

JUMPSTART by Robb Armstrong





Giftedness:

The Gift that Keeps on Giving

[Introduction]

- Stable versus unstable personal traits
 - e.g. gender versus hair color
- Which is giftedness?
- Often viewed as a childhood attribute
- This reflected by a recent web search
- What are the results of googling ... ?

[Google results]

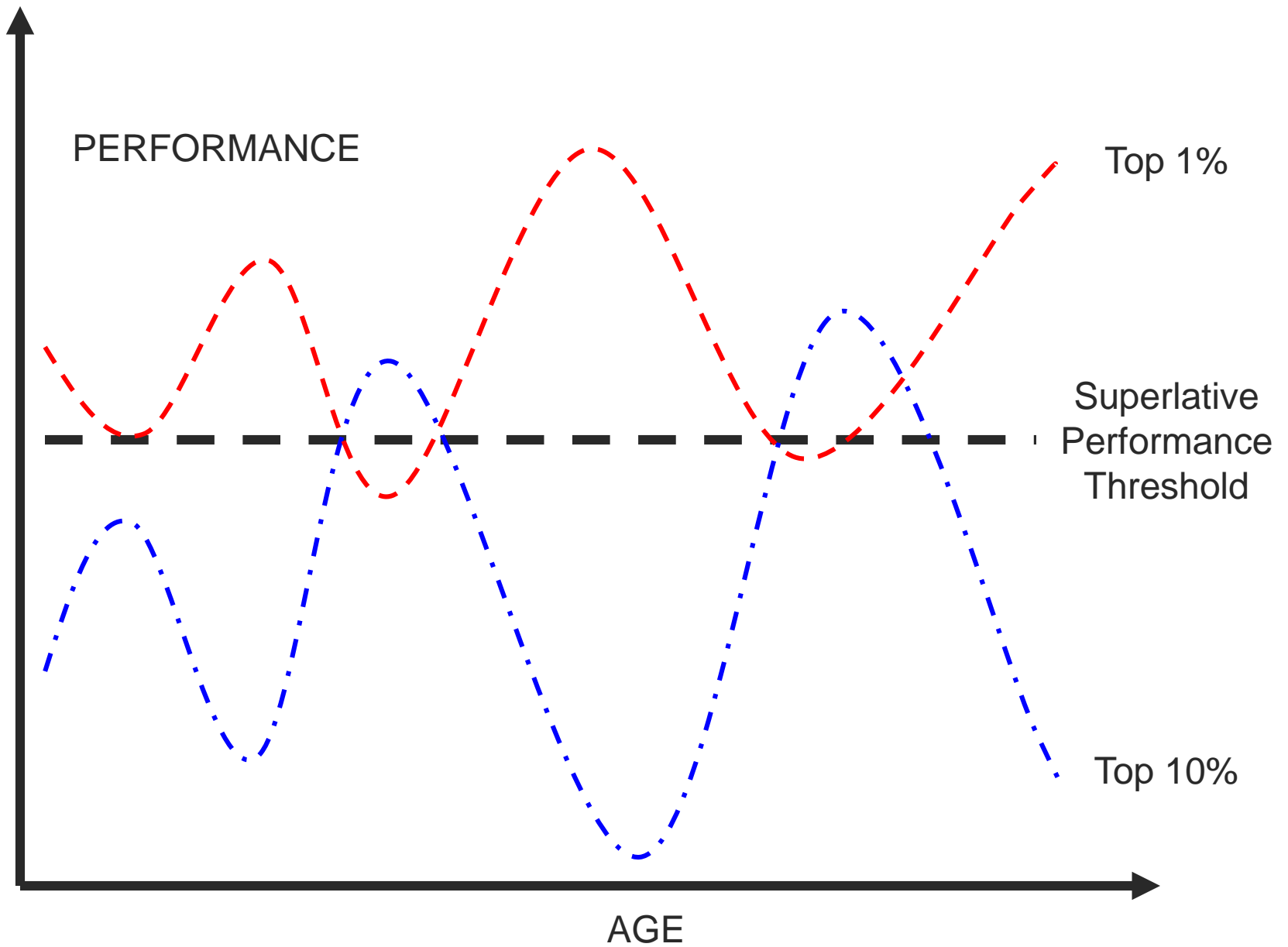
- “gifted children” → 1,440,000 hits
- versus post-childhood:
 - “gifted adolescents” → 39,600 hits
 - “gifted teenagers” → 1,670 hits
 - “gifted adults” → 24,700 hits
 - “gifted elderly” → 56 hits
 - “gifted senior citizens” → 8 hits

[Google results]

- and versus pre-childhood:
 - “gifted babies” → 6,660 hits
 - “gifted infants” → 540 hits
 - “gifted zygotes” → 1 hit
 - the latter some Jon Stewart quip!

[Argument]

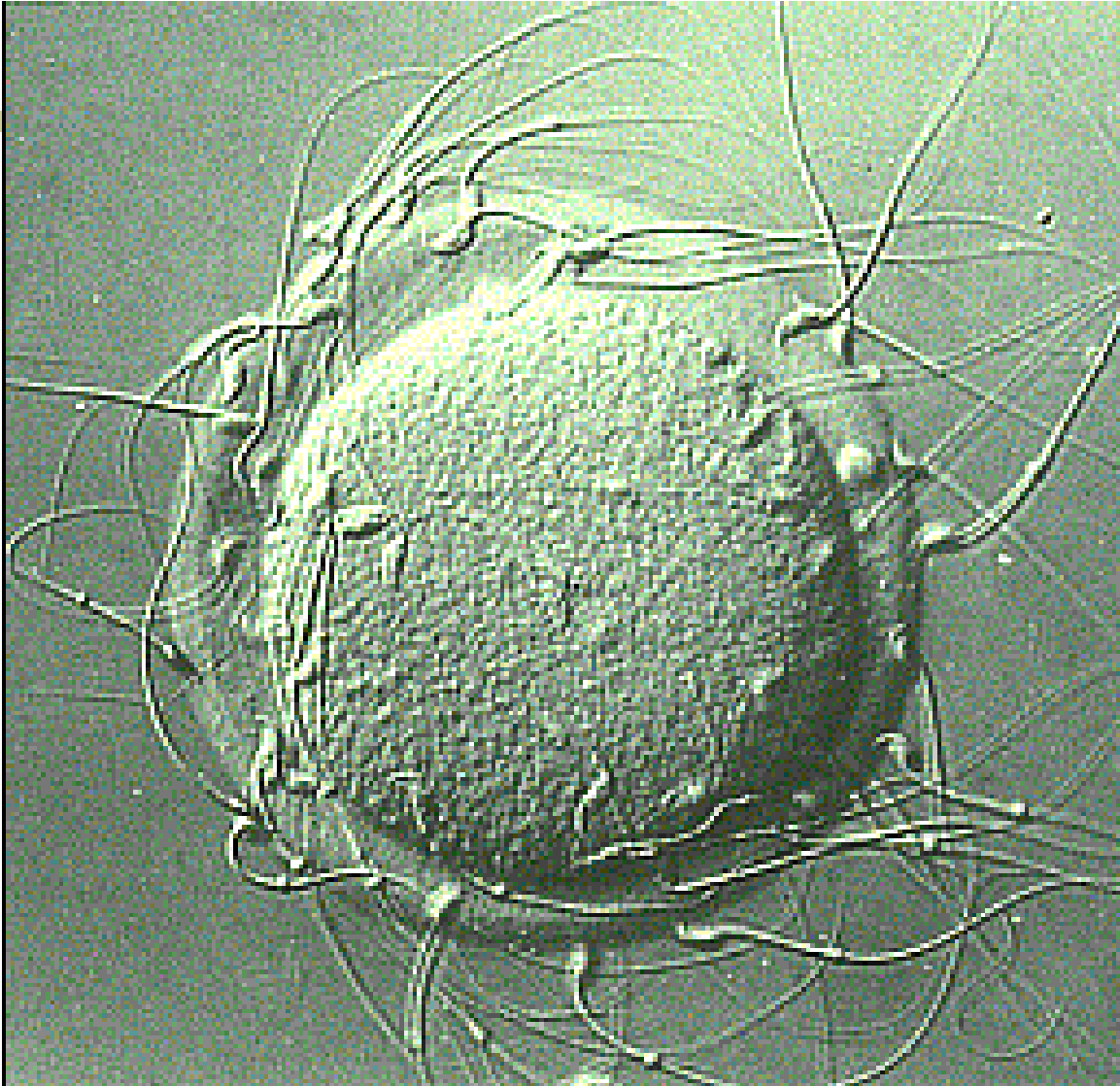
- Giftedness can be a life-long trait
 - This developmental continuity is especially conspicuous when we look at the highest levels of giftedness
 - e.g., top 1% rather than top 10%



[From Conception to Reputation]

- Genetic conception
- Gestation
- Infancy
- Childhood
- Adolescence
- Adulthood
- Death
- Posthumous reputation

[Genetic conception]

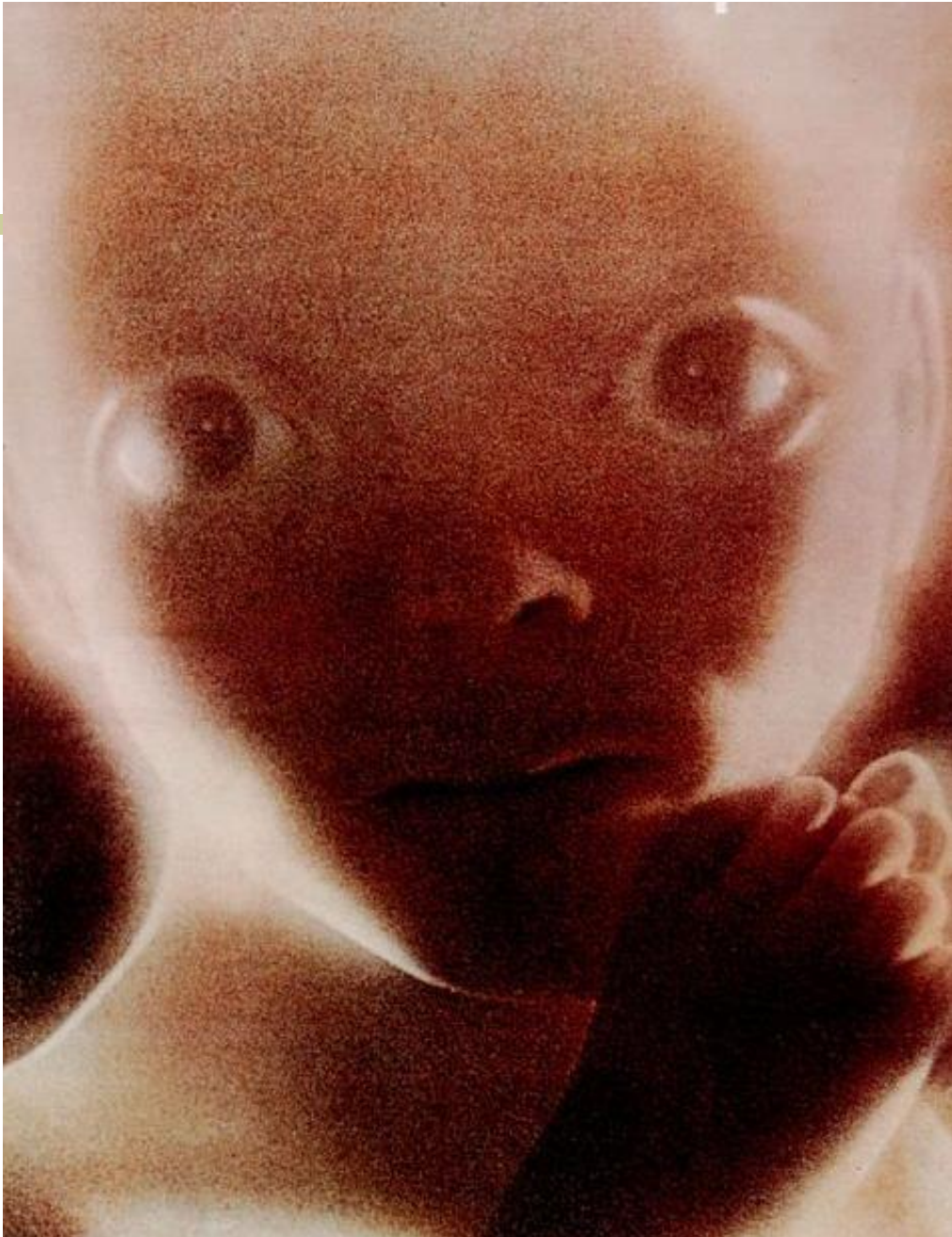


[Genetic conception]

- It all begins with the “gifted zygote”
- Galton’s 1869 *Hereditary Genius*
- Modern behavioral genetics:
Giftedness is most likely
 - *multi-polygenic* (many polygenic traits)
 - *emergenetic* (multiplicative/configurational)
 - *epigenetic* (unfolds over time)
- In short, a complex, dynamic process

[Gestation

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[Gestation]

- Intrauterine environment
- e.g., Geschwind's theory
 - elevated testosterone after 20th week
 - right > left posterior hemisphere growth
 - giftedness/savantism
 - mathematical ability
 - artistic/spatial ability
 - musical ability
- Simon Baron-Cohen: “extreme male brain”

[Infancy

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[Infancy]

- The Developmental “Dark Ages”
 - Early developmental signposts not always indicative of later giftedness
 - and may even be counter-indicative (e.g., delayed speech)
- So when do the Dark Ages end?
- What’s the earliest age at which the gift begins to manifest itself?

Fagan Test of Infant Intelligence

- Attention to novelty at 6-12 months predicts
 - adult IQ
 - academic achievement
- but this assessment concerns general intelligence (Spearman's *g*)
- What about more domain-specific indicators?

[Cox (1926) 301 Geniuses]

- Jeremy Bentham: English jurist and utilitarian philosopher (early IQ 180)
 - Learned alphabet before talking
 - At 3 began classical education when father buys a Latin grammar; same age read Rapin's *History of England*



Feldman/Goldsmith (1986/2000) 6 prodigies

- a child who read music before he was four,
- two children who played winning chess before they entered school,
- another who studied abstract algebra in grade school,
- a youngster who produced typed scripts of original stories and plays before his fifth birthday, and
- a child who read, wrote, began learning foreign languages, and composed short musical pieces before he was out of diapers.

[Winner (1996): *Gifted Children*]

- Michael Kearney
 - speak at 4 months;
 - read at 8 months;
 - algebra on own at age 3
- KyLee Hench
 - fascinated with letters & numbers at 1.5
 - mental arithmetic at 2
 - playing math computer games by 3

[SMPY (Julian Stanley et al.)]

- Terry Tao: Fields Medal recipient
 - taught himself to read before 2;
 - using portable typewriter before 2.5;
 - solved math problems typical of 8-year olds by 3.

[Childhood

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[



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[Childhood]

- Dark Ages rarely end before ages 2-3,
- and more commonly end at the age of a late preschooler or kindergartner
- even Mozart didn't begin composing until 5 (with father's help)
- and J. S. Mill didn't write his first book (a history of Rome) until 6.5 (juvenilia)

[Childhood]

- During this age period various environmental factors kick in
- including
 - Birth order (*not* prenatal!)
 - Traumatic, enriching, and diversifying events
 - Domain-specific role models and mentors, and
 - Expertise acquisition (10-year rule)
- that affect the type and degree of giftedness
- The “gift” as a nature-nurture collaboration

[Adolescence

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[Adolescence]

- Although the previously mentioned factors continue to nurture growth,
- the gifted youth can also be led astray from the path of optimal development:
- Peer groups become especially critical during this phase
- e.g., Csikszentmihalyi et al.'s (1993) *Talented teenagers*

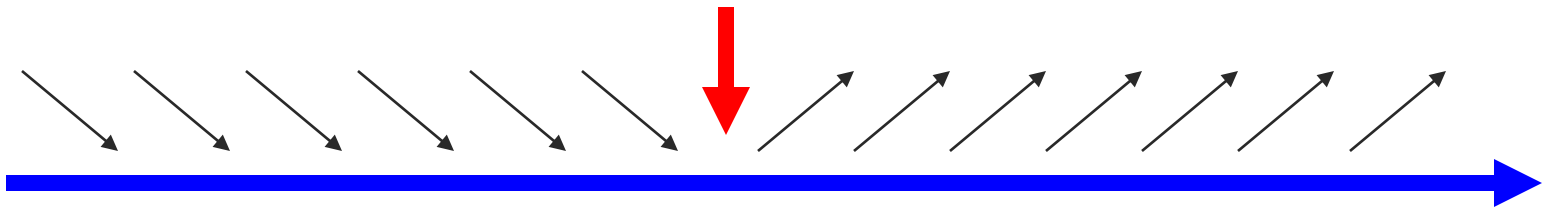
[Adulthood

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[Adulthood]

- The Great Transformation from
 - Input to Output
 - Potential to Actual Achievement
 - Giftedness to Genius



[Adulthood]

- Accelerated career onset
 - Abbreviated expertise acquisition (< 10 years)
 - Early achievement (viz. 1st “hit” in 20s)
- Exceptional productivity or output (e.g., Napoleon, Edison, Picasso, Mozart)
- High impact (e.g., disciples, honors)
- Long, productive career
- Early- + late-bloomers << long-bloomers
- Hence, last testaments, old-age style shifts, swan-songs

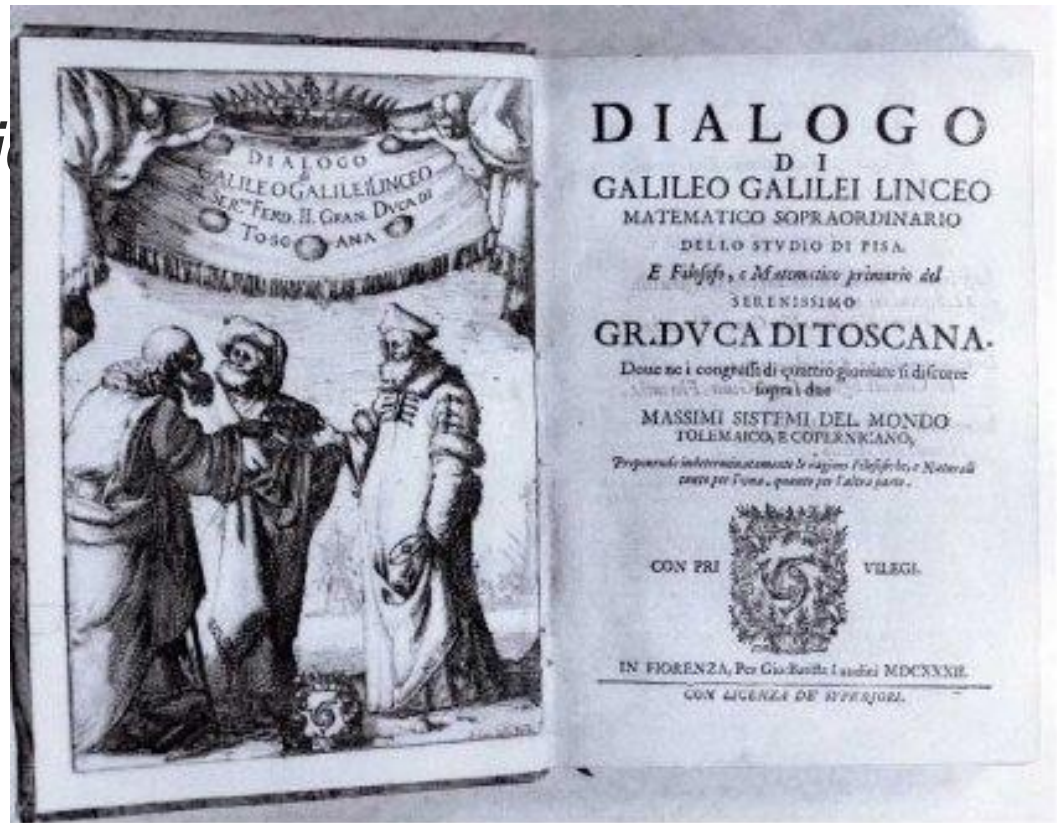
Examples

- Cervantes:
- *Don Quixote*,
- Part II,
- age 68,
- died age 69



Examples

- Galileo:
- *Two New Sciences*
- age 74,
- died age 78



Examples

- Goethe:
- *Faust, Part II*,
- age 83,
- died age 83



Examples

- Verdi:
- *Falstaff*,
- age 85,
- died age 88



[Death

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[Death]

- Life expectancy as contingent on achievement domain
- Examples:
 - Mathematicians versus Biologists
 - Poets versus Novelists
 - Military versus Political Leaders
 - Revolutionary versus Status Quo Politicians
- Precocity negative impact on longevity

Genius	Age 1st masterwork	Age at death
Arriaga (music)	18	20
Galois (math)	20	20
Chatterton (poetry)	16	17

[Posthumous reputation]



FOR WHOSE MEMORY
THE MEMORY OF
IS ENSHRINED

[Posthumous reputation]

- Eventual eminence is a direct function of lifetime achievement,
- which is most often defined by the quality and quantity of output or impact
- As a result, the highest degrees of eminence are consistent across space and stable through time

[Hence ...]

- Giftedness can become
- the gift that keeps on giving!
- even *longer* lasting than ...



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Not the End