

References

(Marshall 2021)

Marshall, P., 2021. Biology transcends the limits of computation. *Prog. Biophys. Mol. Biol.* 2021. <https://doi.org/10.1016/j.pbiomolbio.2021.04.006>.

(Shapiro 2020) Shapiro, James A. "All living cells are cognitive." *Biochemical and Biophysical Research Communications* 564 (2021): 134-149.

(McClintock 1953)

B. McClintock
Induction of instability at selected loci in maize
Genetics, 38 (1953), pp. 579-599

(McClintock 1984)

The significance of responses of the genome to challenge
Science, 226 (1984), pp. 792-801, 10.1126/science.15739260

(Torday & Rehan, 2012)

[Rehan et al., 2012](#)

V.K. Rehan, J. Liu, E. Naeem, J. Tian, R. Sakurai, K. Kwong, O. Akbari, J.S. Torday
Perinatal nicotine exposure induces asthma in second generation offspring
BMC Med., 10 (2012), p. 129, 10.1186/1741-7015-10-129

(Heng 2019)

H.H. Heng
Genome Chaos: Rethinking Genetics, Evolution, and Molecular Medicine
Academia Press (2019)

(Marshall 2015)

P. Marshall
Evolution 2.0: Breaking the Deadlock between Darwin and Design
BenBella Books, Inc (2015)

(Ershova et al., 2015)

A.S. Ershova, I.S. Rusinov, S.A. Spirin, A.S. Karyagina, A.V. Alexeevski
Role of restriction-modification systems in prokaryotic evolution and ecology
Biochemistry Moscow, 80 (2015), pp. 1373-1386, 10.1134/S0006297915100193

(Vasu and Nagaraja, 2013)

K. Vasu, V. Nagaraja
Diverse functions of restriction-modification systems in addition to cellular defense
Microbiol. Mol. Biol. Rev., 77 (2013), pp. 53-72, 10.1128/MMBR.00044-12

(Baluška and Levin, 2016)

F. Baluška, M. Levin
On having No Head: cognition throughout biological systems
Front. Psychol., 7 (2016), 10.3389/fpsyg.2016.00902

(Cronin and Walker, 2016)

L. Cronin, S.I. Walker
Beyond prebiotic chemistry
Science, 352 (2016), pp. 1174-1175, 10.1126/science.aaf6310

(Walker et al., 2017)

S.I. Walker, P.C.W. Davies, G.F.R. Ellis
From Matter to Life: Information and Causality
Cambridge University Press (2017)

(Floridi, 2005b, 2013)

L. Floridi
Is semantic information meaningful data?
Philos. Phenomenol. Res., 70 (2005), pp. 351-370, 10.1111/j.1933-1592.2005.tb00531.x

(Liu, 2021)

Jinsong Liu, *Seminars in Cancer Biology*, <https://doi.org/10.1016/j.semancer.2021.06.007>

(Floridi and Taddeo, 2018; Nield, 2019)

L. Floridi, M. Taddeo
Romans would have denied robots legal personhood
Nature, 557 (2018), 10.1038/d41586-018-05154-5
309–309

(Daintith and Wright, 2008)

J. Daintith, E. Wright
A Dictionary of Computing
OUP, Oxford (2008)

(Raza, 2019)

A. Raza
The First Cell: and the Human Costs of Pursuing Cancer to the Last
Basic Books (2019)

(Levin, 2020a)

M. Levin
Life, death, and self: fundamental questions of primitive cognition viewed through the lens of body plasticity and synthetic organisms
Biochem. Biophys. Res. Commun. (2020), 10.1016/j.bbrc.2020.10.077

(Levin, 2020b)

M. Levin
The biophysics of regenerative repair suggests new perspectives on biological causation
Bioessays, 42 (2020), Article 1900146

(Kauffman and Roli 2021)

Kauffman, Stuart, and Andrea Roli. "The world is not a theorem." *Entropy* 23, no. 11 (2021): 1467.

(Levin 2021 PBMB)

Levin, Michael. "Bioelectrical approaches to cancer as a problem of the scaling of the cellular self." *Progress in biophysics and molecular biology* 165 (2021): 102-113.