

BIBLIOGRAFÍA

CAPÍTULO I

Standford Encyclopedia of Phylosophy, Information , 2020.

AMBRIZ L., «¿Existe el azar?» <bluetab.net/>

Diccionario Filosófico Marxista. Sustancia (fundamento, esencia), 1946.

Stanford Encyclopedia of Philosophy, The meaning of LIFE. Stanford Encyclopedia of Philosophy, 2013. <plato.stanford.edu/entries/life-meaning/>

BENNAMIN A., *Information, entropy, life, and the Universe*, Editorial Wspc, 2015.

CAMPILLO J.E., *La consciencia humana*, Arpa, 2021.

DAVIES P., *Information and the Nature of Reality: From Physics to Metaphysics*, Cambridge University Press, 2010.

GARCÍA MARCO F.J., «El concepto de información: una aproximación transdisciplinar», *Revista General de Información y Documentación*, U. Complutense, 1998.

GREENE B., *Hasta el final del tiempo*, Critica, 2020.

HAWKING S., *La clave secreta del Universo*, De Bolsillo, 2010.

LASZLO E., *El Universo in-formado*, Nowtilus, 2007.

- MEIJER D.K.F., «Information: What Do You Mean? », *Syntropy Journal*, 2013. <researchgate.net/publication/275017053>
- NELSON P., *Física biológica*, Reverté, 2005.
- NOBLE D. et al., *Digital and Analogue Information in Organisms, Part II – Bio*, En: *Bit*, Cambridge University Press, 2017.
- LOMBARDI, O., «What is Information? », *Foundations of Science*, 2004.
- SELFIE J., *La física De Dios*, Sirio, 2019.
- STONNE J., *Notre existente a-t-elle un sens?*, Presses de los Renaissance, 2007.
- STONIER T., *Information and the internal structure of the Universe*, Sprinter, 1997.
- VLATKO V., *Descodificando la realidad*, Biblioteca Buridan, 2011.

CAPÍTULOS II A VI

- ALEXANDER S. et al., *The Autodidactic Universe*, Xiv, 2021
- ADAMI C., «What is information? », *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*. 2016.
- Anónimo, *Histoire des bits et des bytes en informatique*. <<https://de-vstory.net/>>
- Anónimo. ¿Cuánto sabes sobre Alan Turing? <nationalgeographic.com.es/ciencia/cuanto-sabes-sobre-alan-turing_14314/1>
- BALL, P., *Universe is a computer*, Nature, 2002.
- BANDYOPADHYAY S., «Information Processing with Electron Spin», *ISRN Materials Science*, 2012
- BÉRUT A. et al., «Experimental verification of Landauer's principle linking information and thermodynamics», *Nature*, 2012.
- CHOW D. y DUTFIELD S. «The history of the universe: Big Bang to now in 10 easy steps», <space.com/13320-big-bang-universe-10-steps-explainer.html>

- STYER D., «Entropy as Disorder: History of a Misconception», *The Physics Teacher*, 2019.
- DAVIS P., «Information and the nature of reality», < tendencias21.es/La-informacion-podria-ser-uno-de-los-constituyentes-basicos-de-la-materia_a5278.html >
- DOUGLAS H., «Theory of everything says universe is a transformer», *PHYSICS*, 2012
- HUFNAGEL B., «Biography of a star: Our Sun, birth, life and death», *The universe in the classroom*, 1997.
- LLOYD S., *Programming The Universe: A Quantum Computer Scientist Takes on the Cosmos*, Vintage Digital, 2011.
- NALEWAJSKI R.F., «Entropy descriptors of the chemical bond in information theory. I. Basic concepts and relations», *Molecular Physics*, 2004.
- NATTERER, F. et al., «Reading and writing single-atom magnets», *Nature*, 2017.
- PEARSON D.G. et al., «Hydrous mantle transition zone indicated by ringwoodite included within diamond», *Nature*, 2014.
- perry P., «The basis of the universe may not be energy or matter but information», *Surprising Science*, 2017. <bigthink.com/surprising-science/the-basis-of-the-universe-may-not-be-energy-or-matter-but-information/>
- PIERRE M. y YIP M. «Information, Matter and Energy. A non-linear world-view», *Proceedings of the Gathering in Biosemiotics*, 2006.
- POIRIER H., « Aux limites de la matière, la réalité n'est plus une certitude », *Science & Vie*, 2005.
- SHANNON C.E., «A Mathematical Theory of Communication», *The Bell System Technical Journal*, 1948.
- SIEGEL E., «Why Does the Proton Spin? Physics Holds A Surprising Answer», *Forbes*, 2017. <forbes.com/sites/startswithabang/2017/04/19/why-does-the-proton-spin-physics-holds-a-surprising-answer/?sh=30c64cb82c3a>
- TOYABE S. et al., «Experimental demonstration of information-to-energy conversion and validation of the generalized Jarzynski equality», *Nature Physics*, 2010.

- TRICLOT M., «Information et entropie : un double jeu avec les probabilités», *Electronic Journal for History of Probability and Statistics*, 2007.
- TRIGO – RODRIGUEZ J.M., «Las condritas carbonáceas: catalizadoras del origen de la vida», *Investigación y Ciencia*, 2016
- TURING A.M., «On computable numbers, with application to the entscheidungsproblem», *Journal of Math*, 1936.
- UMPLEBY S.A., «Physical Relationships Among Matter, Energy and Information», *System Research and Behavioral Science*, 2007.
- VÁZQUEZ-MOZO M.A., «La entropía, o una cuestión de ignorancia», *Investigación y ciencia*, 2019
- Vo T. et al., «A theory of entropic bonding», *Preceding National Academy of Sciences*, 2022.
- YAN J., «General Law of the Universe and Unity of All Universal Forces», *Journal of Physical Science and Application*, 2016.

CAPÍTULOS VII A X

- ADAMI C., «The information theory of life», *Quanta Magazine*, 2015.
- BALUSKA F. et al., «Biomolecular Basis of Cellular Consciousness via Subcellular Nanobrain», *International Journal of Molecular Sciences*, 2021.
- BATTAIS G., «Information and Life», *Springer Media Dordrecht*, 2014
- BAUM D.A. y N. LEHMAN., «Life's Late Digital Revolution and Why It Matters for the Study of the Origins of Life», *Life* (Basel), 2017.
- BERNARD C., *Introducción al estudio de la medicina experimental*, El Ateneo, 1959.
- CANNON W.B., «Organization for physiological homeostasis», *Physiological reviews* 9, 1929, págs.: 399-431.
- CAMPILLO J.E., *El Mono estresado*, Critica, 2014.
- DUAN J. et al., «The cell-wide web coordinates cellular processes by

- directing site-specific Ca^{2+} flux across cytoplasmic nanocourses» *Nature Communications*, 2019.
- FARZADFARD F. et al., «Single nucleotide resolution computing and memory in living cells», *Molecular cell*, 2019.
- FRIEDEN B.R. y R. GATENBY, «Ion-Based Cellular Signal Transmission, Principles of Minimum Information Loss, and Evolution by Natural Selection», *Int J Mol Sci*, 2020
- GERD HG MOE-BEHRENS, «The biological microprocessor, or how to build a computer with biological parts», *Computational and Structural Biotechnology Journal*, 2013.
- GERLICH S. et al., «Quantum interference of large organic molecules», *Nature Communications*, 2011.
- JAILLAIS Y. et al., «The Nanoscale Organization of the Plasma Membrane and Its Importance in Signaling: A Proteolipid Perspective», *Plant Physiology*, 2020.
- Jaross W.. «Are Molecular Vibration Patterns of Cell Structural Elements Used for Intracellular Signalling? », *Open Biochem J*, 2016.
- Jaross W. «The Possible Role of Molecular Vibration in Intracellular Signalling», *Journal of cellular signalling*, 2020
- KIMURA M. «Evolutionary Rate at the Molecular Level», *Nature*, vol. 217, págs. 624–626.
- KONIECZNY L. y I.Roterman, «Information encoded in protein Structure», En *From Globular Proteins to Amyloids*, Elsevier Ltd, 2020.
- LIU S., «From molecules to human: a research on the 4th dimension of life, Energy, material, information, meaning». <tel.archives-ouvertes.fr/tel-01679865>
- RAKOVIC D. «On Macroscopic Quantum Phenomena in Biomolecules and Cells: From Levinthal to Hopfield», *Biomed Res Int*, 2014.
- SENDER R., Shai Fuchs & Ron Milo, «Revised Estimates for the Number of Human and Bacteria Cells in the Body», *PLOS Biology*, 2016.

CAPÍTULOS XI A XIV

- BLACK, Lemoine, «Is LaMDA sentient? An interview». <cajundiscordian.medium.com>
- BUCHANAN M., «The Law of Accelerating Returns», *Nature Physics*, 2008.
- BERCOVICH D. et al., «The two brain hypothesis: implications for consciousness», En *Biophysics of Consciousness: A Foundational Approach*, World Scientific, 2016.
- CHANGEUX J.P. et al. «A Connectomic Hypothesis for the Hominization of the Brain», *Cerebral Cortex*, Volume 31, 2021.
- GORDON E. y MOORE G.E., «Cramming More Components onto Integrated Circuits», *Electronics*, 1965.
- HODSON R., «Digital revolution», *Nature*, 2018.
- INAFUKU J. et al. «Downloading Consciousness». <cs.stanford.edu/people/eroberts/cs181/projects/2010-11/DownloadingConsciousness/index.html>
- ISHIGURO H. Android Science. «Toward a new cross-interdisciplinary framework», *Department of Adaptive Machine Systems*, Osaka University
- MARKRAM H. «The Blue Brain Project», *Nature Reviews*, 2006.
- PEW-THIAN Y. y GUORONG W. «Human Brain Connectomics: Networks, Techniques, and Applications», *IEEE Signal Processing Magazine*, 2010.
- POZNANSKI R.P. et al. «Biophysics of Consciousness: A Foundational Approach», *World Scientific*, 2016.
- REEDY J. «When Will We See the First Robot That Is Indistinguishable from a Human? Probably sooner than you expect», 2017. <futurism.com/when-will-we-see-the-first-robot-that-is-indistinguishable-from-a-human>
- REMIGIUSZ R. et al., «Brain-Computer Interface as measurement and control system the review paper», *Metrology Measurement Systems*, 2012.

ROSENFELD J.V. et al., «Tissue response to a chronically implantable wireless intracortical visual prosthesis (Gennaris array)», *Journal of Neural Engineering*, 2020.

SWIFT M.W. et al. «Posner molecules: from atomic structure to nuclear spins», *Physical Chemistry Chemical Physics*, 2018.

CAPÍTULOS XV Y XVI

APARICI A., «El espacio-tiempo podría ser un fenómeno cuántico», 2020.

BAWDEN D. «Can information be conserved, and why would it matter?», *The Occasional Informationist*, 2018. <theoccasionalinformationist.com/2018/06/01/can-information-be-conserved-and-why-would-it-matter/>

BLASCO M., «Cuanto más rápido se acortan los telómeros, menos se vive», *Vanguardia de la Ciencia*, 2020.

BOGOMOLOV A.I., «Dark energy as the information field of the Universe», *Journal of Physics Conference Series*, 2020.

ÇENGEL Y.A., «On Entropy, Information, and Conservation of Information», *Entropy* 2021,

ETH D. et al., «The Prospects of Whole Brain Emulation within the next Half-Century», *Journal of Artificial General Intelligence*, 2013.

GALE, et al., «Will recent advances in AI result in a paradigm shift in Astrobiology and SETI? », *International Journal of Astrobiology*, 2020.

CREIGHTON J. «Science Explained: Do Atoms Last Forever? », 2015. <futurism.com/science-explained-atoms-last-forever>.

GOUGH M.P. «Information Equation of State», *Entropy* 2008

KURZWEIL R., *La singularidad está cerca*, Lola Books, 2021

LLOYD S. «Computational capacity of the universe», *Phys. Rev. Lett.*, 2002

- LOEB A., *Extraterrestrials: the first sign of intelligent life beyond Earth*, Mariner Books, 2021.
- MEIJER D.K.F., «The Information Universe. On the Missing Link in Concepts on the Architecture of Reality», *Syntropy Journal*, 2012.
- MACKENZIE A., «The Most Famous Paradox in Physics Nears Its End», *Quanta Magazine*, 2022.
- REES M. «Why extraterrestrial intelligence is more likely to be artificial than Biological? », *Live Science*, 2021.
- SULEIMAN R. «What is Information Relativity Theory? », 2016. <researchgate.net/publication/304705027>
- VOPSON M.M., «The mass energy information equivalence principle», *American Institute of Physics Advances*, 2019.
- WILSON J.T. et al, «Measurement of the free neutron lifetime using the neutron spectrometer on NASA's Lunar Prospector mission», *Physical Review*, 2021