

# RL Thorndike

## The Man and His Legacies

Neal Kingston  
University of Kansas

# Who was Robert Ladd Thorndike?



- Genealogically
- Historically
- Professionally
- Humanly

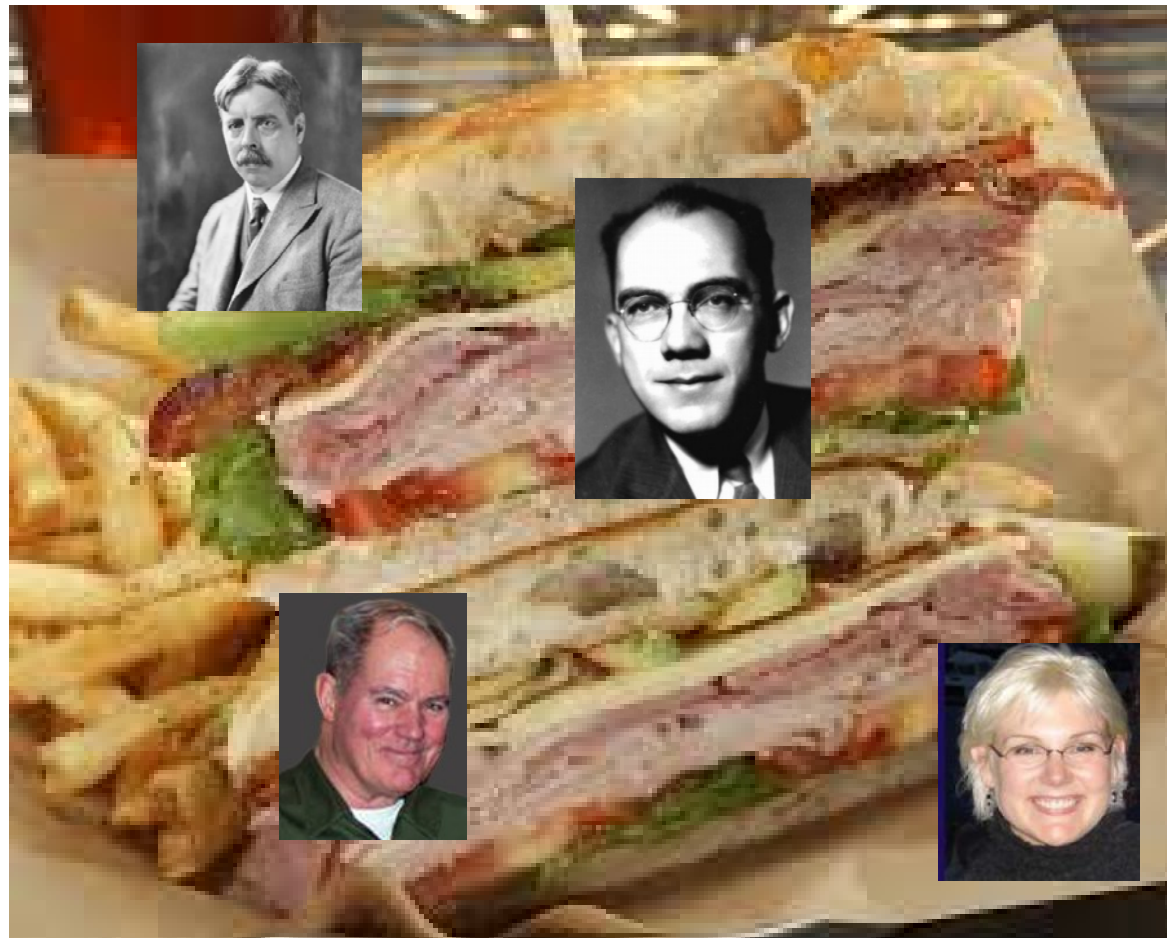
# Genealogically

- The ham in the middle of the sandwich

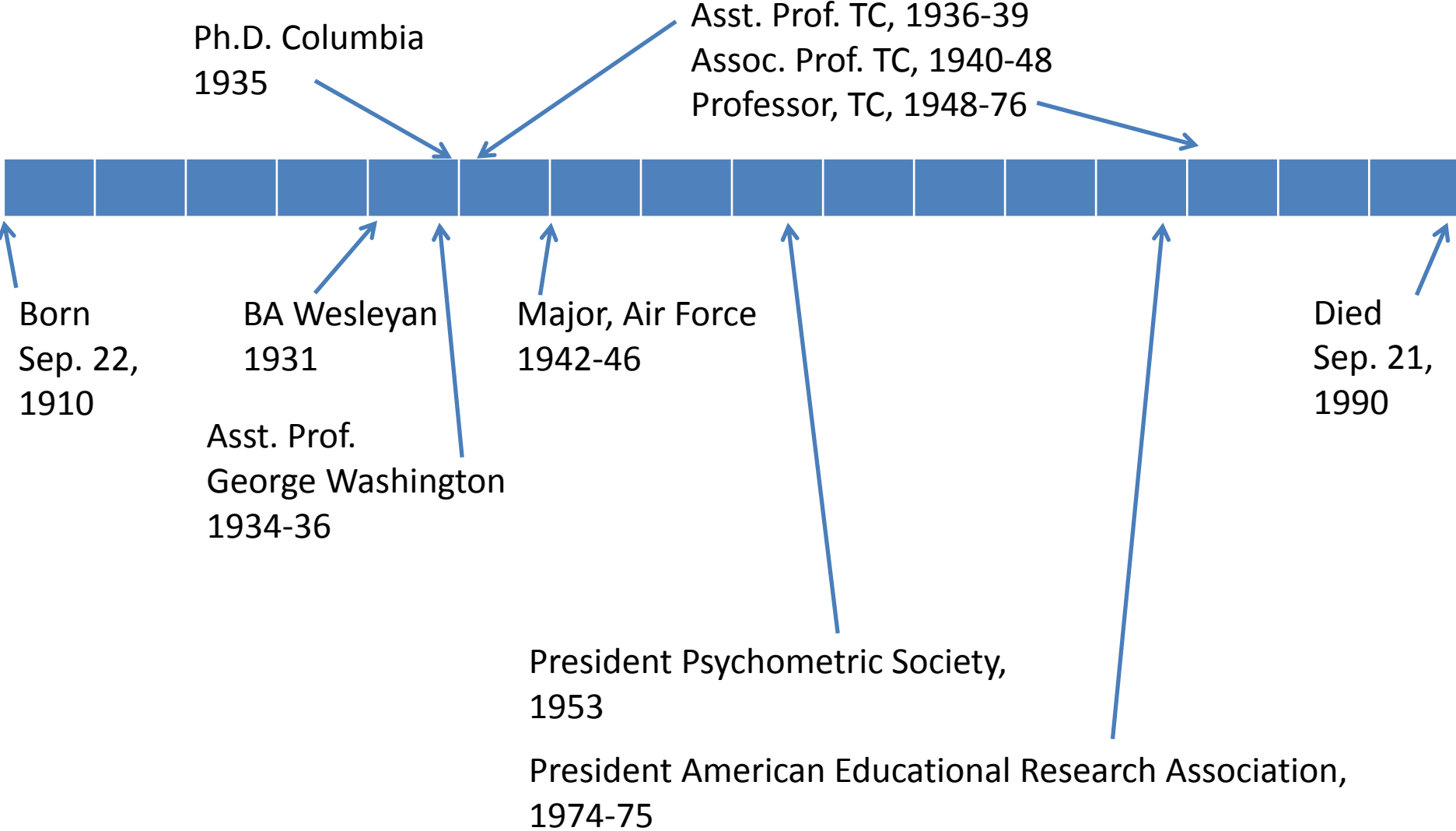


# Genealogically

- The ham in the middle of a club sandwich



# Historically



# Professionally

- Test Developer
- Psychometrician
- Industrial and Military Psychologist
- Educational Researcher

I did not want to miss anything so I asked the TC archives for his vita

ROBERT LADD THORNDIKE

Born, Montrose, New York, September 22, 1910

B. A., Wesleyan, 1931  
M. A., Columbia, 1932  
Ph.D., Columbia, 1935

Instructor, George Washington University, 1934-35  
Assistant Professor, George Washington University, 1935-36

Member, Phi Beta Kappa, Sigma Xi, American Psychological Association  
(Associate)

Author: The effect of the interval between test and retest on the  
constancy of the I.Q. - Journal of Educational Psychology, 1933  
Organization of behavior in the albino rat - Genetic Psychology  
Monograph, 1935

# So I used Harzing's Publish or Perish

# Harzing's Publish or Perish

File Edit View Tools Help

Author impact analysis - Perform a citation analysis for one or more authors

Author's name: "RL Thorndike"

Exclude these names:

Year of publication between: 0 and: 0

Data source: Google Scholar

**Results**

Papers:	333	Papers/author:	245.84	h-index:	40	"RL Thorndike": all Query date: 2013-11-29 Papers: 333 Citations: 11108 Years: 81
Citations:	11108	Cites/year:	137.14	g-index:	103	
Years:	81	Cites/auth/year:	86.60	hc-index:	15	
Cites/paper:	33.36	hI,annual:	0.46	hI,norm:	37	

Cites	Per y...	Authors	Title	Year	Publication
✓ h 1861	66.46	RL Thorndike, EP Hagen, JM Sattler	Stanford-Binet intelligence scale	1986	
✓ h 1722	32.49	RL Thorndike, E Hagen	Measurement and evaluation in psychology and education .	1961	
✓ h 810	12.46	RL Thorndike	Personnel selection; test and measurement techniques.	1949	
✓ h 491	11.98	RL Thorndike...	Reading comprehension education in fifteen countries: An empirical study	1973	
✓ h 405	9.42	RL Thorndike, WH Angoff	Educational measurement	1971	
✓ h 364	5.78	..., DG Ryans, G Spaulding, JM St...	Educational measurement	1951	
✓ h 339	10.59	RL Thorndike	Applied psychometrics	1982	
✓ h 295	6.86	RL Thorndike	Concepts of culture - fairness	1971	Journal of Educational
✓ h 282	5.53	RL Thorndike	THE CONCEPTS OF OVER-AND UNDERACHIEVEMENT.	1963	
✓ h 280	7.00	RL Thorndike, EP Hagen, I Lorge	Cognitive abilities test	1974	
✓ h 246	3.19	RL Thorndike, S Stein	An evaluation of the attempts to measure social intelligence.	1937	Psychological Bulletin
✓ h 171	6.11	RL Thorndike, EP Hagen, JM Sattler	The Stanford-Binet intelligence scale: Guide for administering and scoring	1986	
✓ h 166	2.72	RL Thorndike	Who belongs in the family?	1953	Psychometrika
✓ h 157	3.83	RL Thorndike	Reading as reasoning	1973	Reading Research Qu.
✓ h 128	2.33	RL Thorndike, E Hagen	Ten thousand careers.	1959	
✓ h 122	9.38	DF Lohman, EP Hagen, RL Thorndike	Cognitive abilities test	2001	Windsor: NFER-Nelson
✓ h 122	4.36	RL Thorndike	The role of general ability in prediction	1986	Journal of Vocational E
✓ h 111	3.96	RL Thorndike, EP Hagen, JM Sattler	Technical manual	1986	Chicago, Hagen, EP S.
✓ h 100	1.32	RL Thorndike	The effect of discussion upon the correctness of group decisions, whe...	1938	The Journal of Social F
✓ h 97	1.39	RL Thorndike, GH Gallup	Verbal intelligence of the American adult	1944	The Journal of Genera





# Test Developer

- Test Construction and Theory of Measurement
  - The objective of the course has not been to create theoreticians, but rather to develop soundly grounded practitioners of the test-making art.
    - Thorndike, R.L. (1982). Applied Psychometrics. Boston: Houghton Mifflin.

# Developer of intelligence tests

- Lorge-Thorndike Intelligence Test (1954)
- Cognitive Abilities Test (1974)
- Stanford-Binet, 4<sup>th</sup> edition(1986)

# And wrote or influenced many other tests

- Thorndike Dimensions of Temperament
- International testing comparison programs

# Applied Psychometrician

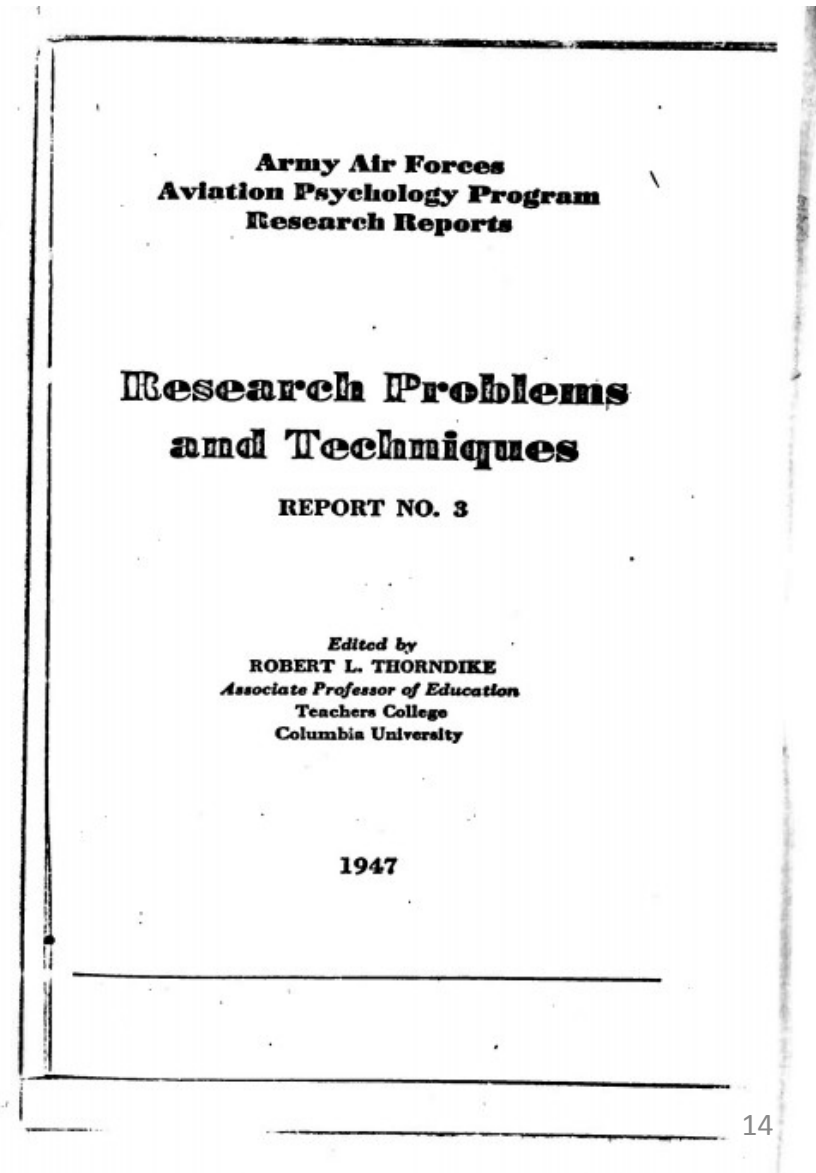
Except for a few brief sections written by Lt. Col. A. P. Horst, the report was written by the editor. The manuscript has been read in part by Cols. J. C. Flanagan and J. P. Guilford and by Lt. Cols. A. P. Horst and M. P. Crawford, and has profited from their criticisms and suggestions.

**ROBERT L. THORNDIKE, *Major, A. C.***

**WASHINGTON, D. C., MAY 1946.**

# Applied Psychometrician

- Reliability - Multifaceted interpretation of measurement error
  - Thorndike, R. L. (1947). Research Problems and Techniques, Report No. 3, AAF Aviation Psychological Program Research Reports.
  - Thorndike, R. L. (1949). *Personnel selection: test and measurement techniques*. New York: Wiley.
  - Thorndike, R. L. (1951). "Reliability," in E. F. Lindquist (Ed.), *Educational Measurement*. Washington D.C.: American Council on Education.
  - Thorndike, R. L. and Hagen, E. P. (1955). *Measurement and evaluation in psychology and education*. New York: John Wiley and Sons.



# Applied Psychometrician

- Reliability
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    - Thorndike, R. L. and Hagen, E. P. (1955). *Measurement and evaluation in psychology and education*. New York: John Wiley and Sons.
- Classification
  - Thorndike, R. L. (1950). The problem of classification of personnel. *Psychometrika*, 15(3), 215-235.
- Editor of Educational Measurement, Second Edition, 1971.

# Industrial and Military Psychologist

- Work on job classification during World War II
- Thorndike, R.L. and Hagen, E.P. (1959). Ten thousand careers. New York: John Wiley and Sons.
- A Study of the World War II Navy Careers of Illiterates Sent Through Literacy Training
- An empirical approach to the determination of Air Force job families
- The human factor in accidents, with special reference to aircraft accidents
- The prediction of vocational success



# Educational Psychologist

- Reading as reasoning
- A comparative study of children's reading interests
- Reading comprehension education in fifteen countries: An empirical study
- Concepts of culture fairness
- The concepts of over and under achievement
- Some methodological issues in the study of creativity

# Teacher

- Measurement theory embedded in practical needs

# The Quirky Bob Thorndike

# Words and the Comics

The Journal of Experimental Education, 1941

How much reading experience does the child get when he reads one of these comic magazines? A count of the number of words in the text shows it to cluster around 10,000. To the nearest hundred, we found the following wordage:

Superman # 9	10,300
Superman # 11	9,300
Batman # 6	10,600
Detective Comics # 53	9,800

# Words and the Comics

The Journal of Experimental Education, 1941

TABLE I  
 NUMBER OF DIFFERENT WORDS FROM VARIOUS THOUSANDS OF THORNDIKE LIST  
 IN FOUR COMIC BOOKS

(Number of Different Words)

Thousands of Thorndike List	Superman # 9	Superman # 11	Batman # 6	Detective Comics # 53	Combined
2	296	238	242	231	580
3	174	147	149	134	389
4	126	116	83	80	278
5	88	83	64	65	210
6	66	63	59	45	168
7	52	51	36	36	133
8	41	41	36	18	114
9	35	35	22	22	89
10	30	25	19	20	70
11-15	88	76	56	77	234
16-20	41	34	33	52	129
Not in Thorn- dike List	185	154	198	196	649
Total.....	1222	1063	997	971	3043

# Words and the Comics

The Journal of Experimental Education, 1941

## Words Not In Thorndike List

abduction  
 adios  
 adrenalin  
 after-dinner  
 aide  
 aileron  
 aircraft  
 airplane  
 airport  
 Al  
 Alaskan  
 allergic  
 an'  
 Angelica  
 anti-aircraft  
 anymore  
 applauder  
 arrumph  
 Atkins  
 atop

Standard Words (abduction, atop, awash)-----	23%
Words of recent currency (aileron, airport, autogyro)-----	5%
Home-made compounds (beetle-browed, bludgeon-blows)-----	21%
Contractions (an', b'low, bein')-----	6%
Proper Names (Angelica, Atkins, Balconia)---	21%
“Respectable” slang (adios, brainstorm, buddy)-----	12%
“Vulgar” slang (awk, betcha, conk)-----	10%
Miscellaneous-----	2%

Of these 649 words, a fair number appear of positive value and worth encountering, many appear essentially neutral—neither of value nor of harm to know, and only a minority appear to be possibly objectionable. However, the total amount of slang in the books is somewhat greater than the 22% of these non-listed words. This is because a number of standard words are used with slang meanings. A word count fails to reveal slang usages of such words as rod, stir, bunk, copper, joint, etc. But even when this is allowed for, one hardly gets the feeling that the language of these particular magazines was excessively slangy.

# Words and the Comics

The Journal of Experimental Education, 1941

It appears, then, that the “comics”, whatever their other vices or virtues, *do* provide a substantial amount of reading experience at about the level of difficulty appropriate for the upper elementary school or even junior high school child. In view of the apparent interest and appeal of this material for the child, the facts presented above suggest that this supplementary resource may have real value for the educator who is interested in working with the child as he is and in leading him on from his present status to higher and better things.

# Who belongs in the family?

## Psychometrika, 1953

An article on the problem of determining the proper number of clusters in a cluster analysis

I was sitting before my TV set, a while back, watching Captain Video and pondering the organizational problems of psychologists, psychometricians, psychodiagnosticians, psycho-somatists, psychosomnabulists, and psycho-ceramics (crack-pots to you). Wondering what I might do, in my small way, to help out, I decided to enlist Captain Video's help to bring me from the Black Planet that super-galactian hypermetrician, Dr. Idnozs Hcahscror-Tenib, cosmos-famous discoverer of Serutan.



# Who belongs in the family?

## Psychometrika, 1953

“Now,” murmured the Doctor, “we give tests. First is ‘Draw-a-Psychiatrist Test.’ ”

“We score this,” he confided, “by if it gives horns.”

Later came the Peculiar Preference Blank.

“Forced-choice, you know,” whispered the Doctor. “Would you rather make mud pies or kiss gorgeous blonde?”

# Who belongs in the family?

## Psychometrika, 1953

“What now, Doctor?” I asked. “Do we run a Q-type factor analysis to locate the dimensions and clusters in our sample?”

“Is no good,” replied my mentor. “Neglects differences in score level. Washes out differences in variability. Indicates dimensions, but doesn’t locate boundary of clusters.”

“Well, then, shall we calculate a multiple discriminant function?”

“No good. Have no a priori groups. Multiple discriminant only perpetuates sins of the fathers. (Remind me I tell you sometime about by father.) Tells which Division to put man in. Not tell what Divisions should be.”

# But most of all...

- He lived his career open to and at the forefront of new ideas and never stopped learning
  - After he “retired” he taught himself
    - Item response theory
    - Adaptive testing
    - Bayesian approaches

Thank You!