

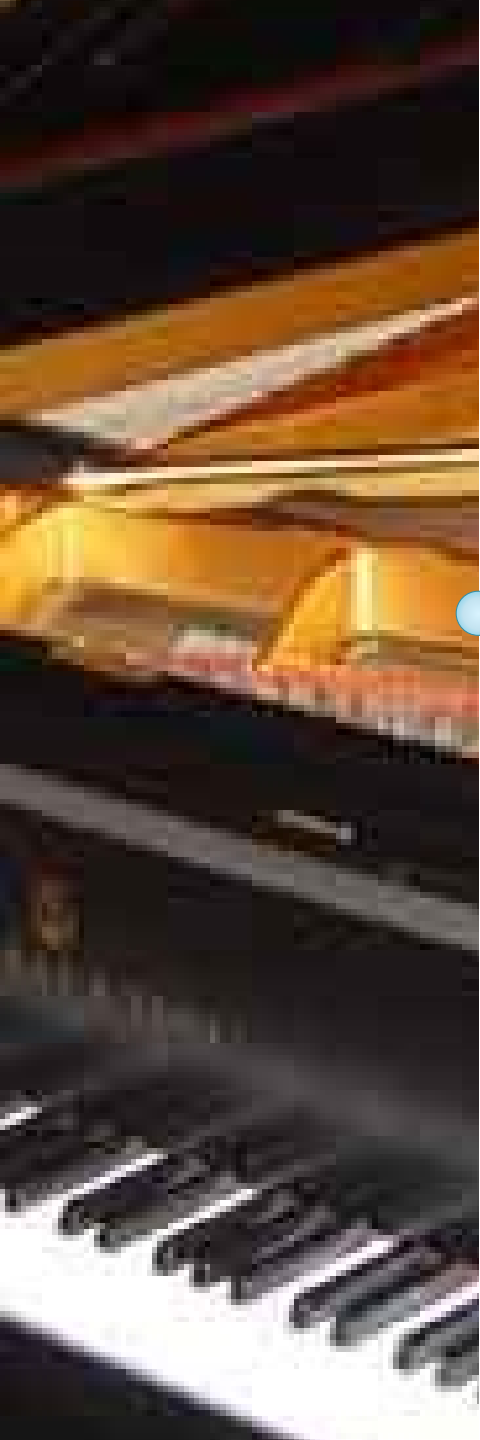
Eleanor Selfridge-Field (CCARH, Stanford University)

° **PLAYING BY EAR AT 95:  
A CASE STUDY**

# Introducing ME

- Born in 1914
- Heavily involved with music, 1918-c.1940
- Musical interests rekindled, 2006-2016
- Has vascular dementia
- Resides in assisted living facility in Calif.





Playing by Ear at 95



# BACKGROUND

# The early life of ME

- 1914: Born in Chattanooga, TN
- 1918: moved to Lakewood, GA
- c. 1925: returned to Chattanooga
- 1931-35: undergraduate in Murfreesboro, TN
- 1935-36: social worker in Chattanooga
- 1936-37 (38?): Nashville, TN
- 1938-45: Nashville, Chattanooga
- 1918: tried to emulate 6-year-old cousin
- c. 1925: enrolled in Cadek Conservatory, Chattanooga, TN
- Earned music degree; played 8 instruments
- No jobs for music teachers; played in women's orchestra
- Earned master's degree
- 1940: married, taught 2<sup>nd</sup> grade
- 1946: moved to Jacksonville, FL

# The later life of ME

- 1940-50: no piano in home
- 1950-2004: occasionally played Baldwin (Acrosonic) spinet
- 2004-2006: entered assisted living in Jacksonville
- 2006—: resides in assisted living in Santa Clara Co., Calif.
- Reared two sons
- Played tuned bells in group (occasional)
- 2004-06: encouraged by director to play piano in home
- 2005: first and only known composition
- 2008-2010: encouraged by her children to play for seniors, churches, parties



# ME's memory lapses

- **Autobiographical memory**

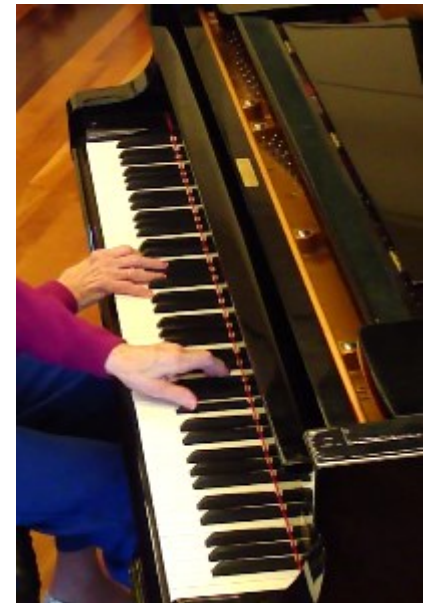
- Little recollection of life in Jacksonville (1945-2006)
- No recollection of teaching experiences
- No recall for names of current associates
- Little recall of local detail

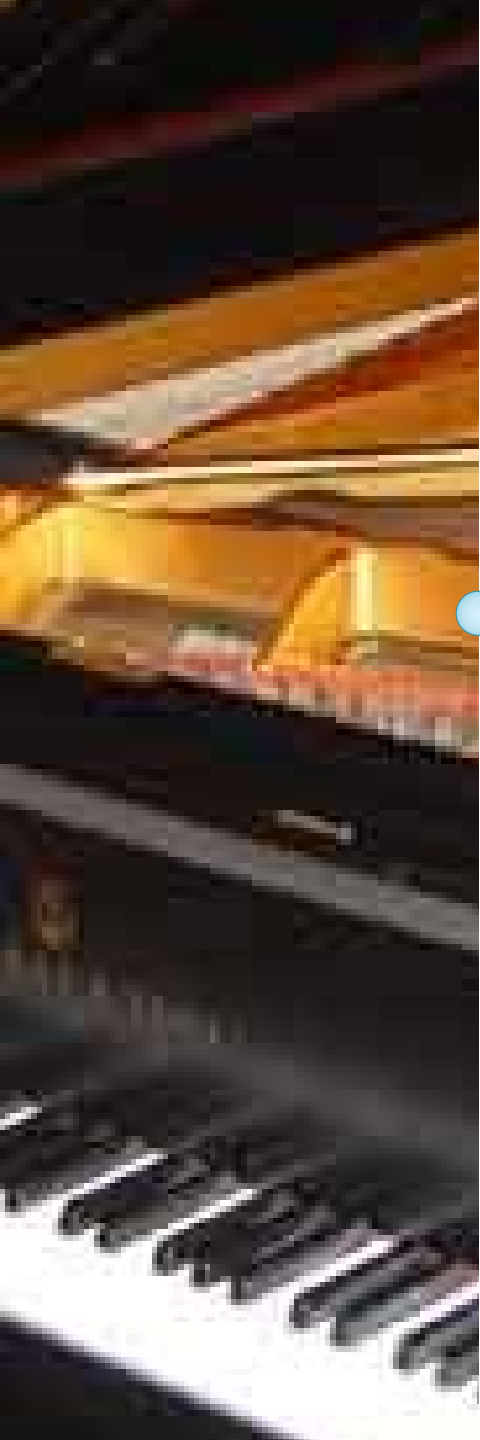
- **Musical memory**

- No recall of music degrees
- Claims never to have learned to read music
- **Extraordinary recall of music and lyrics**
- **Excellent command of music-theoretical concepts**

# ME's natural strengths

- Physical strengths
  - Good hearing (slight loss in one ear)
  - Sees well with uncorrected vision
  - Impressive agility
  - No major health problems
- Social strengths
  - Cheerful
  - Engaged





Playing by Ear at 95



# **METHOD**





# Principal methods

- Plays in 7 venues
  - 2 assisted-living facilities (x 3-4)
  - 1 skilled nursing facility
  - Incidental entertainments in churches, one civic venue, and one clinic (x 3-4)
- Levels of assessment
  - Musical qualities
    - style
    - content
    - methods of playing
  - Environmental features
    - awareness of/interaction with listeners
    - ability to accommodate requests

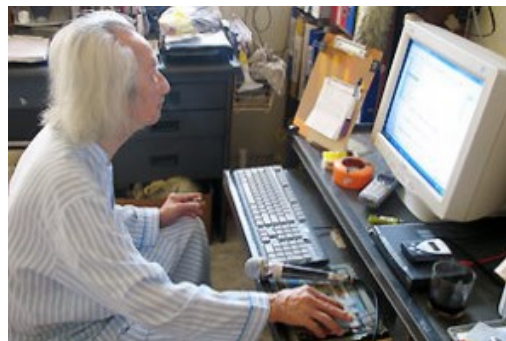
# Supplementary information

- Database of 400 works ME plays “from memory”
- Recordings (Dec. 2009) from disklavier with corresponding digital video
  - Made at CCRMA
  - (Recording not allowed in homes)
- Video interview (1990) “how to play by ear”
- Notated version of own composition
- Informal cohort study
  - 7 active musicians
    - Ages 83-100
  - Range of musical skills
    - Choral singing
    - Choral arranging
    - Clarinet, brass
    - Mandolin, keyboard



# Pending cross-cultural study

## Still teaching at 99

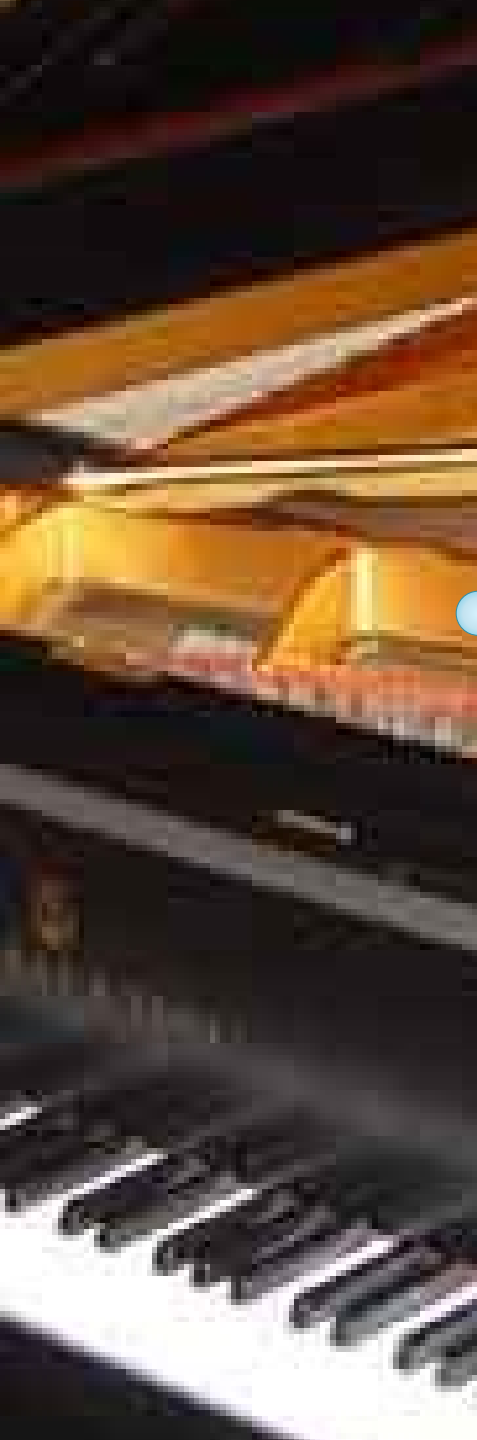


# Other interesting cases



- Johann Heesters (1903-2011)
  - <https://www.youtube.com/watch?v=4sYAU3KBBj4> [at 100]
- 93-year-old pianist (Edward Hardy) in Wooky, Somerset (UK) home (2015)
  - <http://www.bbc.com/news/uk-england-somerset-35306155>
- 93-year-old teacher (xx Cropsy), Oakland 2010





Playing by Ear beyond 100



# RESULTS

# Musical status

- **Performance valuation**
- **General qualities**
  - Confidence
  - Imagination
  - Flexibility
  - Concentration
- **Musical qualities**
  - Marked accents
  - Contrapuntal intricacy
  - Impeccable sense of harmony
  - Foreground/background diff.
  - ~~Physical agility~~
- **Psychological evaluation**
  - Non-Alzheimer's dementia
  - MMSE = 23  
(year-to-year consistency)
  - Poor memory for recent events, spatial details
  - High scores in sequential memory tests

# Conceptual aspects of ME's playing

- General reliance on **harmonic schemas**
  - BUT occasionally morphs to the corresponding section of a different song at (ABA or AABA) juncture
- **Key:** defaults to C Major/C Minor (able to play in any key)
- **Tempo** relatively consistent across multiple playings\*
- Usually knows all the **lyrics** of what she plays
- **No** evidence of
  - Autobiographical associations
  - Preference for any given instrument
  - Visual triggers to musical memory



# Provisional peer findings

- Playing by ear **not** unusual for Americans born before c. 1940
  - Parlor pianos common from 1880s
  - Records and radio available from 1920s
  - No television, fewer films, no digital audio
- Visual, auditory acuity not indispensable to skill preservation
  - Clarinettist MC (85-90) legally blind
  - Mandolin player GK (99) deaf from age 10 in one ear
  - Barbershop singer NN (100) deaf in one ear





# A life in (and out of) music (1914--)

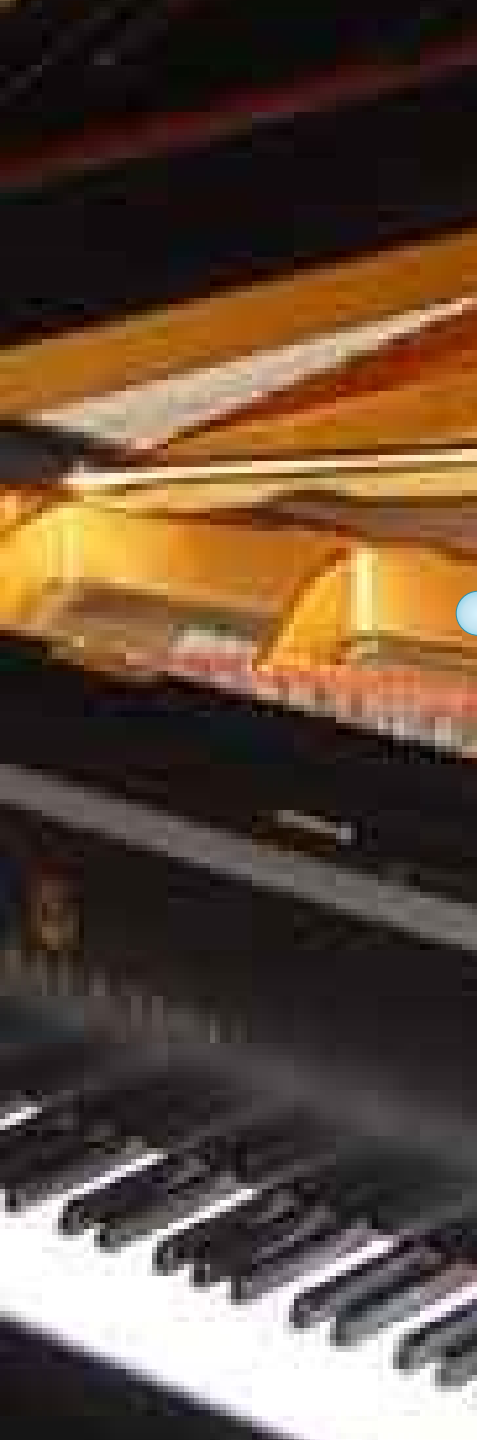


1940



2016





Playing by Ear at 95



# CONCLUSIONS

# Findings (comparative)

- ME diverges from most over-80 case histories
  - No cognitive decline found (18 months)  
[similar to Beatty et al 1999 Alzheimer's study; 36 months]
  - Cognitive gains from new experience, repertory  
[not documented elsewhere]
- General confirmation of Nilsson's 2003 model of differential memory
  - Episodic memory declines
  - Semantic, perceptual, **procedural memory** preserved



# Research challenges

- Too few studies
  - “Playing by ear”: meaning, scope, varieties
  - Musical production in over-80 population
  - Musical skill retention in non-Alzheimer’s memory loss  
[cf. case histories in Cuddy, Duffin 2005; Crystal et al. 1989]
- Inability to photo or record *in situ*



# Conceptual challenges

- “Musical” memory vs. **executive function**
- Procedural “memory” vs. **executive function**

[cf. Halperin 1984; Halperin, O’Connor 2000]

*When is procedural memory memory?*

- Differentiation of **visual** and **auditory** memory in those with memory loss

## Credits

- Craig Stuart Sapp
- Family of ME
- Petr Janata
- Julene Johnson
- Brent A. Field
- Several others....



# Playing by Ear at 95: A Case Study