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- : (Jonathan Latham)
  - : [“The Meaning of Life \(Part I\)”](#) (2017.10.24)
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  - : [“The Meaning of Life \(Part I\)”](#)  
“Genetics Is Giving Way to a New  
Science of Life”
- 

(James Watson) (Francis Crick) DNA  
1953 DNA . DNA 1953 30  
DNA . DNA 1920  
DNA  
(1917)  
(公憤)  
. 1911 (Harry Pratt Judson)  
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(Max Mason)

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( Lily Kay  
Molecular Vision of Life, 1993 )

( Lily Kay )

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(Edmund E. Day)

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(Kay, 1993).

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(Nicolas Rashevsky)

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([Abraham, 2004](#))

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(George Beadle)

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’(protoplasm)

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(Wallace, 2009).

([Gundle et al., 2010](#)).

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([Vrecko, 2008](#)).

1920

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(Adolf Hitler)

'(genome sequencing)

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1 '(presumptive primary cause)

DNA “ ” (Mullis, 1997).

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1865

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(Herbert Spencer) (E. O. Wilson),  
(Richard Dawkins), (Steven Pinker), DNA  
(含意) ㅍ  
: ㅍ(Sociobiology: The new synthesis, 1975) ㅍ  
ㅍ(The Selfish Gene, 1976) ㅍ ㅍ(The Extended  
Phenotype, 1982)

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가 , , ,  
(가 [Kales et al., 1980](#)).  
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6. ‘ , ’  
2016 (Gary Greenberg, )  
「 [\(棺\) 가?](#) 」 .(( [ ] ‘ ’ 가 .)) ‘ ’ “  
(反) ” (Richard Lerner)([Lerner, 2007](#))  
“ ” (Douglas Wahlsten)([2012](#))

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가 . 2013  
가 MIT < > (( [

] 「 (Eric Lander) .) 」 ‘ (phantom) 4가

([Zuk et al., 2013](#)). 180

가 ([Ioannidis, 2007](#)) 가 ([Manolio et al., 2009](#); [Dermitzakis and Clark, 2009](#))

([Ioannidis and Panagiotou, 2011](#)) 가 ([Buchanan et al. 2006](#); [Wallace, 2006](#); [Charney and English, 2012](#)).

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C. (Richard C Strohman) 1997

」 ( [“The coming Kuhnian revolution in biology”](#) )

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,([ ] (A short guide to alternative paradigms of life) .))

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(Ernst Haeckel)

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(John Morley, 1882, Desmond 1998

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>(NY Review of Books)

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『(Sociobiology: a New Synthesis)

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[and Joseph, 2013](#))

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(Dorothy Nelkin)

(Susan Lindee)

(Preface to the second edition, *The DNA Mystique: The gene as a cultural icon*, 2004).

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(Adolf Eichmann)

(Hannah

Arendt)

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## References

Abraham, TH (2004) [Nicolas Rashevsky's Mathematical Biophysics](#). Journal of the History of Biology 37: 333-385.

Buchanan, AV, KM Weiss, and SM Fullerton. [Dissecting Complex Disease: The Quest For the Philosopher's Stone?](#) International Journal of Epidemiology 35.3 (2006): 562-571.

Charney E, and English W (2012) [Candidate Genes and Political Behavior](#). American Political Science Review 106: 1-34.

Chaufan C, and Joseph J (2013) [The 'Missing Heritability' of Common Disorders: Should Health Researchers Care?](#) International Journal of Health Services 43: 281-303. Lucy S. Dawidowicz (1975) The War Against the Jews: 1933-194 New York: Holt, Rinehart and Winston

Dawkins R (1982) The Extended Phenotype. Oxford University Press.

Dermitzakis E.T. and Clark A.G. (2009) [Life after GWA studies](#). Science 326: 239-240.

Desmond A (1998) Huxley. Penguin books.

Greenberg, G (2016) [How many nails does it take to seal the](#)

[coffin?](#) Developmental Psychobiology 9999: 1-2.

Gundle KR, Dingel, M and Barbara A. Koenig (2010) "[To Prove This is the Industry's Best Hope](#)": Big Tobacco's Support of Research on the Genetics of Nicotine. Addiction. 105: 974-983. doi: 10.1111/j.1360-0443.2010.02940.x

Ioannidis, J.P., (2007) [Non-replication and inconsistency in the genome-wide association setting](#). Hum Hered. 64: 203-13.

Ioannidis JP and Panagiotou O (2011) [Comparison of Effect Sizes Associated With Biomarkers Reported in Highly Cited Individual Articles and in Subsequent Meta-analyses](#). J. Am. Med. Assoc. 305: 2200-2210.

Kales, A, CR Soldatos, EO Bixler, RL Ladda, DS Charney, G Weber and PK Schweitzer (1980) [Hereditary factors in sleepwalking and night terrors](#). The British Journal of Psychiatry 137: 111-118. 10.1192/bjp.137.2.111

Kay, Lily E. (1993) The Molecular Vision of Life. Oxford University Press.

Latham, J (2017). [Genetics Is Giving Way to a New Science of Life](#). Independent Science News Feb 2017.

Lerner RM (2007) [Another nine-inch nail for behavioral genetics!](#) Human Development 49 1-7

Lewontin R, Rose S, Kamin, L (1984) Not in Our Genes. Pantheon Books.

Manolio T. et al. (2009) [Finding the missing heritability of complex diseases](#). Nature 461: 747-753.

Mullis, K Dancing Naked in the Mind Field. 1998, Vintage Books.

Nelkin D and Lindee MS (2004) The DNA Mystique: The gene as a cultural Icon. University of Michigan Press

Vrecko S (2008) [Capital ventures into biology: biosocial dynamics in the industry and science of gambling](#). Economy and Society 37: 50-67.

Wahlsten D (2012) [The Hunt for Gene Effects Pertinent to Behavioral Traits and Psychiatric Disorders: From Mouse to Human](#). Dev. Psychobiology 54: 475-492.

Wallace HM (2006) [A model of gene-gene and gene-environment interactions and its implications for targeting environmental interventions by genotype.](#) Theoretical Biology and Medical Modelling 2006, 3:35. .

Wallace H (2009) Big tobacco and the human genome: Driving the scientific bandwagon? Genomics, Society and Policy 5: 1-54.

Wilson EO (2000) Sociobiology: The New Synthesis. Belknap Press.

Zuk O, E Hechter, SR Sunyaev, and ES Lander (2013) [The mystery of missing heritability: Genetic interactions create phantom heritability.](#) 109: 1193-1198. doi: 10.1073/pnas.1119675109