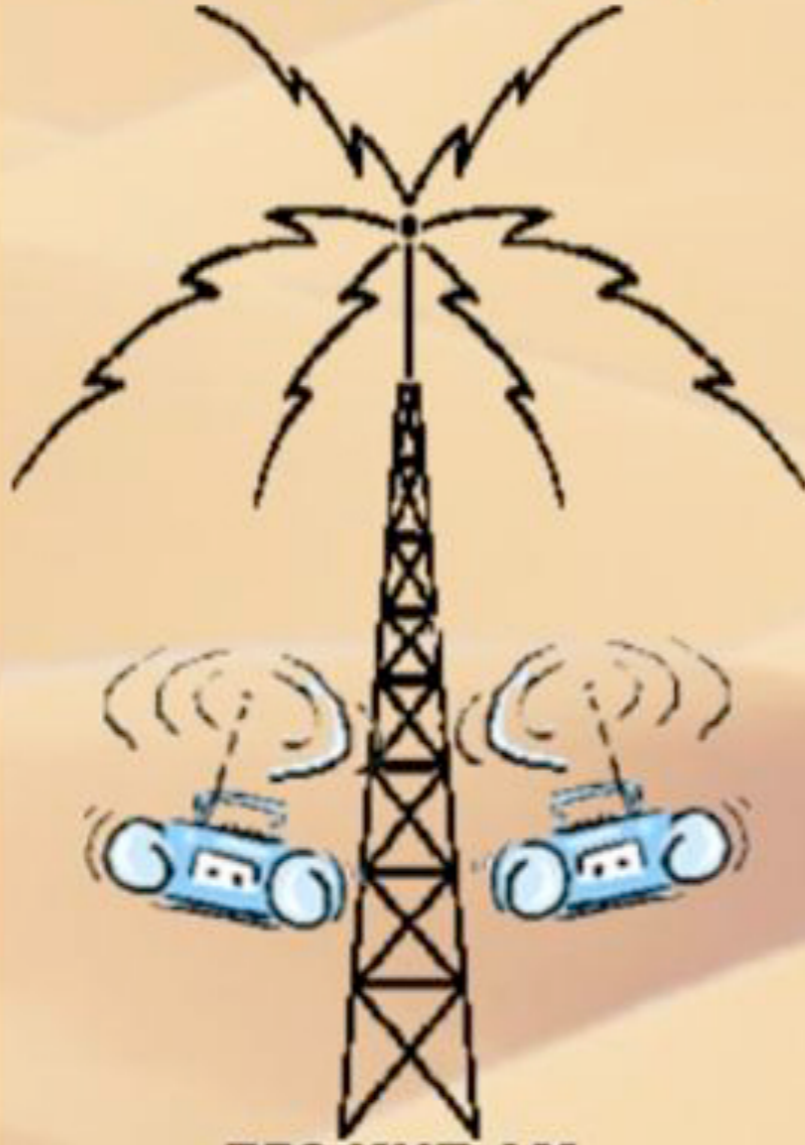
756 KHZ AM
693 KHZ AM
9715 KHZ SW
11292 KHZ SW
100.4MHZ FM

IZ D002

راديو المعلومات

يوميا من الساعة ٦ مساء حتى١١ ليلا

المتوسطة ٧٥٦ كيلو هرتز AM

المتوسطة ٦٩٣ كيلو هرتز AM

القصيرة ٩٧١٥ كيلو هرتز SW

القصيرة ١١٢٩٢ كيلو هرتز SW

والموجة ١٠٠٫٤ ميغاهرتز FM

IZ D002

Front

Then | If

رد فعل | فعل

020-01Dd

Back

You Decide

لك الخيار

020-01Dd

information diffusion begins as a way of testing both:

- **message delivery**

  - designing, printing, delivering to target audience

- **interpersonal message diffusion**

  - getting message talked about/further spread and reinforced

Project Revere

- research conducted at U. of Washington between 1951-1953

- funded by US Air Force

- Stuart Dodd

"Gold Shield Coffee: Good As Gold"

- 100 information diffusion studies in 1952 (Project Revere years)

- 2800 information diffusion studies in 1978

FIGURE 1
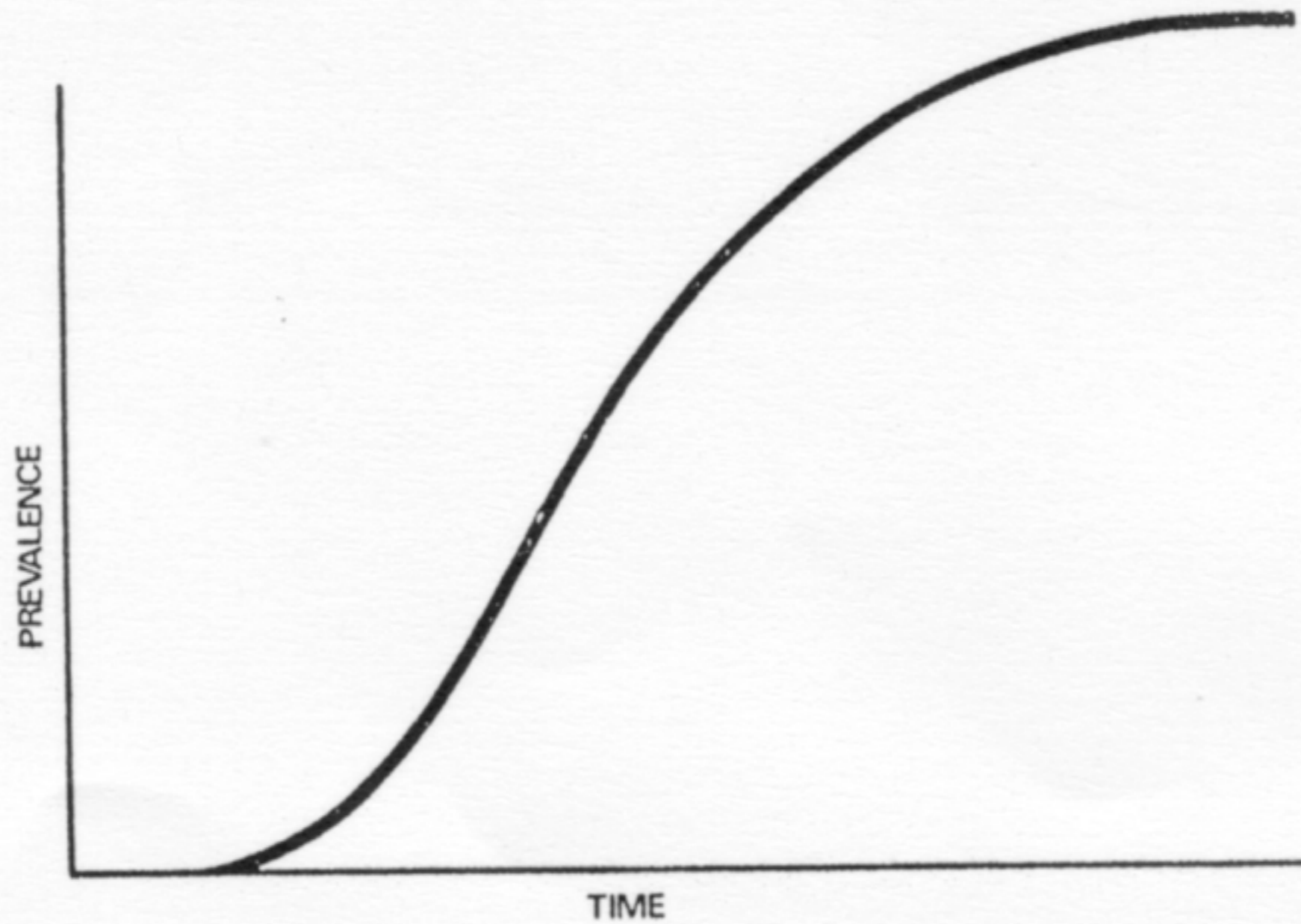
The S-curve of adoption of an innovation
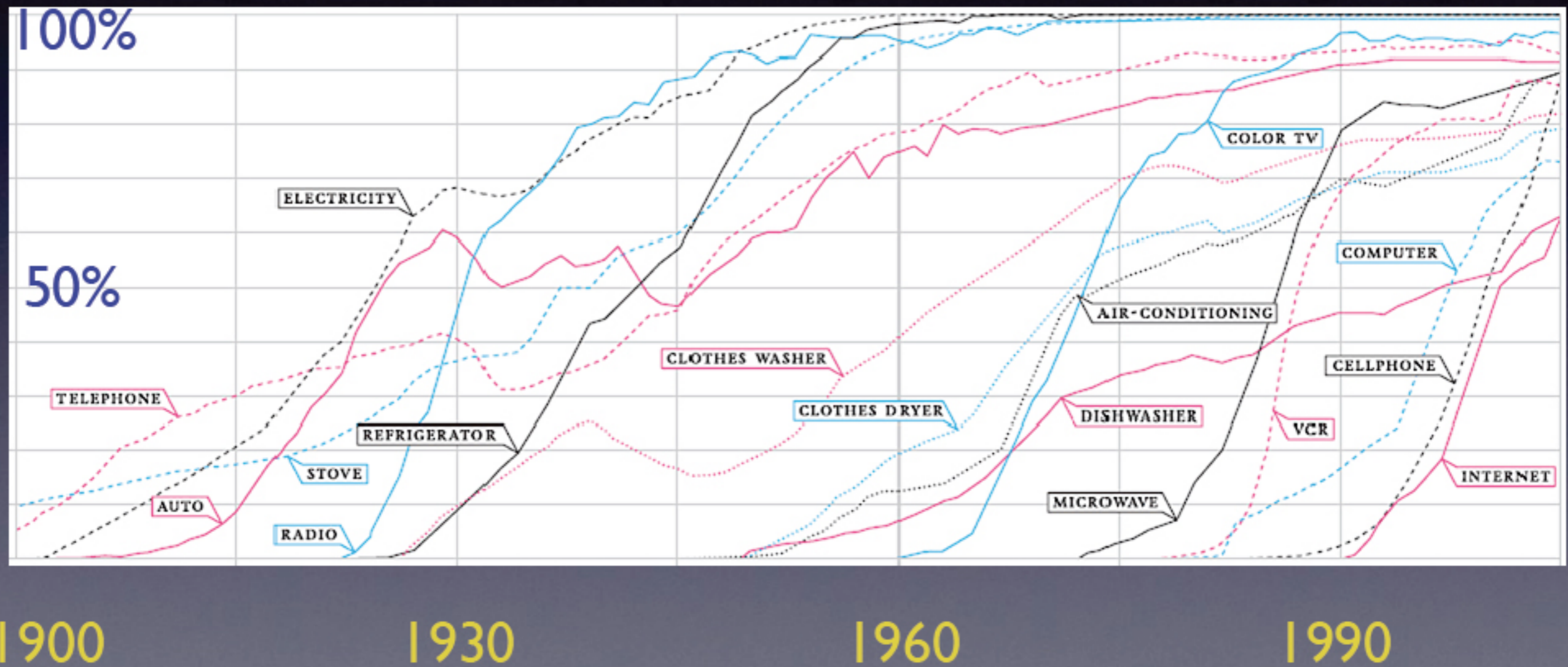
The 5 Customer Segments of Technology Adoption

Market share %

100

75

50

25

0

| Innovators 2.5 % | Early Adopters 13.5 % | Early Majority 34 % | Late Majority 34 % | Laggards 16 % |
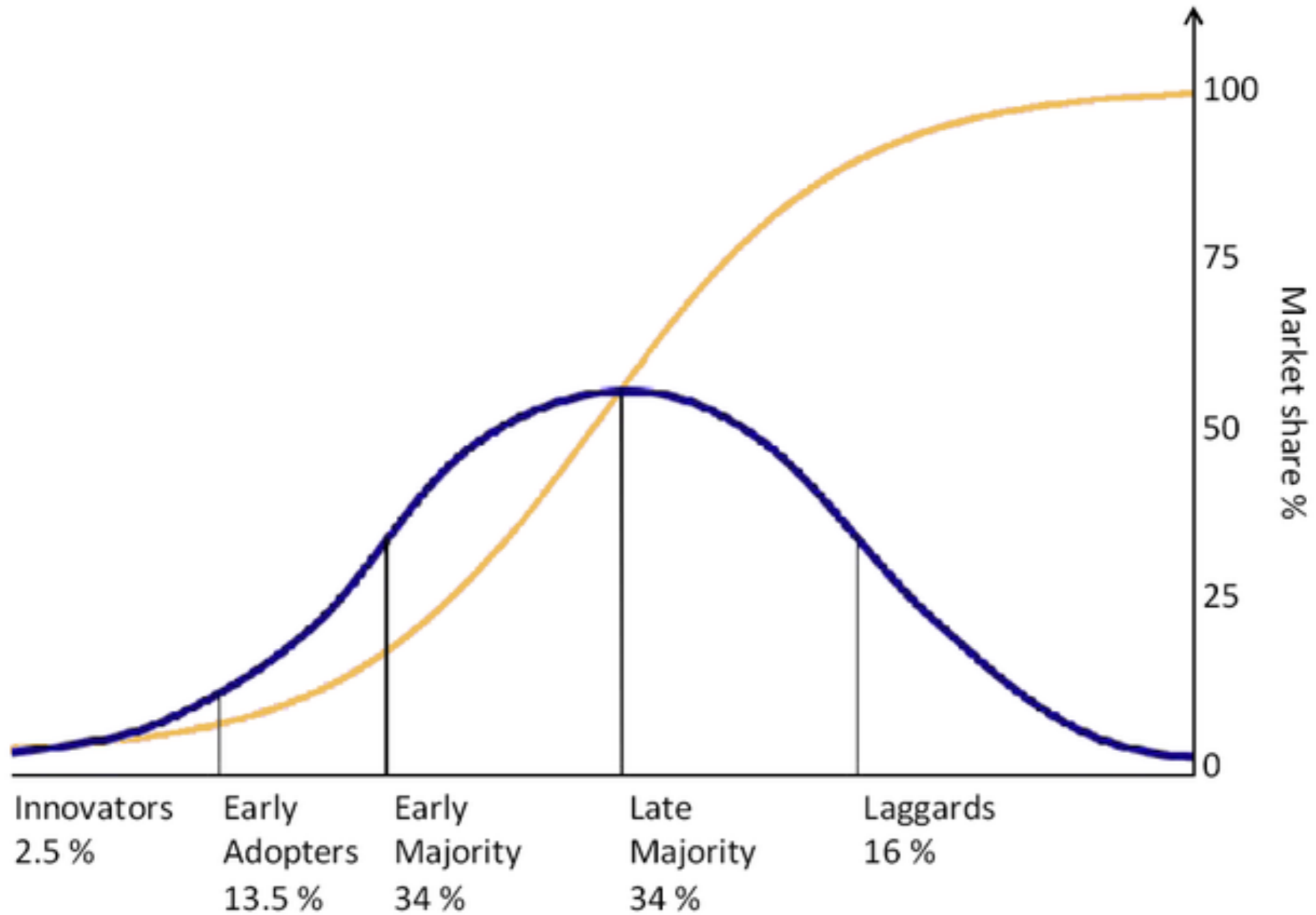
Google Glass annual sales forecast from 2014 to 2018
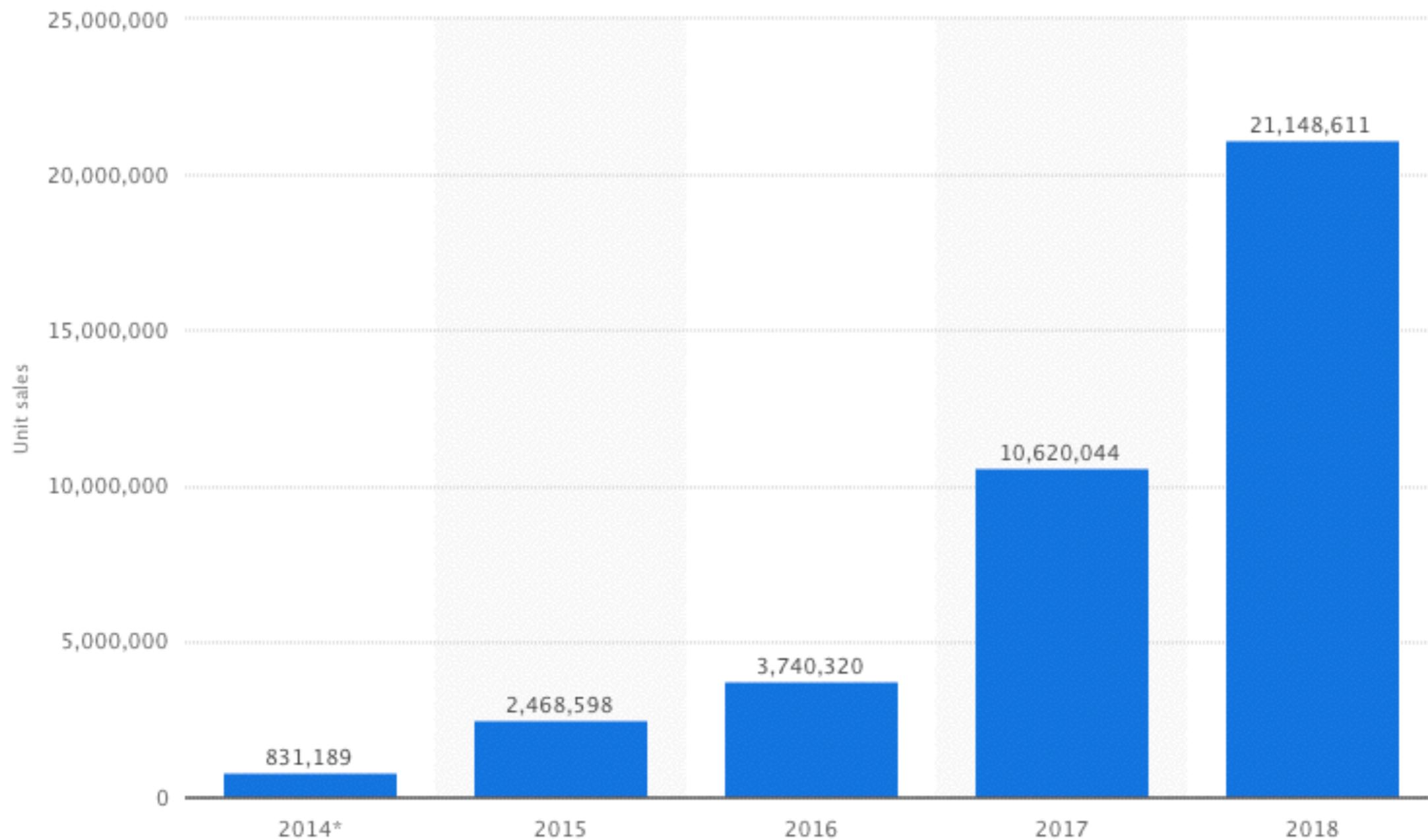
http://www.statista.com/statistics/259348/google-glass-annual-sales-forecast/

Types of Innovation

1. preventive innovation

- adopt now to avoid (potential) loss of desired value in the future

- e.g. seat belt, smoke alarm, contraceptive

Types of Innovation

2. incremental innovation

- adopt now to gain a *possible* increase in a desired value in the future

- new seed, new fashion

preventive innovations usually follow a slower rate of adoption

Criticisms of Information Diffusion Studies

1. most studies focus on adoption -- and ignore post-adoption use maintenance or modifications

2. studies in developing countries tend to accentuate rather than reduce unequal resources

3. most studies employ a linear and top-down model of communication

KNOWLEDGE GAP

- research sparked by a sense that new mass media were not really living up to their potential for information dissemination

KNOWLEDGE GAP

As the infusion of mass media information into a social system increases, segments of the population with higher socioeconomic status tend to acquire this information at a faster rate than the lower status segments, so that the gap in knowledge between these segments tends to increase rather than decrease.

underlying assumption

as people learn more, their interest increases, and as their interest increases, they are impelled to learn more

5 contributory factors

(Tichenor, Olien, & Donahue)

- communication skills

- stored information

- relevant social contacts

- selectivity

- nature of the mass media system

knowledge gap should be visible:

1. at any given point in time

   - higher correlation between acquisition of knowledge and education for topics highly publicized in the media than for topics less highly publicized

Weekly News Quiz | Oct. 27-Nov. 2, 2015

By KATHERINE SCHULTEN   NOVEMBER 3, 2015 7:24 AM   💬 Comment

Above is a photograph related to one of the news stories we have followed recently. Do you know what it shows? Maxim Grigoriev/Russian Ministry for Emergency Situations, via Associated Press

Weekly News Quiz | Oct. 27-Nov. 2, 2015

By KATHERINE SCHULTEN   NOVEMBER 3, 2015 7:24 AM   💬 Comment

2 Driven by fears that an aging population could jeopardize China's economic ascent, the Communist

Adam Dean for The New York Times

Party leadership ended its decades-old "one child" policy on Oct. 29, announcing that all married couples would be _____.

allowed to have two children

encouraged to have as many children as possible

penalized for having any children at all

penalized for having fewer than three children

Weekly News Quiz | Oct. 27-Nov. 2, 2015

By KATHERINE SCHULTEN   NOVEMBER 3, 2015 7:24 AM   Comment

4   President Obama announced on Oct. 30 that he had ordered several dozen Special Operations troops into

Zach Gibson/The New York Times

_____ for the first open-ended mission by United States ground forces in that country, deepening American involvement in a war he has tried to avoid for more than four years.

Afghanistan

Iraq

Syria

Turkey

Weekly News Quiz | Oct. 27-Nov. 2, 2015

By KATHERINE SCHULTEN   NOVEMBER 3, 2015 7:24 AM   💬 Comment

6 All of the following made pop culture news this past week, but which of them broke a record for popularity?

CBS

A planned "Hunger Games" theme park

Adele's new single, "Hello"

A new "Star Trek" TV series

The movie "The Martian"

Weekly News Quiz | Oct. 27-Nov. 2, 2015

By KATHERINE SCHULTEN NOVEMBER 3, 2015 7:24 AM 💬 Comment

7 In a stunning electoral comeback, the Islamist party of President Recep Tayyip Erdogan regained its majority in Parliament on

Ozan Kose/Agence France-Presse — Getty Images

Nov. 1, ensuring Mr. Erdogan's continued dominance of _____ politics after months of political turmoil and violence.

Iraqi

Pakistani

Syrian

Turkish

http://www.pewresearch.org/quiz/the-news-iq-quiz/

The News IQ Quiz

Which country is Pope Francis originally from?

1

2

3

4

Next Question →

http://www.pewresearch.org/quiz/the-news-iq-quiz/

http://www.pewresearch.org/quiz/the-news-iq-quiz/

http://www.pewresearch.org/quiz/the-news-iq-quiz/

The News IQ Quiz

Demographic Question

Are you:

Male

Female

Demographic Question

What is your age?

Under 18

18-29

30-49

50-64

65+

Demographic Question

What is the last grade or class that you completed in school?

High school or less

Some college

College graduate

http://www.pewresearch.org/quiz/the-news-iq-quiz/

The News IQ Quiz Results

You answered **12 of 12** questions correctly.

See below to review your responses and compare results with a nationally representative sample of 3,147 adults who took part in our survey. For more findings from the survey, read "What the Public Knows - In Pictures, Words, Maps and Graphs."

You scored better than 90% of the population and the same as 10%.

TOTAL NUMBER OF QUESTIONS ANSWERED CORRECTLY

Bar chart values: 0: <1%, 1: 1%, 2: 2%, 3: 4%, 4: 5%, 5: 8%, 6: 8%, 7: 9%, 8: 13%, 9: 13%, 10: 14%, 11: 13%, 12: 10%
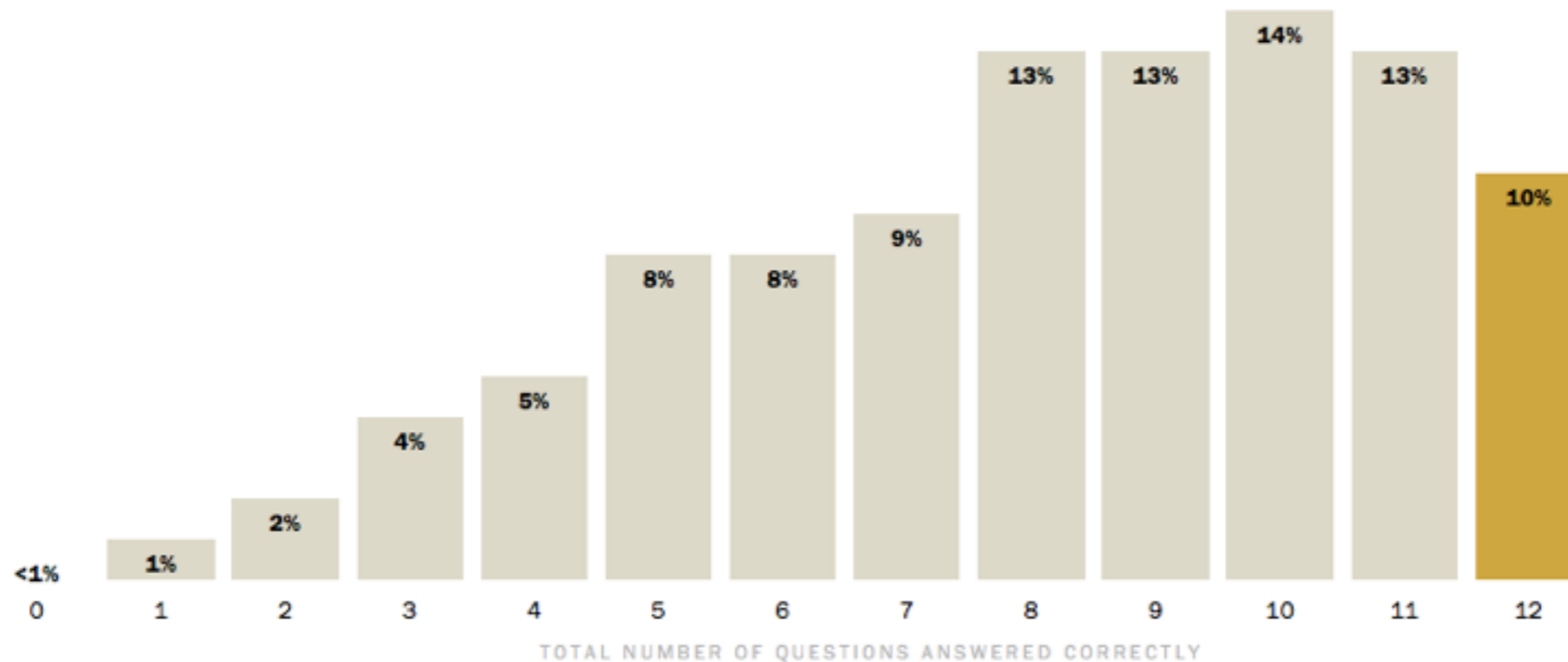
Your results are compared with those of 3,147 adults in the nationally representative survey, not to those who have taken the quiz on this site. The table below shows the percent who answered each question correctly across demographic groups, based on the nationally representative survey.

http://www.pewresearch.org/quiz/the-news-iq-quiz/

The Public's News IQ

% answering each question correctly

Question	%
Martin Luther King, Jr. (photo)*	91
Need to indicate insurance coverage on ... taxes	84
Leader of North Korea (Kim Jong-un, photo)*	82
Where is Guantanamo located? (Cuba, from map)*	78
US re-established relations with ... Cuba	76
Route of Keystone XL pipeline (map)*	73
Unemployment rate '09-'14 (chart)*	72
Who is Malala (photo)? (2014 Nobel Prize winner)*	63
Senate party balance (from set of four charts)*	52
Pope Francis is from ... Argentina (from map)*	52
Elizabeth Warren (from set of four photos)*	51
Number of SCOTUS justices that are women (three)	33

*Indicates a visual question for which respondents were shown images. American Trends Panel (wave 10). Survey conducted Mar 10-Apr 6, 2015. All questions are multiple choice; for full wording see survey topline.

PEW RESEARCH CENTER

Modest Generational Differences in News Knowledge

% answering each question correctly

	Mille-nnial 18-34 %	Gen X 35-49 %	Boomer 50-69 %	Silent 70-87 %	Mill-Silent diff
Martin Luther King, Jr. (photo)	96	89	89	89	+7
Need to indicate insurance coverage on ... taxes	83	88	84	79	+4
Where is Guantanamo located? (Cuba, from map)	80	80	76	76	+4
Unemployment rate '09-'14 (chart)	73	75	68	71	+2
Leader of North Korea (Kim Jong-un, photo)	83	79	82	83	0
Number of SCOTUS justices that are women (three)	34	32	32	36	-2
Who is Malala (photo)? (2014 Nobel Peace Prize winner)	58	63	68	64	-6
Current Senate party composition (from set of four charts)	47	53	56	58	-11
Pope Francis is from ... Argentina (from map)	46	54	53	58	-12
Elizabeth Warren (from set of four photos)	45	51	54	59	-14
Route of proposed Keystone XL pipeline (map)	67	73	76	83	-16
U.S. recently re-established relations with ... Cuba	69	73	80	86	-17
Average number correct overall	7.8	8.1	8.2	8.4	+0.6

American Trends Panel (wave 10). Survey conducted Mar 10-Apr 6, 2015. Significant differences in **bold**. All questions are multiple choice; for full wording see survey topline.

PEW RESEARCH CENTER

http://www.pewresearch.org/quiz/the-news-iq-quiz/

Educational Differences in Knowledge Persist

As in the past, there are substantial differences in news awareness by levels of education. Still, half or more of those with no more than a high school education answered eight of 12 questions correctly.

The education gap is particularly wide in the question about Pope Francis' native country. Large majorities of both post-graduates (81%) and college graduates (71%) are able to correctly identify Argentina as the pope's home country, while only about four-in-ten of those with some college experience (43%) and a high school degree or less (38%) can do so.

By contrast, roughly nine-in-ten across educational categories are able to identify Martin Luther King Jr. It is the only question on which there are no significant differences by education.

Post-Grads Most Knowledgeable, But Fewer Than Half Know Number of Women on Supreme Court

% answering each question correctly

	HS or less %	Some college %	College degree %	Post grad degree %	Post-grad HS diff
Pope Francis is from … Argentina (from map)	38	43	71	81	+43
Current Senate party composition (from set of four charts)	38	45	67	76	+38
Who is Malala (photo)? (2014 Nobel Peace Prize winner)	50	56	78	87	+37
Elizabeth Warren (from set of four photos)	37	44	62	74	+37
U.S. recently re-established relations with … Cuba	64	70	88	93	+29
Where is Guantanamo located? (Cuba, from map)	66	73	91	93	+27
Route of proposed Keystone XL pipeline (map)	61	68	86	88	+27
Unemployment rate '09-'14 (chart)	63	67	81	85	+22
Leader of North Korea (Kim Jong-un, photo)	73	78	90	93	+20
Number of SCOTUS justices that are women (three)	26	30	40	42	+16
Need to indicate insurance coverage on … taxes	78	81	91	91	+13
Martin Luther King, Jr. (photo)	89	91	94	92	+3
Average number correct overall	6.8	8.2	9.4	10.0	+3.2

American Trends Panel (wave 10). Survey conducted Mar 10-Apr 6, 2015. Significant differences in **bold**. All questions are multiple choice; for full wording see survey topline.

PEW RESEARCH CENTER

http://www.pewresearch.org/quiz/the-news-iq-quiz/

knowledge gap should be visible:

2. over time

   - acquisition of knowledge about heavily publicized topic will proceed at a faster rate among better educated persons than among those with less education

PewResearchCenter

U.S. POLITICS   MEDIA & NEWS   SOCIAL TRENDS   RELIGION   INTERNET & TECH   HISPANICS   GLOBAL

PUBLICATIONS   TOPICS   DATA   INTERACTIVES   FACT TANK   ABOUT

Science and Technology Knowledge Quiz

Question 2 of 13

Electrons are smaller than atoms. Is this statement...

True

False

Next Question →

Question 3 of 13

Lasers work by focusing sound waves. Is this statement...

True

False

Next Question →

PewResearchCenter

U.S. POLITICS MEDIA & NEWS SOCIAL TRENDS RELIGION INTERNET & TECH HISPANICS GLOBAL

PUBLICATIONS TOPICS DATA INTERACTIVES FACT TANK ABOUT

Science and Technology Knowledge Quiz

Which gas makes up most of the Earth's atmosphere?

Hydrogen

Nitrogen

Carbon dioxide

Oxygen

Next Question →

http://www.pewresearch.org/quiz/science-knowledge/

About eight-in-ten Americans (83%) identify ultraviolet as the type of radiation that sunscreen protects against. Nearly as many (77%) know that the main concern about the overuse of antibiotics is that it can lead to antibiotic-resistant bacteria.

However, only about half (51%) of the public knows that "fracking" is a process that extracts natural gas, not coal, diamonds or silicon from the earth.

Similarly, knowledge of basic scientific concepts differs greatly across questions. While most Americans (78%) know that the basic function of red blood cells is to carry oxygen to all parts of the body, just 20% could identify nitrogen as the gas that makes up most of the atmosphere.

Knowledge of Science and Technology

Science in the news/daily life — **% correct**

Question	Answer	% correct
Sunscreen protects from what radiation?	Ultraviolet	83
Major concern about overuse of antibiotics?	Resistant bacteria	77
Nanotechnology deals with?	Small things	65
Gas believed to cause rising temperatures?	Carbon dioxide	58
Resource extracted in "fracking"?	Natural gas	51

Textbook science

Question	Answer	% correct
What is the main function of red blood cells?	Carry oxygen	78
The continents have been moving over millions of years and will continue to move.	True	77
Better way to test a new drug's effectiveness?	Control group	75
All radioactivity is man-made.	False	66
Which is an example of chemical reaction?	Nails rusting	66
Lasers work by focusing sound waves.	False	48
Electrons are smaller than atoms.	True	47
What gas makes up most of atmosphere?	Nitrogen	20

PEW RESEARCH CENTER/SMITHSONIAN MAGAZINE March 7-10, 2013.
Percent correct on 13 multiple-choice and true/false questions.

http://www.people-press.org/2013/04/22/publics-knowledge-of-science-and-technology/

Wide Educational Differences in Knowledge

	HS or less	Some coll	Coll grad+	Coll-HS diff
% who answered each correctly	%	%	%	%
Nanotechnology deals with? (Small things)	46	72	84	+38
Major concern about overuse of antibiotics? (Resistant bacteria)	58	85	95	+37
All radioactivity is man-made. (False)	54	69	82	+28
Which is an example of a chemical reaction? (Nails rusting)	54	68	81	+27
Gas believed to cause rising temperatures? (Carbon dioxide)	49	55	76	+27
Resource extracted in fracking? (Natural gas)	39	53	66	+27
Electrons are smaller than atoms. (True)	34	54	59	+25
What is the main function of red blood cells? (Carry oxygen)	66	86	89	+23
Lasers work by focusing sound waves. (False)	35	56	58	+23
Sunscreen protects from what radiation? (Ultraviolet)	72	91	91	+19
Better way to test effectiveness of new drug? (Control group)	67	76	86	+19
What gas makes up most of earth's atmosphere? (Nitrogen)	12	22	31	+19
Continents have been moving for millions of years and will continue to move. (True)	68	83	85	+17
Average number correct overall	6.5	8.7	9.8	+3.3

http://www.people-press.org/2013/04/22/publics-knowledge-of-science-and-technology/

To test long term:

- (1954) Do you believe man will reach the moon in the next 50 years?

    - concern: are you testing belief/opinion or knowledge?
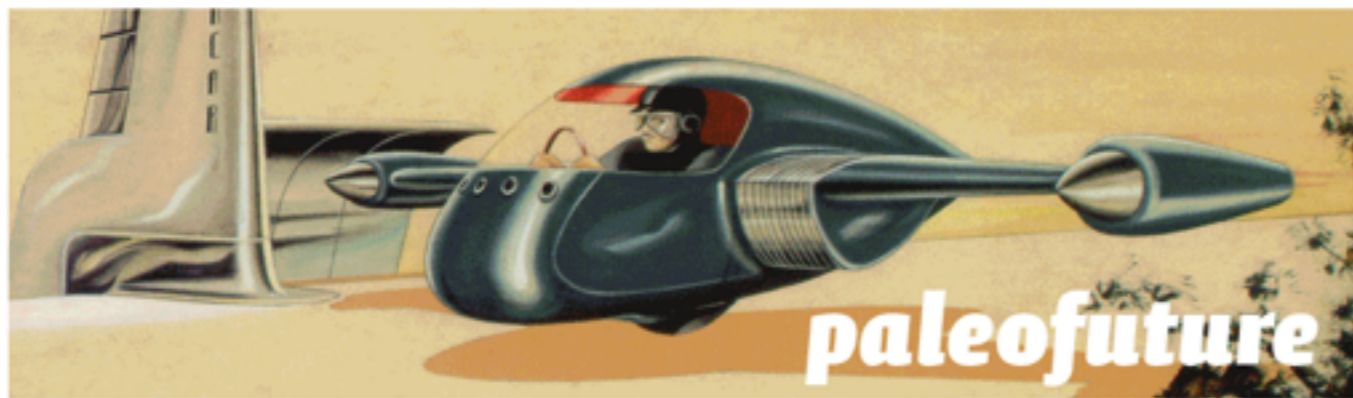
1954

Knowledge Gap Research Continues

- 1960s "War on Poverty"

  - *Sesame Street*

- late 1970s: long-term implications for knowledge gap within local communities

"Creation of greater differentials in knowledge across a society is itself a profound social effect, and may be a central factor in future social change" (Tichenor, Olien, and Donahue, p. 170).

Tichenor, Olien, and Donahue (1982)

"The media systematically project definitions of issues which are conducive to the interests of the established power groups. By doing so they reinforce or increase the gaps in social power between established groups and other groups. **Media as social mirrors reflect perspectives not merely of power alone, but of power relationships in society.**"

VARIATIONS
in agenda-setting research

2. IYENGAR & KINDER (1987)

laboratory experiments

- questionnaire about key issues

- view doctored newscast

- re-polled about key issues

priming effect as "agenda setting"
on an individual (psychological) level

The "priming" effect:

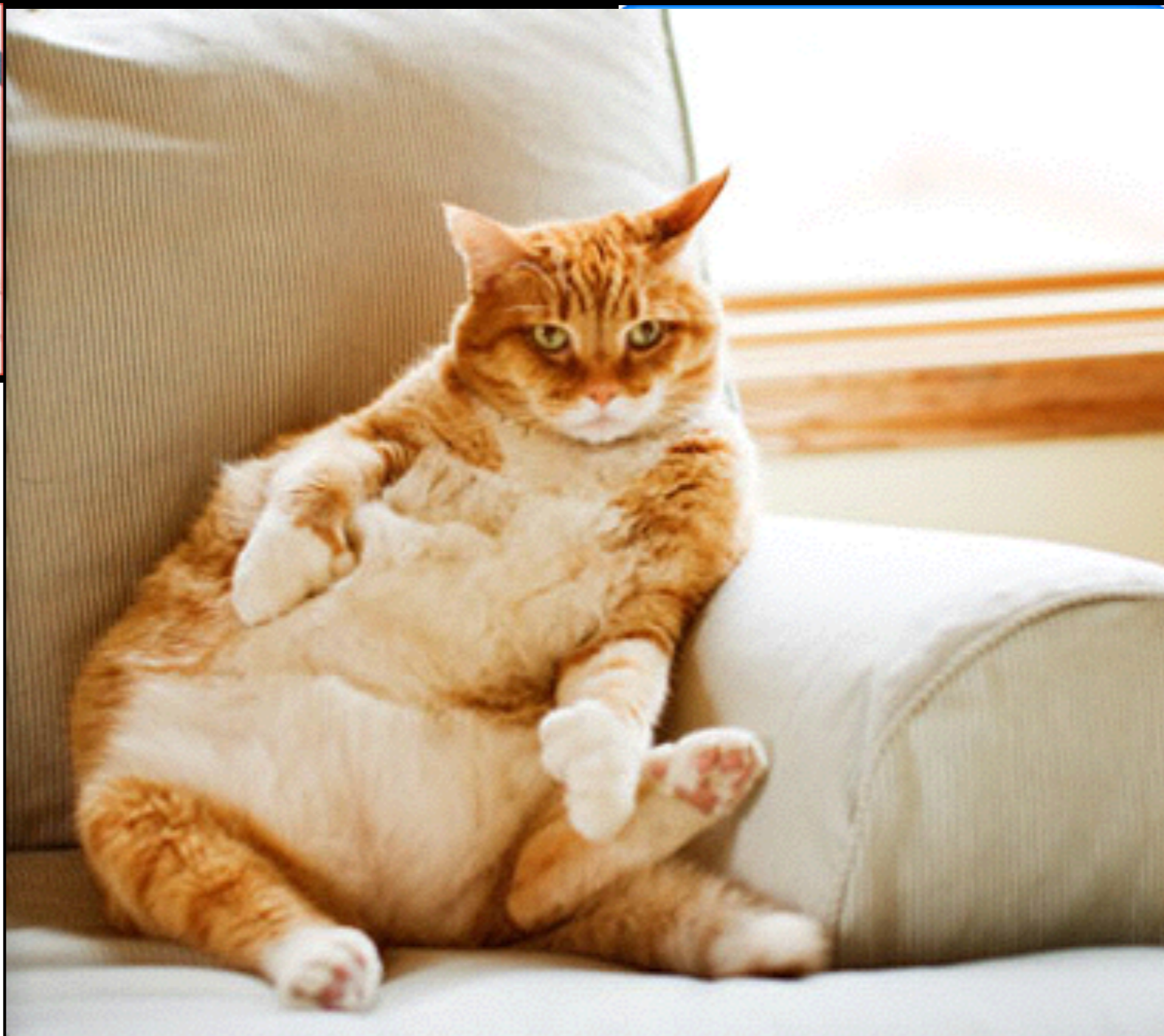The presentation of a certain stimulus with a particular meaning "primes" (or stimulates) related concepts or thoughts--and, in certain cases, related actions.

"cookie"

On the waves of your dreams
You are gliding forward
Towards the unknown shores
Of your better life.

HEY GIRL

YOU KILLED THAT BOX OF FROSTED
COOKIES...FIST BUMP.
memegenerator.net

C is for Cookie

BEN & JERRY'S
Cookie Dough
ICE CREAM

Cookie
21 STORAGE SOLUTIONS
LIV TYLER on the simple pleasures of family time
Easy Summer Hair
MOM Rx: MEDICINE-CABINET MUST-HAVES
54 WAYS TO BE THE PERFECT DAD
PLUS The best photo albums, bathing suits, outdoor toys, and more

BERKOWITZ'S CONCLUSION

After viewing depictions of violence in the media, under certain circumstances and for a short period of time, there is an increased chance that viewers will:

1. have hostile thoughts that will color their interpretations of others

2. believe other forms of aggression are justified and/or will bring benefits

3. be aggressively inclined

"There is no longer a question as to whether the portrayal of violence in the mass media can increase the chances that some people in the audience will act aggressively themselves. Such an effect can occur and often does."

(Berkowitz, 1994, p. 44)