

References

The articles and reference works are those that were consulted. Not all of them were noted in the text so as not to hinder the reading. Only those whose content seemed to us to be punctually important to reinforce an argument were cited. This is obviously not a value judgement; the citations were used based on the situation. Other works are referenced in the section Further Reading. The bibliography is updated compared to the French version. A lot of references come also from French literature, but they are generally accompanied by English summaries. Finally, the most recent publications were consulted up to September 2009 and those that we judged interesting to this account were included.

- Alroy J., Aberhan M., Bottjer D.J., Foote M., Fürsich F.T., Harries P.J., Hendy A.J.W., Holland S.M., Ivany L.C., Kiessling W., Kosnik M.A., Marshall C.R., McGowan A.J., Miller A.I., Olszewski T.D., Patzkowsky M.E., Peters S.E., Villier L., Wagner P.J., Bonuso N., Borkow P.S., Brenneis B., Clapham M.E., Fall L.M., Ferguson C.A., Hanson V.L., Krug A.Z., Layou K.M., Leckey E.H., Nürnberg S., Powers C.M., Sessa J.A., Simpson C., Tomašových A., Visaggi C.C., 2008, Phanerozoic trends in the Global Diversity of Marine Invertebrates. *Science*, **321**, 97–100.
- André J.-C., Mégie G., Schmidt-Lainé C., 2003, Échelles et changements d'échelles, problématiques et outils. In Caseau P. (Ed), « *Études sur l'environnement: du territoire au continent* ». RST, Académie des sciences, Tech&Doc, Paris, 167–199.
- Barbault R., Pavé A., 2003, Écologie des territoires et territoires de l'écologie. In Caseau P. (Ed), *Études sur l'environnement: du territoire au continent*. RST, Académie des sciences, Tech&Doc, Paris, 1–49.
- Belovsky G.E., Mellison C., Larson C., Van Zandt P.A., 1999, Experimental studies of extinction dynamics. *Science*, **286**, 1175–1177.
- Benton M.J., 1995, Diversification and extinction in the history of life. *Science*, **268**, 52–58.
- Bertrand D., Gascuel O., 2005, Topological rearrangements and local search method for tandem duplication trees. *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, **2**, 1, 1–13.
- Bonhomme F., 2003, Combien de temps faut-il pour faire une espèce? In Michaud Y. (Ed.), « *Qu'est-ce que la diversité de la vie* ». Odile Jacob, Paris, 408p.
- Bongers F., Charles-Dominique P., Forget P.M., Théry M. (Eds.), 2001, *Nouragues. Dynamics and Plant-Animal Interactions in a Neotropical Rainforest*, Kluwer, Dordrecht, 421p.
- Borges, J.L., 2000, *The Lottery in Babylon*. In Fictions, Penguin Books, New York, NY. (Translation: Andrew Hurley).
- Briggs et al., 2009, Targeted retrieval and analysis of five neandertal mtDNA genomes. *Science*, **325**, 318–321.

- Burnet F.M., 1957, A modification of Jerne's theory of antibody production using the concept of clonal selection. *The Australian Journal of science*, **20**, 67–68.
- Callaghan R., Appenzeller T., 1999, Beyond reductionism. *Science* (Special issue), 284.
- Caseau P. (Ed.), 2003, *Études sur l'environnement- De l'échelle du territoire à celle du continent. Rapport sur la science et la technologie*, Académie des Sciences, Tech&Doc, Lavoisier, Paris, (Summary in English).
- Carlton J.T., Geller J.B., 1993, Ecological roulette: the global transport of non indigenous marine organisms. *Science*, **261**, 78–82.
- Chaitin G., 2006, Les limites de la raison mathématique. *Pour la Science*, **342**, 70–76.
- Chamary J.V., Parmley J.L., Hurst L.D., 2006, Hearing silence: non-neutral evolution at synonymous sites in mammals. *Nature Reviews Genetics*, **7**, 98–108.
- Chassé J.L., Debouzie D., 1974, Utilisation des tests de Kiveliovitch et Vialar dans l'étude de quelques générateurs de nombres pseudo-aléatoires. *Revue de Statistique appliquée*, **XXII**(3), 83–90.
- Chave J., 2004, Neutral theory and community ecology. *Ecology Letters*, **7**, 241–253.
- Chave J., Alonso D., Etienne R.S., 2006, Comparing models of species abundance. *Nature*, **441**, E1.
- Chicurel M., 2001, Can organisms speed their own evolution? *Science*, **292**, 1824–1827.
- Clark J.S., MacLachlan J.S., 2003, Stability of forest biodiversity. *Nature*, **423**, 636–638.
- Cornette J.L., Lieberman B.S., 2004, Random walks in the history of life. *PNAS*, **101**, 187–191.
- Costantino R.F., Desharnais R.A., Cushing J.M., Dennis B., 1997, Chaotic dynamics in an insect population. *Science*, **275**, 389–391.
- Courtillot V., Gaudemer Y., 1996, Effects of mass extinctions on biodiversity. *Nature*, **381**, 146–148.
- Crowley T.J., North G.R., 1996, *Paleoclimatology*. Oxford University Press, Oxford monographs on geology and geophysics, Oxford, 349p.
- Darwin, C.M.A., 1859, *On the origin of species by means of natural selection. Or the preservation of favoured races in the struggle for life*. Fellow of the Royal, Geological, Linnaean, etc, Societies; author of Journal of Researches During H.M.S. Beagle's Voyage Round the World. London: John Murray, Albemarle Street.
- Davis E., 2005, Science and religion fundamentalism in the 1920's. *American Scientist*, **93**(3), 253–257.
- Delahaye J.P., 1991, Complexités, la profondeur logique selon C. Bennett. *Pour La Science*, **166**, 102–104.
- Delahaye J.P., 1999, *Information, complexité et hasard*. Hermès, Paris.
- Delahaye J.P., 2004, Les dés pipés du cerveau. *Pour la Science*, **326**, 144–149.
- Delahaye J.P., Rechenmann F., 2006, La simulation par ordinateur change-t-elle la science? *Pour La Science: La modélisation informatique, exploration du réel*. Numéro spécial, juillet/septembre, 2–6.
- Dessart H., Picard N., Péliissier P., Collinet-Vautier F., 2004, Spatial patterns of the most abundant tree species. In «*Ecology and Management of a Neotropical Rainforest – Lessons drawn from Paracou, a long-term experimental research site in French Guiana*». Elsevier, Paris, 177–186.
- Dobzhansky T., 1973, Nothing in Biology Makes Sense Except in the Light of Evolution. In *The American Biology Teacher*, **35**, 125–129. http://people.delphiforums.com/lordorman/Dobzhansky_1973.pdf
- Driver P.M., Humphries D.A., 1988, *Protean Behavior: The Biology of Unpredictability*. Oxford University Press, Oxford.
- Driver P.M., Humphries D.A., 1970, Protean displays as inducers of conflicts. *Nature*, **226**, 968–969.
- Edut S., Eilam D., 2004, Protean behavior under barn-owl attack: voles alternate between freezing and fleeing and spiny mice flee in alternating patterns. *Behavioural Brain Research*, **155**, 207–216.
- Ferrière R., Cazelles B., 1999, Universal power laws govern intermittent rarity in communities of interacting species. *Ecology*, **80**(5), 1505–1521.

- Ferrière R., 2003, Les mathématiques de l'évolution in Michaud Y. (Ed.), *Qu'est-ce que la diversité de la vie?* Université de tous les savoirs, Odile Jacob, Paris, 85–97.
- Fisher R., 1930, *The Genetical Theory of Natural Selection*. Three editions: Oxford University Press (1930), Dover (1958), Oxford University Press (1999).
- Fournier M., Weigel J. (Ed.), 2003, Connaissance et gestion de la forêt guyanaise. *Revue forestière française*. Numéro special, special issue.
- Furuichi N., 2002, Dynamics between a predator and a prey switching two kinds of escape motions. *Journal of Theoretical Biology*, **217**, 159–166.
- Galton F., Watson H.W., 1874, On the probability of extinction of families. *Journal of the Anthropological Institute*, **VI**, 138–144.
- Gause G.J., 1935, *Vérifications expérimentales de la théorie mathématique de la lutte pour la vie*. Herman, Paris.
- Gayon J., 2005, Évolution et hasard. Hasard et déterminisme dans l'évolution biologique. *Laval théologique et philosophique*, **61**, 3.
- Ghose K., Horiuchi T.K., Krishnaprasad P.S., 1995, Echolocating bats use a nearly time-optimal strategy to intercept prey. *Proceedings of Biological Science*, **261**, 233–238.
- Gond V., Bernard J.Z., Brognoli C., Brunaux O., Coppel A., Demenois J., Engel J., Galarraga D., Gaucher Ph., Guitet S., Ingrassia F., Lalièvre M., Linares S., Lokonadinpouille F., Nasi R., Pekel J.F., Sabatier D., Thierron V., de Thoisy B., Trebuchon F., Verger G., 2006, Analyse multi-échelle de la caractérisation des écosystèmes forestiers guyanais et des impacts humains à partir de la télédétection spatiale. *Colloque Forestier des Caraïbes*, décembre 2005.
- Gotelli N., 2002, Biodiversity in the scales. *Nature*, **419**, 575–576.
- Gould S.J., 1977, *Ontogeny and Phylogeny*. Harvard University Press, Cambridge, MA.
- Gourlet-Fleury S., Guehl J.M., Laroussinie O., 2004a, *Ecology and Management of a Neotropical Forest. Lessons drawn from Paracou, a long-term experimental research site in French Guiana*. Elsevier, Paris, 311p.
- Gourlet-Fleury S., Ferry B., Molino J.F., Petronelli P., Schmitt L., 2004b, Experimental Plots: Key Features. In *Ecology and Management of a Neotropical Forest. Lessons drawn from Paracou, a long-term experimental research site in French Guiana*. Elsevier, Paris, 3–59.
- Graffin G.W., Provine W.B., 2007, Evolution, religion and free will. *American Scientist*, **95**(6), 518–522.
- Granville J.-J. de, 2002, Milieux et formations végétales de Guyane. *Acta Botanica Gallica*, **149**(3), 319–337.
- Guedj D., 2001, *The Parrot's Theorem*. Thomas Dune Books, St Martin's Press, New York, NY. (Translated from the French (*Le théorème du Perroquet*; Ed. Seuil, Paris, 1998) by Frank Wynne).
- Hallam A., Wignall P.B., 1997, *Mass Extinctions and Their Aftermath*. Oxford University Press, Oxford.
- Hayes W., 1968, *The Genetics of Bacteria and their Viruses. Studies in Basic Genetics and Molecular Biology*. 2nd Edition, Blackwell, Oxford and Edinburgh, 925p.
- Hazen R.M., Papineau D., Bleeker W., Downs R.T., Ferry J.M., McCoy T.J., Sverjensky D., Yang H., 2008, Mineral evolution. *American Mineralogist*, **93**, 1693–1720. <http://www.sciencedaily.com/releases/2008/11/081113181035.htm>
- Ho D.D., Neumann A.U., Perelson A.S., Chen W., Leonard J.M., Markowitz M., 1995, Rapid turnover of plasma virions and CD4 lymphocytes in HIV-1 infection. *Nature*, **373**, 123–126.
- Hubbell S.P., 2001, *The Unified Neutral Theory of Biodiversity and Biogeography*. Princeton University Press, Princeton, NJ.
- Humphries, D.A., Driver, P.M., 1967, Erratic display as a defence against predators. *Science*, **156**, 1767–1768.
- Hutchinson G.E., 1957, Concluding remarks. *Cold Spring Harbour Symposium on Quantitative Biology*, **22**, 415–427.
- Jabot F., 2009, *Marches aléatoires en forêt tropicale – Contribution à la théorie de la biodiversité*. (Random walks in tropical forests – contribution to the theory of biodiversity, a summary in English is included), PhD Thesis, Université Paul Sabatier, Toulouse, France, 263p.

- Jabot F., Etienne R.S., Chave J., 2008, Reconciling neutral community models and environmental filtering: theory and an empirical test. *Oikos*, **117**, 1308–1320.
- Jacob F., 1981, *Le jeu des possibles. Essai sur la diversité du vivant*. Fayard, Paris.
- Jacob F., 1998, *Of Flies, Mice and Men*, Harvard University Press, Cambridge, MA. (Translated from the French by Giselle Weiss).
- Jerne N.K., 1955, The natural-selection theory of antibody formation. *Proceedings of the Indian National Science Academy USA.*, **41** (11), 49–857.
- Jiang Y.L., Rigolet M., Bourchis D., Nigon F., Bokesoy I., Fryns J.P., Hulten M., Jonveaux P., Maraschio P., Megarbane A., Moncla A., Viegas-Pequignot E., 2005, DNMT3B mutations and DNA methylation defect define two types of ICF syndrome. *Human Mutation*, **25**(1), 56–63.
- Kaiser D., 2007, The other evolution wars. *American Scientist*, **95**(4), 294–297.
- Kauffman S., 1993, *Origin of Order Self-organization and Selection in Evolution*. Oxford University Press, Oxford.
- Kauffman S., 1995, *At Home in the Universe. The Search of the Laws of Self-organization and Complexity*. Oxford University Press, Oxford.
- Kimura M., 1983, *The Neutral Theory of Molecular Evolution*. Cambridge University Press, New York, NY.
- Kimura M., 1994, *Population Genetics, Molecular Evolution, and the Neutral Theory* (selected papers). The University of Chicago Press, Chicago, IL.
- Kirchner J.W., Weil A., 2000, Delayed biological recovery from extinctions throughout the fossil record. *Nature*, **404**, 177–190.
- Kirchner J.W., Weil A., 2005, Fossils make waves. *Nature*, **434**, 147–148.
- Koestler, A., 2004, *The Sleepwalkers*, introduction by Herbert Butterfield and new preface by the author, London, Hutchinson, 1968. (Adapted from Hamel D. Nicolas Copernicus). *Le Québec Sceptique*, **54**, 29–37.
- Kostitzin V.A., 1937, *Biologie mathématique*. Armand Colin, Paris.
- Kupiec J.J., 2006, L'expression aléatoire des gènes. *Pour la Science*, **342**, 78–83.
- Kupiec J.J., 2009, *The Origin of Individual*. Word Scientific, London.
- Kupiec J.J., Sonigo P., 2000, *Ni Dieu, ni gène*. Seuil, Paris.
- Laughlin R.B. (Nobel Prize in Physics), 2005, *In A Different Universe: Reinventing Physics from the Bottom Down*. Basic Books, New York, NY.
- Lebreton J.-D., 1981, *Contribution à la dynamique des populations d'oiseaux. Modèles mathématiques en temps discret*. Thèse d'État de docteur es Sciences, Lyon.
- Leslie P.H., 1945, On the use of matrices in population mathematics. *Biometrika*, **33**, 183–212.
- Lestienne R., 1993, *Le hasard créateur*. La Découverte, Paris.
- Letellier C., 2006, *Le chaos dans la nature*. Vuibert, Paris.
- Levin S.A., Bryan G., Hastings A., Perelson A.S., 1997, Mathematical and computational challenges in population biology and ecosystems science. *Science*, **275**, 334–342.
- Lewontin R.C., 1974, *The Genetic Basis of Evolutionary Change*. Columbia University Press, New York-Londres, NY.
- Lobry C., Hamand J., 2006, A new hypothesis to explain the coexistence of n species in the presence of a single resource. *CR-Biologies*, **329**, 40–46.
- Maamar H., Raj A., Dubnau D., 2007, Noise in gene Expression Determines cell fate in *Bacillus subtilis*. *Science*, **317**, 526–529.
- Malécot G., 1948, *Les mathématiques de l'hérédité*. Masson, Paris. <http://www.genetics.org/cgi/content/full/152/2/477>
- May R.M., 1976, Simple mathematical model with very complicated dynamics. *Nature*, **261**, 459–467.
- Mendel G., 1866, *Versuche über Pflanzen Hybriden*. Im Verlag des Vereines, Brünn, 47p.
- Mettetal J.T., van Oudenaarden A., 2007, Necessary noise. *Science*, **317**, 463–464.
- Michaud Y. (Ed.), 2003, *Qu'est-ce que la diversité de la vie*. Université de tous les savoirs. Odile Jacob, Paris.
- Michod R.E., 2000, *Darwinian Dynamics*. Princeton Paperbacks, Princeton, NJ.

- Monod J., 1942, *Recherches sur la croissance de cultures bactériennes*. Thèse de Docteur ès Sciences, Hermann, Paris.
- Monod J., 1971, *Chance and Necessity. An Essay on the Natural Philosophy of Modern Biology*. A.A. Knopf, New York, NY.
- Murray J., 2001, *Mathematical Biology. I. An Introduction*. 3rd Edition, Springer, New York, NY.
- Newcombe H.B., 1949, Origin of bacterial variants. *Nature*, **164**, 150–151.
- Nowak M.A., May R.M., Phillips R.E., Rowland-Jones S., Lalloo D.G., McAdam S., Klenerman P., Köppe B., Sigmund K., Bangham C.R.M. et al., 1995, Antigenic oscillations and shifting immunodominance in HIV-1 infections. *Nature*, **375**, 606–611.
- Odum E.P., 1953, *Fundamentals of Ecology*. Saunders, Philadelphia, PA.
- Office National des Forêts, 2004, *Guide de reconnaissance des arbres de Guyane*. Publié sous l'égide de Silvolab, ONF, Cayenne, Guyane française.
- Pascal J.P., 2003, *Notions sur les structures et dynamiques des forêts tropicales humides*. Revue forestière française, numéro spécial, 2003.
- Pavé A., 1979, Introduction aux modèles morphologiques et morphogénétiques dérivés de la théorie des langages. In Legay J.M., Tomassone R. (Ed.), *Biométrie et biologie cellulaire*. Société Française de Biométrie, Paris, 47–60.
- Pavé A., 1993, Interpretation of population dynamics models by using schematic representations. *Journal of Biological Systems*, **1** (3), 275–309.
- Pavé A., 1994, *Modélisation en biologie et en écologie*. Aléas, Lyon.
- Pavé A., 2006a, Hierarchies in biology and biological systems. In Pumain D. (Ed.), « *Hierarchies in Natural and Social Sciences* ». Methodos series, Springer, New York, NY, 39–70.
- Pavé A., 2006b, By a way of introduction: modelling living systems, their diversity and their complexity. Some methodological and theoretical problems. *C.R. Biologies*, **329**, 3–12.
- Pavé A., 2007b, Necessity of chance: biological roulettes and biodiversity. *C.R. Biologies*, **330**, 189–198.
- Pavé A., Schmidt-Lainé C., 2003, Integrative biology: modelling and simulation of the complexity of natural systems. *Biology International*, **44**, 13–24.
- Pavé A., Hervé J.C., Schmidt-Lainé C.I., 2002, Mass extinctions, biodiversity explosions and ecological niches. *C. R. Biologies*, **325**, 755–765.
- Pavoine S., Dolédec S., 2005, The apportionment of quadratic entropy: a useful alternative for partitioning diversity in ecological data. *Environmental and Ecological Statistics*, **12**, 125–138.
- Pelletier E., Campbell P., 2008, L'écotoxicologie aquatique – comparaison entre les micropolluants organiques et les métaux: constats actuels et défis pour l'avenir. *Revue des sciences de l'eau*, **21**, 173–197.
- Pennisi E., 2008, Are epigenetics ready for big science? *Science*, **319**, 1177.
- Pollard K.S., Salama S., Lambert L., Lambot M.A., Coppens S., Pedersen J.S., Katzman S., King B., Onodera C., Siepel A., Kern A.D., Dehay C., Igel H., Ares Jr. A., Vanderhaegen P., Haussler D., 2006, An RNA gene expressed during cortical development evolved rapidly in humans. *Nature*, **443**, 167–172.
- Rao C.V., Wolf D.M., Arkin A.P., 2002, Control, exploitation and tolerance in intracellular noise. *Nature*, **420**, 231–237.
- Raser M.J., 2004, Control of stochasticity in eukaryotic gene expression. *Science*, **304**, 1811–1814.
- Rassoulzadegan, M., Grandjean V., Gounon P., Vincent S., Gillot I., Cuzin F., 2006, RNA-mediated non-mendelian inheritance of an epigenetic change in the mouse. *Nature*, **441**, 469–474.
- Ridley M. (Ed.), 2004, *Evolution*. 2nd Edition, Oxford University Press, Oxford.
- Rittaud B., 2004, Fabriquer le hasard. L'ordinateur à rude épreuve. *La Recherche*, **381**, 28–33.
- Rohde R.A., Muller R.A., 2005, Cycles in fossil diversity. *Nature*, **434**, 208–210.
- Rothman D.H., 2001, Global biodiversity and the ancient carbon cycle. *PNAS*, **98**(8), 4305–4310.
- Ruelle D., 1991, *Hasard et chaos*. Odile Jacob, Paris.
- Sabatier D., Prévost M.F., 1989, Quelques données sur la composition floristique et la diversité des peuplements forestiers de Guyane française. *Bois et Forêts des Tropiques*, **219**, 43–45.

- Souchon Y., Breil P., Andriamahefa H., Marie-Bernadette A., Capra H., Lamouroux N., 2002, Couplage physique – biologie dans les cours d'eau: vers une hydroécologie quantitative. *Natures, Sciences, Sociétés, numéro special, special issue*.
- Schmidt-Lainé C., Pavé A., 2002, Environnement: modélisation et modèles pour comprendre, agir et décider dans un contexte interdisciplinaire. *Natures, Sciences, Sociétés, special issue « Sciences pour l'ingénierie de l'environnement »* **10**(1), 5–25. (Summary in English).
- Sepkoski J.J., 1982, A compendium of fossil marine families. *Milwauk Public Museum, Contributions in Biology and Geology*, **51**, 1–125.
- Servant M et Servan-Vildary S. (Eds.), 2000, *Dynamiques à long terme des écosystèmes forestiers intertropicaux*. CNRS, UNESCO, MAE, IRD, Paris, 427p.
- Solbrig O.T., Nicolis G. (Ed.), 1991, *Perspectives on Biological Complexity*. IUBS Monograph series, n 6, Paris.
- Stephens, J.C. et al., 2001, Haplotype variation and linkage disequilibrium in 313 human genes. *Science*, **293**, 489–493.
- Steinberg C.W., Ade M., 2005, Ecotoxicology, Where do you come from and Where do you go? *Environmental Science and Pollution Research*, **12**, 245–246.
- Strzałko J., Grabski J., Stefański A., Perlikowski P., Kapitaniak T., 2008, Dynamics of coin tossing is predictable. *Physics Reports*, **469**, 59–92.
- Talmage, D.W., 1957a, Allergy and immunology. *Annual Review of Medicine*, **8**, 239–257.
- Talmage, D.W., 1957b, Diversity of antibodies. *Journal of Cellular Physiology* **50** (Suppl 1), 229–246.
- Tansley, A.G., 1935, The use and abuse of vegetational concepts and terms. *Ecology*, **16**(3): 284–307.
- Theillier M., 2004, From a static to a dynamic description of living systems: the framework. *Nova Acta Leopoldina*, **322**(88), 11–15.
- Thivent V., 2006, Profilées pour germer. *La Recherche*, **396**, 66–73.
- Tomoko Ohta, John H. Gillespie, 1996, Development of neutral and nearly neutral theories. *Theoretical Population Biology*, **49**, 128–142.
- Trefil J., Morowitz H.J., Smith E., 2009, The origin of life. *American Scientist*, **97**(3), 206–213.
- Vandermeer J.H., 1972, Niche theory. *Annual Review of Ecology and Systematics*, **3**, 107–132.
- Van Straalen N., 2003, Ecotoxicology becomes stress ecology. *Environmental Science and Technology*, **37**(17), 324A–330A.
- Van Valen L.M., 1973, A new evolutionary law. *Evolutionary Theory*, **1**, 1–30.
- Verhulst P.F., 1838, Notice sur la loi que la population suit dans son accroissement. *Correspondance Math. et Phys.*, **X**, 113–121. English translation: A Note on the Law of Population Growth. In Smith D. and Keifitz N. *Mathematical Demography. Biomath.*, Vol 6, Springer-Verlag, 1977.
- Verhulst P.F., 1844, Recherche mathématique sur la loi d'accroissement de la population. *C.R. de l'Acad. Royale de Belgique*, **XVIII**, 1–32.
- Verhulst P.F., 1846, Deuxième mémoire sur la loi d'accroissement de la population. *C.R. de l'Acad. Royale de Belgique*, **XX**, 3–32.
- Volkov I., Banavar J.R., Hubbell S.P., Maritan A., 2003, Neutral theory and relative species abundance in ecology. *Nature*, **424**, 1035–1037.
- Volkov I., Banavar J.R., Maritan A., Hubbell S.P., 2004, Neutral theory (communication arising): The stability of forest biodiversity. *Nature*, **427**, 696.
- Volterra L., 1931, *Leçons sur la théorie mathématique de la lutte pour la vie*. Gauthier-Villars, Paris.
- von Bertalanffy L., 1968, *General System Theory*. George Braziller, New York, NY.
- Webster M., 2007, A Cambrian Peak in morphological variations within trilobite species. *Science*, **317**, 499–502.
- West, G.B., Brown J.H., Enquist B.J., 1999, A general model for the structure and allometry of plant vascular systems. *Nature*, **400**, 664–667.

- Wei X., Ghosh S.K., Taylor M.E., Johnson V.A., Emini E.A., Deutsch P., Lifson J.D., Bonhoeffer S., Nowak M.A., Hahn B.H. et al., 1995, Viral dynamics in human immunodeficiency virus type 1 infection. *Nature*, **373**, 117–122.
- Whithfield J., 2002, Neutrality versus the niche. *Nature*, **417**, 481.
- Wiener N., 1947, *Cybernetics or Control and Communication in the Animal and the Machine*. MIT Press, Cambridge, MA. (Many editions has been published since this first issue).
- Wilson O.E. (Ed.), Peter F.M. (Ass. Ed.), 1988, *Biodiversity*. National Academic Press, Washington, DC.
- Zimmer C., 1999, Life after chaos. *Science*, **284**, 83–86.

Articles from the French Encyclopedia Universelle, 2003, 2004, 2007 (CD-ROM version, 3.0) (see Table).

Dugat D. (2003) La chance des probabilités.

Gérémont J. Adaptation biologique.

Foray P. Evolution.

Maudin P. Biodiversité.

Barbraud R. et Lacroix J.D. Biologie et dynamique des populations.

Rabreau E. et Micherey P. (2003) Déterminisme.

Pierre-Duchâteau M., 2003, Angiospermes. *Encyclopédie Universelle* (CD-ROM Version).

Barbraud R., Brunet R. (Ed.), 1993, *Morphogénèse et équilibre*. Editions Olfine, Poulleyrieux, France, 132p.

Barbraud R., 1993, *Économie des programmes*. Dunod, Paris.

Barbraud R., 2004, *Un éléphant dans un jeu de quilles. L'équilibre dans la morphogénèse*. Quil, Paris, 204p.

Barbraud R., Lacroix J.-F., Houdé M., Mounilou J.-C., van Bavelen M., Wake M., Yonnet T., 2005, *Integrative Biology: Complexity in Natural Systems*. Keys to Addressing Emerging Challenges, IUTS, Paris.

Bogert M., Hager J.L., Treviño C.H., 1996, *Ecology: Individuals, Populations, and Communities*. Blackwell, Oxford.

Boyd E., 1947, *Les probabilités et la vie*. Que sais-je? n° 91, PUF, Paris.

Caullery S.P., 2001, Chance and necessity: the evolution of morphological complexity and diversity. *Nature*, **409**, 1102–1109.

Combes C., 1995, *Innovations Diversité*, Masson, Paris.

Ducrocq L., 2006, Simulations et modifications. *Four La Science, numéro spécial: La modélisation informatique, expérimental de 2004, juillet/septembre*, 5–16.

Engelst B.J., Havelok J.P., Tilman D.H., 2002, General patterns of interspecific and biomass in grassland forest plant communities. *Ecology*, **83**, 905–913.

Geyer J., Foray P., 2004, Natural selection and the emergence of genetic life. *French example*. *Nature genetics*, **5**, 150–156.

Hilly E.D., Lacroix G., Leber-Mouton F., Lacroix M., 2000, Functional diversity covaries consistently across 25 natural communities. *Nature*, **405**, 340–344.

Jahon E., Chau J., 2005, Inferring the parameters of the general theory of biodiversity using phylogenetic information and implications for tropical forests. *Ecology Letters*, **12**, 1–10.

Jacob F., 1973, *La logique du vivant. Une histoire de l'évolution*. Gallimard, Paris.

Kondoh Y., 2003, Foraging adaptability and the relationship between food web complexity and stability. *Science*, **299**, 1388–1391.

Lacaille-Bardou A., 2002, *Une révolution de Nouvelle-Pérouse*. Cambridge, MA.

Leveau C., 2001, *Équilibre. De l'écosystème à l'équilibre*. Dunod, Paris.